



ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

ΑΘΗΝΑ
21 ΔΕΚΕΜΒΡΙΟΥ 1957

ΤΕΥΧΟΣ ΠΡΩΤΟ

ΑΡΙΘΜΟΣ ΦΥΛΛΟΥ
225

ΝΟΜΟΣ ΥΠ' ΑΡΙΘ. 1741

*Κύρωση Ευρωπαϊκής Συμφωνίας για τη Διεθνή Οδική
Μεταφορά Επικινδύνων Εμπορευμάτων (ADR) που
υπογράφηκε στη Γενεύη την 30ή Σεπτεμβρίου 1957.*

Ο ΠΡΟΕΔΡΟΣ
ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

Εκδίδουμε τον ακόλουθο νόμο που ψήφισε η Βουλή:

Άρθρο πρώτο

1. Κυρώνεται και έχει την ισχύ που ορίζει το άρθρο 28 παρ. 1 του Συντάγματος η (με τη φροντίδα των Ηνωμένων Εθνών) Ευρωπαϊκή Συμφωνία, που υπογράφηκε στη Γενεύη την 30ή Σεπτεμβρίου 1957 «για τη Διεθνή Οδική Μεταφορά Επικινδύνων Εμπορευμάτων (ADR)» και που αποτελείται από τους τόμους I (Συμφωνία, Πρωτόκολλο Υπογραφής και Παράρτημα Α), II (Προσθήκες Παραρτήματος Α') και III (Παράρτημα Β').

2. Το κείμενο της Συμφωνίας που αναφέρεται στην προηγούμενη παράγραφο σε πρωτότυπο στην αγγλική γλώσσα και σε μετάφραση στην ελληνική έχει ως εξής:

ECONOMIC COMMISSION FOR EUROPE
INLAND TRANSPORT COMMITTEE

European Agreement

concerning the international carriage
of dangerous goods by road (ADR)
and protocol of signature

done at Geneva on 30 September 1957

VOLUME 1

(Agreement, Protocol of signature and Annex A)

FOREWORD

The text below comprises, in addition to the Agreement itself and the Protocol of signature, the annexes in the form in which they entered into force on 29 July 1968 as well as the amendments there to up to 1 October 1978.

EUROPEAN AGREEMENT CONCERNING THE
INTERNATIONAL CARRIAGE OF DANGEROUS
GOODS BY ROAD (ADR)

THE CONTRACTING PARTIES,
DESIRING to increase the safety of international transport by road, HAVE AGREED as follows:

Article 1.

For the purpose of this Agreement,

(a) the term «vehicle» shall mean motor vehicles, articulated vehicles, trailers and semi-trailers, as defined in article 4 of the Convention on Road Traffic of 19 September 1949, other than vehicles belonging to or under the orders of the armed forces of a Contracting Party;

(b) the term «dangerous goods» shall mean those substances and articles the international carriage by road of which is prohibited by, or authorized only on certain conditions by, Annexes A and B;

(c) the term «international transport» shall mean any transport operation performed on the territory of at least two Contracting Parties by vehicles defined in (a) above.

Article 2.

1. Subject to the provisions of article 4, paragraph 3, dangerous goods barred from carriage by Annex A shall not be accepted for international transport.

2. International transport of other dangerous goods shall be authorized subject to compliance with:

(a) the conditions laid down in Annex A for the goods in question, in particular as regards their packaging and labelling, and

(b) the conditions laid down in Annex B, in particular as regards the construction, equipment and operation of the vehicle carrying the goods in question, subject to the provisions of article 4, paragraph 2.

Article 3.

The Annexes to this Agreement shall form an integral part thereof.

Article 4.

1. Each Contracting Party shall retain the right to regulate or prohibit, for reasons other than safety during carriage, the entry of dangerous goods into its territory.

2. Vehicles in service on the territory of a Contracting Party at the time of entry into force of this Agreement or brought into service on such territory within two months after its entry into force, shall be allowed, for a period of

three years from such entry into force, to perform the international transport of dangerous goods even if their construction and equipment do not entirely conform to the requirements laid down in Annex B for the transport operation in question. Under special clauses of Annex B, however, this period may be reduced.

3. The Contracting parties shall retain the right to arrange, by special bilateral or multilateral agreements, that certain of the dangerous goods which under this Agreement are barred from from all international transport may, subject to certain conditions, be accepted for international transport on their territories, or that dangerous goods which under this Agreement are acceptable for international transport only on specified conditions may be accepted for international transport on their territories under conditions less stringent than those laid down in the Annexes to this Agreement. The special bilateral or multilateral agreements referred to in this paragraph shall be communicated to the Secretary - General of the United Nations, who shall communicate them to the Contracting Parties which are not signatories to the said agreements.

Articles 5.

The transport operations to which this Agreement applies shall remain subject to national or international regulations applicable in general to road traffic, international road transport and international trade.

Article 6.

1. Countries members of the Economic Commission for Europe and countries admitted to the Commission in a consultative capacity under paragraph 8 of the Commission's terms of reference may become Contracting Parties to this Agreement

(a) by signing it;

(b) by ratifying it after signing it subject to ratification;

(c) by acceding to it.

2. Such countries as may participate in certain activities of the Economic Commission for Europe in accordance with paragraph 11 of the Commission's terms of reference may become Contracting Parties to this Agreement by acceding to it after its entry into force.

3. The Agreement shall be open for signature until 15 December 1957. Thereafter, it shall be open for accession.

4. Ratification or accession shall be effected by the depositing of an instrument with the Secretary - General of the United Nations.

Article 7.

1. This Agreement shall enter into force one month after the date on which the number of countries mentioned in article 6, paragraph 1, which have signed it without reservation of ratification or have deposited their instruments of ratification or accession has reached a total of five. However, the Annexes thereto shall not apply until six months after the entry into force of the Agreement itself.

2. For any country ratifying or acceding to this Agreement after five of the countries referred to in article 6, paragraph 1, have signed it without reservation of ratification or have deposited their instruments of ratification or accession, this Agreement shall enter into force one month after the said country has deposited its instrument of ratification or accession and the Annexes thereto shall apply for the said country either on the same date, if they are already in force by that date, or, if they are not in force by that date, on the date on which they apply under the provisions of paragraph 1 of this article.

Article 8.

1. Any Contracting Party may denounce this Agreement by so notifying the Secretary - General of the United Nations.

2. Denunciation shall take effect twelve months after the date of receipt by the Secretary - General of the notification of denunciation.

Article 9.

1. This Agreement shall cease to have effect if, after its entry into force, the number of Contracting Parties is less than five during twelve consecutive months.

2. In the event of the conclusion of a worldwide agreement for the regulation of the transport of dangerous goods, any provision of this Agreement which is contrary to any provision of the said worldwide agreement shall, from the date on which the latter enters into force, automatically cease to apply to relations between the Parties to this Agreement which become parties to the worldwide agreement, and shall automatically be replaced by the relevant provision of the said worldwide agreement.

Article 10.

1. Any country may, at the time of signing this Agreement without reservation of ratification or of depositing its instrument of ratification or accession or at any time thereafter, declare by notification addressed to the Secretary - General of the United Nations that this Agreement shall extend to all or any of the territories for the international relations of which it is responsible. The Agreement and the annexes thereto shall extend to the territory or territories named in the notification one month after it is received by the Secretary - General.

2. Any country which has made a declaration under paragraph 1 of this article extending this Agreement to any territory for whose international relations it is responsible may denounce the Agreement separately in respect of the said territory in accordance with the provisions of article 8.

Article 11.

1. any dispute between two or more Contracting Parties concerning the interpretation or application of this Agreement shall so far as possible be settled by negotiation between them.

2. Any dispute which is not settled by negotiation shall be submitted to arbitration if any one of the Contracting Parties in dispute so requests and shall be referred accordingly to one or more arbitrators selected by agreement between the Parties in dispute. If within three months from the date of the request for arbitration the Parties in dispute are unable to agree on the selection of an arbitrator or arbitrators, any of those Parties may request the Secretary - General of the United Nations to nominate a single arbitrator to whom the dispute shall be referred for decision.

3. The decision of the arbitrator or arbitrators appointed under paragraph 2 of this article shall be binding on the Contracting Parties in dispute.

Article 12.

Each Contracting Party may, at the time of signing, ratifying, or acceding to, this Agreement, declare that it does not consider itself bound by article 11. Other Contracting Parties shall not be bound by article 11 in respect of any Contracting Party which has entered such a reservation.

2. Any Contracting Party having entered a reservation as provided for in paragraph 1 of this article may at any time withdraw such reservation by notifying the Secretary - General of the United Nations.

Article 13.

1. After this Agreement has been in force for three years, any Contracting Party may, by notification to the Secretary - General of the United Nations, request that a conference be convened for the purpose of reviewing the text of the Agreement. The Secretary - General shall notify all Contracting Parties of the request and a review conference shall be convened by the Secretary - General if, within a period of four months following the date of notification by the Secretary - General, not less than one-fourth of the Contracting Parties notify him of their concurrence with the request.

2. If a conference is convened in accordance with paragraph 1 of this article, the Secretary - General shall notify all the Contracting Parties and invite them to submit within a period of three months such proposals as they may wish the Conference to consider. The Secretary - General shall circulate to all Contracting Parties the provisional agenda for the conference, together with the texts of such proposals at least three months before the date on which the conference is to meet.

3. The Secretary - General shall invite to any conference convened in accordance with this article all countries referred to in article 6, paragraph 1, and countries which have become Contracting Parties under article 6, paragraph 2.

Article 14.

1. Independently of the revision procedure provided for in article 13, any Contracting Party may propose on or more amendments to the Annexes to this Agreement. To that end it shall transmit the text thereof to the Secretary - General of the United Nations. The Secretary - General may also propose amendments to the Annexes to this Agreement for the purpose of ensuring concordance between those Annexes and other international agreements concerning the carriage of dangerous goods.

2. The Secretary - General shall transmit any proposal made under paragraph 1 of this article to all Contracting Parties and inform thereof the other countries referred to in article 6, paragraph 1.

3. Any proposed amendment to the Annexes shall be deemed to be accepted unless, within three months from the date on which the Secretary - General circulates it, at least one-third of the Contracting Parties, or five of them if one-third exceeds that figure, have given the Secretary - General written notification of their objection to the proposed amendment. If the amendment is deemed to be accepted, it shall enter into force for all the Contracting Parties, either on the expiry of a further period of three months or, in cases where similar amendments have been or are likely to be made to the other international agreements referred to in paragraph 1 of this article, on the expiry of a period the duration of which shall be determined by the Secretary - General in such a way as to allow, wherever possible, the simultaneous entry into force of the amendment and those that have been or are likely to be made to such other agreements; such period shall not, however, be of less than one month's duration.

4. The Secretary - General shall, as soon as possible, notify all Contracting Parties and all the countries referred to in article 6, paragraph 1, of any objection which may be received from the Contracting Parties to a proposed amendment.

5. If the proposed amendment to the Annexes is not deemed to be accepted, but if at least one Contracting Party other than the Contracting Party which proposed the amendment has given the Secretary - General written notification of its agreement to the proposal, a meeting of all the Contracting Parties and all the countries referred

to in article 6, paragraph 1, shall be convened by the Secretary - General within three months after the expiry of the period of three months within which, under paragraph 3 of this article, notification must be given of objection to the amendment. The Secretary - General may also invite to such meeting representatives of:

(a) intergovernmental organizations which are concerned with transport matters;

(b) international non-governmental organizations whose activities are directly related to the transport of dangerous goods in the territories of the Contracting Parties.

6. Any amendment adopted by more than half the total - number of Contracting Parties at a meeting convened in accordance with paragraph 5 of this article shall enter into force for all Contracting Parties in accordance with the procedure agreed at such meeting by the majority of the Contracting Parties attending it.

Article 15.

In addition to the notifications provided for in articles 13 and 14, the Secretary- General of the United Nations shall notify the countries referred to in article 6, paragraph 1, and the countries which have become Contracting Parties under article 6, paragraph 2, of

(a) signatures, ratifications and accessions in accordance with article 6;

(b) the dates on which this Agreement and the Annexes thereto enter into force in accordance with article 7;

(c) denunciations in accordance with article 8;

(d) the termination of the Agreement in accordance with article 9;

(e) notifications and denunciations received in accordance with article 10;

(f) declarations and notifications received in accordance with article 12, paragraphs 1 and 2;

(g) the acceptance and date of entry into force of amendments in accordance with article 14, paragraphs 3 and 6.

Article 16.

1. The Protocol of Signature of this Agreement shall have the same force, effect and duration as the Agreement itself, of which it shall be considered to be an integral part.

2. No reservation to this Agreement, other than those entered in the Protocol of Signature and those made in accordance with article 12, shall be permitted.

Article 17.

After 15 December 1957, the original of this Agreement shall be deposited with the Secretary - General of the United Nations, who shall transmit certified true copies thereof to each of the countries referred to in article 6, paragraph 1.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have signed this Agreement.

DONE at Geneva, this thirtieth day of September one thousand nine hundred and fifty - seven, in a single copy, in the English and French languages for the text of the Agreement proper, and in the French language for the Annexes, each text being equally authentic for the Agreement proper.

The Secretary - General of the United Nations is requested to prepare an authoritative translation of the Annexes in the English language and attach it to the certified true copies referred to in article 17.

PROTOCOL OF SIGNATURE

TO THE EUROPEAN AGREEMENT ON THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR)

On proceeding to sign the European Agreement on the International Carriage of Dangerous Goods by Road (ADR) the undersigned, duly authorized,

CONSIDERING that the conditions governing the carriage of dangerous goods by sea to or from the United Kingdom differ basically from those set forth in Annex A to ADR and that it is impossible to modify them so as to conform to the latter in the near future;

HAVING REGARD to the undertaking given by the United Kingdom to submit as an amendment to the said Annex A a special appendix containing special provisions for road - sea carriage of dangerous goods between the Continent and the United Kingdom;

HAVE AGREED that, until the entry into force of such special appendix, dangerous goods carried under ADR to or from the United Kingdom shall comply with the provisions of Annex A to ADR and also with the United Kingdom conditions for the carriage of dangerous goods by sea;

TAKE NOTE OF a declaration by the representative of France to the effect that the Government of the French Republic reserves the right, notwithstanding the provisions of article 4, paragraph 2, to refuse to allow vehicles in service on the territory of another Contracting Party, whatever the date on which they were put into service, to be used for the carriage of dangerous goods on French territory unless such vehicles comply either with the conditions laid down for such carriage in Annex B or with the conditions laid down for the carriage of the goods in question in the French regulations governing the carriage of dangerous goods by road;

RECOMMEND that, before submission in accordance with article 14, paragraph 1, or article 13, paragraph 2, proposed amendments to this Agreement or its Annexes shall as far as possible first be discussed at meetings of experts of the Contracting Parties and, if necessary, of the other countries mentioned in article 6, paragraph 1, of the Agreement and of the international organizations mentioned in article 14, paragraph 5, of the Agreement.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR)

ANNEX A

PROVISIONS CONCERNING DANGEROUS SUBSTANCES AND ARTICLES

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2002

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Part I

DEFINITIONS AND GENERAL PROVISIONS

1) For the purposes of this Annex:

- the term «competent authority» means the authority designated as such in each country and in each specific case by the Government;
- the term «fragile package» means a package containing a fragile receptacle (i.e. a receptacle made of glass, porcelain, stoneware or similar materials) which is not enclosed in a packaging with complete sides protecting it effectively against shock [see also marginal 2001 (5)];
- the term «gas» means a gas or vapour;
- the term «dangerous substances», when used alone, means the substances and articles designated as being substances and articles of ADR;
- the term «carriage in bulk» means the carriage of a solid substance without packaging;
- the term «RID» means the International Regulations

concerning the Carriage of Dangerous Goods by Rail [Annex 1 to the International Convention concerning the Carriage of Goods by Rail (CIM)].

(2) For the purposes of this Annex, tanks (see definitions in Annex B) are not placed on the same footing as receptacles, the term «receptacle» being used in a restrictive sense. Provisions concerning receptacles are applicable to fixed tanks, batteries of receptacles, demountable tanks and tank - containers only if this is expressly stipulated.

(3) The term «full load» means any load originating from one sender for which the use of a vehicle or of a large container is exclusively reserved and all operations for the loading and unloading of which are carried out in conformity with the instructions of the sender or of the consignee.

(1) Unless expressly stated otherwise, the sign «%» in this Annex represents:

(a) in the case of mixtures of solids or of liquids, and also in the case of solutions and of solids wetted by a liquid: a percentage by weight based on the total weight of the mixture, the solution or the wetted solid;

(b) in the case of gaseous mixtures: a percentage by volume based on the total volume of the gaseous mixture.

Definitions and general provisions

(2) All weights mentioned for packages in this Annex are, unless otherwise specified, gross weights. The weight of containers or tanks used for the carriage of goods is not included in the gross weight.

(3) Pressures of all kinds relating to receptacles (such as test pressure, internal pressure, safety - valve opening pressure) are always indicated in kg/cm² gauge pressure (pressure in excess of atmospheric pressure); however, the vapour pressure of substances is always expressed in kg/cm² absolute pressure.

(4) Where this Annex specifies a degree of filling for receptacles or tanks, that degree of filling is always referred to a temperature of the substances of 15°C unless some other temperature is indicated.

(5) Fragile receptacles secured, either singly or in groups, by cushioning materials in a strong receptacle are not regarded as fragile receptacles on condition that the strong receptacle is leakproof and so designed that in the event of breakage or leakage of the fragile receptacles their contents cannot escape from the strong receptacle and that the mechanical strength of the latter is not impaired by corrosion during carriage.

GENERAL PROVISIONS

(1) This Annex specifies the dangerous goods to be excluded from international carriage by road and the dangerous goods to be accepted for such carriage under certain conditions. It groups the dangerous goods in restrictive and non - restrictive Classes. Of the dangerous goods covered by the headings of the restrictive Classes (Classes 1a, 1b, 1c, 2, 4.2, 4.3, 5.2, 6.2 and 7), those which are listed in the clauses concerning these Classes (marginals 2101, 2131, 2171, 2201, 2431, 2471, 2551, 2651 and 2701) are to be accepted for carriage only under the conditions specified in these clauses, and others are to be excluded from carriage. Some of the dangerous goods covered by the headings of the non - restrictive Classes (Classes 3, 4.1, 5.1., 6.1, and 8) are, by notes inserted in the clauses concerning the various Classes, excluded from carriage; of the other goods covered the various Classes, excluded from carriage; of the other goods covered by the headings of the non - restrictive Classes, those which are mentioned or defined in the clauses concerning these Classes (marginals 2301, 2401, 2501, 2601 and 2801) are to be accepted for carriage only under the conditions specified in these clauses, and those which are not mentioned or defined therein are not deemed to be dangerous goods for the purposes of this Agreement and are to be accepted for carriage without any special conditions.

1-1999
2000

Definitions and general provisions

(2) The Classes of this Annex are as follows:

2002

| | | |
|------------|---|-----------------|
| Class 1a | Explosive substances and articles | Restrictive |
| Class 1b | Articles filled with explosive substances | " |
| Class 1c | Igniters, fireworks and similar goods | " |
| Class 2 | Gases: compressed, liquefied or dissolved under pressure | " |
| Class 3 | Inflammable liquids | Non-restrictive |
| Class 4.1. | Inflammable solids | Non-restrictive |
| Class 4.2. | Substances liable to spontaneous combustion | Restrictive |
| Class 4.3 | Substances which give off inflammable gases on contact with water | Restrictive |
| Class 5.1 | Oxidizing substances | Non-restrictive |
| Class 5.2 | Organic peroxides | Restrictive |
| Class 6.1. | Toxic substances | Non-restrictive |
| Class 6.2 | Repugnant substances and substances liable to cause infection | Restrictive |
| Class 7 | Radioactive substances | Restrictive |
| Class 8 | Corrosive substances | Non-restrictive |

(3) Any carriage of goods governed by this Annex shall be the subject of a transport document. The sender shall communicate in writing to the carrier the particulars to be included in the transport document as laid down for each class in part II of this Annex in sections 2.B. The document may be that already required by other regulations in force. Any goods the carriage of which is so governed shall be described in the transport document in conformity with the indications in section B of the special provisions for each Class. The particulars to be entered in the transport document shall be drafted in an official language of the forwarding country, and also, if that language is not English, or French, or German, in English, French or German, unless international road transport tariffs, if any, or agreements concluded between the countries concerned in the transport operation, provide otherwise. The transport document shall be accompanied, if appropriate, by instructions to be implemented in the event of an accident (see Annex B, marginal 10185). The transport document shall accompany the dangerous substances carried.

(4) If by reason of the size of the load a consignment cannot be loaded in its entirety on a single transport unit, at least as many separate documents, or copies of the single document, shall be made out as transport units loaded. Furthermore, in all cases, separate transport documents shall be made out for consignments or parts of consignments which may not be loaded together on the same vehicle by reason of the prohibitions set forth in Annex B.

(5) Outer packagings additional to those specified in this Annex may be used providing that they do not contravene the spirit of the provisions of this Annex relating to outer packagings. If such additional packagings are used, the prescribed marking and labels shall be applied to them.

(6) If the mixed packing of several dangerous substances with one another or with other goods is allowed by the provisions of section A. of the provisions applicable to the various Classes, the inner packagings containing different dangerous substances shall be carefully and effectively separated from one another in the collective packagings if dangerous reactions, such as the production of dangerous heat, combustion, the formation of mixtures

sensitive to friction or shock, and the release of inflammable or toxic gases, are liable to occur as a result of damage to or destruction of the inner packagings. In particular, if fragile receptacles are used, and especially if the said receptacles contain liquids, the danger of the formation of dangerous mixtures shall be avoided and to this end all appropriate measures shall be taken, such as the use of suitable cushioning materials in sufficient quantity, securing of the receptacles in a second strong packaging, and subdivision of the collective packaging into several compartments.

(7) If mixed packing is used, the provisions of this Annex concerning the particulars in the transport document shall apply in respect of each of the different kinds of dangerous substance contained in the collective package, and the collective package shall bear all the inscriptions and all the danger labels prescribed in this Annex for the dangerous substances the collective package contains.

(8) If solutions of substances listed in this Annex are not expressly mentioned in the list of the Class to which the dissolved substances belong, they shall nevertheless be considered as substances of ADR if their concentration is such that they retain the danger inherent in the substances themselves; their packaging shall in such event conform to the requirements of section A of the special provisions applicable to the Class to which the said substances belong, it being understood that packagings which would be unsuitable for the carriage of liquids may not be used.

(9) Mixtures of substances of ADR with other substances shall be considered as substances of ADR if they retain the danger inherent in the substance which is a substance of ADR.

(10) The sender, either in the transport document or in a separate declaration, shall certify that the substance presented may be carried by road in conformity with the provisions of ADR, that its condition, treatment and, as appropriate its packaging and labelling comply with the provisions of ADR. Furthermore, if several dangerous goods are packed together in a collective package or in a single container, the sender is required to declare that this mixed packing is not prohibited.

(11) A substance whose specific radioactivity does not exceed 0.002 microcurie per gramme and which is covered by a collective heading of any Class shall be excluded from carriage if, in addition, it is covered by the heading of a restrictive Class in which it is not listed.

(12) A substance whose specific radioactivity does not exceed 0.002 microcurie per gramme and which is not listed by name in a Class, but is covered by two or more collective headings of different Classes, shall be subject to the conditions of carriage laid down:

(a) in the restrictive Class, if one of the Classes concerned is a restrictive Class;

(b) in the Class corresponding to the predominant danger exhibited by the substance during carriage, if none of the Classes concerned is a restrictive Class.

(1) This Annex contains for each Class other than Class 7:

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(a) a list of the dangerous substances constituting the Class, and, where applicable, in the form of a marginal having a number ending with the letter «a», the exemptions allowed from the provisions of ADR for some of those substances if they comply with certain conditions;

(b) provisions sub-divided as follows:

A. Packages:

1. General conditions of packing;
2. Packing of a single substance or of articles of the same kind;
3. Mixed packing;
4. Marking and danger labels on packages.

B. Particulars in the transport document.

C. Empty packagings.

D. (where appropriate) Other provisions.

(2) Provisions concerning:

- consignment in bulk, in containers and in tanks;
- method of despatch and restrictions on forwarding;

- prohibitions on mixed loading; and
 - transport equipment are to be found in Annex B and its appendices, which also contain all other pertinent provisions applying specifically to carriage by road.

(3) The appendices to this Annex contain:

Appendix A.1: Stability and safety conditions relating to explosive substances, inflammable solids and organic peroxides, together with rules for tests;

Appendix A.2: Provisions relating to the nature of aluminium-all receptacles for certain gases of Class 2; provisions relating to the materials and construction of receptacles, intended for the carriage or deeply-refrigerated liquefied gases of Class 2; and provisions relating to tests on aerosol dispensers and non-refillable containers for gases under pressure of Class 2, 10° and 11°;

Appendix A.3: Tests relating to inflammable liquids of Classes 3 and 6.1.;

Appendix A.5: Provisions relating to tests on the metal drums referred to in marginals 2303(6) and 2813(1)(c);

Appendix A.6: Regulations relating to radioactive substances of Class 7;

Appendix A.9: Provisions relating to danger labels, and explanation of the symbols.

Appendices A.4, A.7, and A.8, are reserved.

(4) For Class 7, the details concerning conditions of packing, mixed packing, labelling and marking of packages as well as provisions governing storage, despatch and carriage, including in bulk in containers and in tanks, are specified in the schedules of Annex A listed in marginal 2702. Some of the detailed and technical provisions affecting this Class are elaborated in Appendix A.6 which also include the complete table of radionuclides and method of testing packagings intended for substances of Class 7.

Where the provisions relating to carriage as a 'full load' are applied the competent authorities may require the vehicle or large container used for the transport operation concerned to be loaded at only one point and unloaded at only one point.

(1) If the vehicle carrying out a transport operation subject to the provisions of ADR is conveyed over a section of the journey other than by road haulage, then any national or international regulations on the said section, govern the carriage of dangerous goods by the mode transport used for conveying the road vehicle shall alone be applicable to the said section of the journey.

(2) In cases where a transport operation subject to the provision of ADR is likewise subject over the whole or a part of its road journey to the provisions of an international convention which regulates the carriage of dangerous goods by a mode of transport other than road carriage by virtue of clauses extending the applicability of the said convention to certain motor-vehicle services, then the provisions of that international convention shall apply, over the journey in question concurrently with those of ADR which are not incompatible therewith; the other clauses of ADR shall not apply over the journey in question.

For the purpose of carrying out the trials necessary with a view to amending the provisions of this Annex in order to adapt them to technological and industrial developments, the competent authorities of the Contracting Parties may agree directly among themselves to authorize certain transport operations in their territories by temporary derogation from the provisions of this Annex. The authority which has taken the initiative with respect to the temporary derogation so granted shall notify the competent service of the United Nations Secretariat of the derogation, which service shall bring it to the attention of the Contracting Parties.

2011

Part II

LIST OF SUBSTANCES AND SPECIAL PROVISIONS FOR THE VARIOUS CLASSES CLASS 1a EXPLOSIVE SUBSTANCES AND ARTICLES

Note: Substances and articles which cannot explode on

contact with a flame and which are not more sensitive to shock or friction than dinitrobenzene are not subject to the provisions of Class 1a

1. List of substances and articles

(1) Among the substance and articles covered by the heading of Class 1a, only those listed in marginal 2101 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

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(2) In the explosives which are to be accepted for carriage, nitroglycerine may be replaced wholly or in part by:

- nitroglycol, or
- dinitrodiethyleneglycol, or
- nitrated sugar (nitrated saccharose), or
- a mixture of the above substances.

1° Highly nitrated nitrocellulose (such as guncotton), i.e. with a nitrogen content of more than 12.6 per cent, well stabilized and containing in addition:

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When the nitrocellulose is not compressed, not less than 25 per cent water or alcohol (methyl, ethyl, normal propyl or isopropyl, butyl, or amyl alcohol or mixtures thereof), including denatured alcohol; or mixtures of water and alcohol;

when the nitrocellulose is compressed, not less than 15 per cent water, or not less than 12 per cent paraffin wax or other similar substances.

See also Appendix A1, marginal 3101.

Note: 1. Nitrocellulose with a nitrogen content not exceeding 12.6 per cent is a substance of Class 4.1 if it complies with the specifications set out in marginal 2401, (a), (b) or (c).

2. Nitrocellulose in the form of nitrocellulose-film was free from gelatine, in reels, sheets or strips, is a substance of Class 4.2 (see marginal 2431, 4°).

2° Cordite paste, non-gelatinized («powder cake»), for use in the making of smokeless powders and containing not more than 70 per cent anhydrous substance and not less than 30 per cent water; the anhydrous substance liquid explosives.

3° Gelatinized nitrocellulose powders and gelatinized nitrocellulose powders containing nitroglycerine (nitroglycerine powders):

- non-porous and non-dusty;
- porous or dusty.

4° Plasticized nitrocellulose containing not less than 12 per cent but less than 18 per cent plasticizing substances (such as butyl phthalate whose nitrocellulose has a nitrogen content not exceeding 12.6 per cent, also in the form of chips.

Note: Plasticized nitrocellulose containing not less than 18 per cent butyl phthalate or a plasticizer at least equal in effect is a substance of Class 4.1 [see marginal 2401 7° (b) and (c)].

See also Appendix A.1, marginal 3102, 1.

5° Non-gelatinized nitrocellulose powders. See also Appendix A.1, marginal 3102.

6° Trinitrotoluene (tolite), also when compressed or cast, trinitrotoluene mixed with aluminium, mixtures termed liquid trinitrotoluene, and trinitroanisole. See also Appendix A.1, marginal 3103.

7° (a) Hexyl (hexanitrodiphenylamine) and picric acid;

(b) pentolites (mixtures of pentaerythritol tetranitrate and trinitrotoluene) and hexolites (mixtures of trimethylene-trinitramine and trinitrotoluene) if their trinitrotoluene content is such that their sensitiveness to shock does not exceed that of tetryl;

(c) phlegmatized penthrite (pentaerythritol tetranitrate) and phlegmatized hexogen (trimethylene-trinitramine), both phlegmatized by incorporation of wax, paraffin wax or other similarly effective substances in such quantity

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that the sensitiveness of these substances to shock does not exceed that of tetryl.

For (a), (b) and (c), see also Appendix A.1, marginal 3103.

Note: Substances of 7° (b) and phlegmatized hexogen of 7° (c) may also contain aluminium.

Explosive organic nitro-compounds:

(a) soluble in water, e.g. trinitroresorcinol:

(b) insoluble in water, e.g. tetryl (trinitrophenylmethyl-nitramine)

(c) tetryl gains without metal covering.

For (a) and (b), see also Appendix A.1, marginal 3103.

Note: Except for liquid trinitrotoluene (6°), explosive organic, nitrocompounds in the liquid state are not to be accepted for carriage.

(a) Moist penthrite (pentaerythritol tetranitrate) and moist hexogen (trimethylene- trinitramine) wetted throughout with not less than 20 per cent water in the case of the former and not less than 15 per cent in the case of the latter;

(b) moist pentolites (mixtures of penthrite and trinitrotoluene) and moist hexolites (mixtures of hexogen and trinitrotoluene) whose sensitiveness to shock in the dry state exceeds that of tetryl and which are wetted throughout with not less than 15 per cent water;

(c) moist mixtures of penthrite or of hexogen with wax, paraffin wax or substances similar to wax or paraffin wax, whose sensitiveness to shock in the dry state exceeds that of tetryl and which are wetted throughout with not less than 15 per cent water:

(d) compressed penthrite gains without metal covering.

For (a), (b) and (c), see also Appendix A.1, marginal 3103.

(a) Benzoyl peroxide:

1. in the dry state or with less than 10 per cent water;

2. with less than 30 per cent phlegmatizer.

Note: 1. Benzoyl peroxide with not less than 10 per cent water or with not less than 30 per cent phlegmatizer is a substance of Class 5.2 [see marginal 2551, 8° (a) and (b)].

2. Benzoyl peroxide with not less than 70 per cent dry and inert solids is not subject to the provisions of ADR.

(b) Cyclohexanone peroxides [1-hydroxy -1'hydroperoxy - dicyclohexyl peroxide and bis - (1-hydroxycyclohexyl) peroxide and mixtures of these two

1. in the dry state or with less than 5 per cent water;

2. with less than 30 per cent phlegmatizer.

Note: 1. Cyclohexanone peroxides and their mixtures with not less than 5 per cent water or with not less than 30 per cent phlegmatizer are substances of Class 5.2 [see marginal 2551 9° (a) and (b)].

2. Cyclohexanone peroxides and their mixtures with not less than 70 per cent dry and inert solids are not subject to the provisions of ADR.

(c) Parachlorobenzoyl peroxide:

1. in the dry state or with less than 10 per cent water;

2. with less than 30 per cent phlegmatizer.

Note: 1. Parachlorobenzoyl peroxide with not less than 10 per cent water or with not less than 30 per cent phlegmatizer is a substance of Class 5.2 [see marginal 2551 17° (a) and (b)].

2. Parachlorobenzoyl peroxide with not less than 70 per cent dry and inert solids is not subject to the provisions of ADR.

11° (a) Black powder (with a basis of potassium nitrate) in corned or meal form;

(b) slow mining powders similar to black powder (composed of sodium nitrate, sulphur and wood charcoal, coal or lignite, or composed of potassium nitrate with or without sodium nitrate, sulphur, coal or lignite).

(c) cartridges of compressed black powder or powder similar to compressed black powder.

Note: The density of the compressed mass must not be less than 1.5.g per 15°.

Class 1a

For (a) and (b), see also Appendix A.1, marginal 3104.

12° (a) Nitrate explosives, in powder form, not covered by 11° or 14° (a) or (c) and consisting essentially of ammonium nitrate or of a mixture of ammonium nitrate and alkali or alkaline-earth nitrates or of a mixture of ammonium nitrate and sodium chloride, or of a mixture of alkali or alkaline-earth nitrates and ammonium chloride, or of a mixture of ammonium nitrate with alkali or alkaline-earth nitrates and of sodium chloride, or of a mixture of ammonium nitrate with alkali or alkaline-earth nitrates and ammonium chloride. They may contain, in addition, combustible substances (such as wood flour, or other vegetable flour or hydrocarbons), sensitizers (for example, fine aluminium powder), aromatic nitro-compounds, nitroglycerine or nitroglycol or a mixture of the two, and inert stabilizing or colouring substances (see also Appendix A.1, marginal 3105).

(b) Explosives not containing inorganic nitrates, in powder form, consisting essentially of a mixture of inert substances (such as alkali chlorides) with nitroglycerine or nitroglycol or a mixture of the two. They may contain, in addition, aromatic nitro-compounds and substances with a phlegmatizing, stabilizing or gelatinizing, or colouring effect. See also Appendix A.1, marginal 3105.

13° Chlorate and perchlorate explosives, i.e. mixtures of chlorates or perchlorates of alkali or alkaline-earth metals with compounds rich in carbon.

See also Appendix A.1, marginal 3106.

14° (a) Dynamites with an inert absorbent, and explosives similar to dynamite with an inert absorbent;

(b) Blasting gelatine consisting of gun-cotton and not more than 93 per cent nitroglycerine, and gelatinized dynamites with a nitroglycerine content not exceeding 85 per cent;

(c) Gelatinous nitrate explosives, consisting essentially of ammonium nitrate or of a mixture of ammonium nitrate with nitrates of alkali or alkaline-earth metals containing not more than 40 per cent gelatinized nitroglycerine or gelatinized nitroglycol or a mixture of the two. They may contain, in addition, nitro-compounds or combustible substances (such as wood flour or another vegetable flour or hydrocarbons) and, in addition, other inert or colouring substances.

For (a), (b) and (c), see also Appendix A.1, marginal 3107.

15° Empty packagings, uncleaned, which have contained dangerous substances of Class 1a.

Class 1a

A. Packages

2. Provisions

1. General conditions of packing

(1) Packagings shall be so closed and leak-proof as to prevent any loss of the contents. The use of metal bands or wire to ensure closure is forbidden unless this procedure is specifically authorized in the special provisions relating to the packing of the substances or article in question.

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. Solid substances shall be firmly secured in their packagings, and inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance or of articles of the same kind», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The thickness of the walls must not be less than 2 mm.

(5) Cushioning materials shall be suited to the nature of the contents; in particular, they must be absorbent if

the contents are liquid or might exude liquid.

2. Packing of a single substance or of articles of the same kind

(1) Substances of 1° and 2° shall be packed:

(a) in wooden receptacles or in drums made of impermeable fibreboard: these receptacles and drums shall in addition be fitted with a lining impermeable to the liquids the contain; their closure must be leak-proof or

(b) in impermeable bags (e.g. made of rubber or of a suitable plastics material not readily inflammable) placed in a wooden case or

(c) in iron drums coated inside with zinc or lead or

(d) in receptacles made of tin-plate, zinc sheet or aluminium sheet, which shall be secured by cushioning materials in wooden cases.

(2) Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm²; the presence of these closures or safety devices must not impair the strength of the receptacles nor impair its closure.

(3) Nitrocellulose of 1°, if wetted exclusively with water, may be packed in fibreboard drums; the fibreboard must have undergone a special treatment to render it completely impermeable; the closures of the drums must be water-vapour proof.

(4) A package containing substances of 1° must not weigh more than 120 kg or, if it can be rolled, more than 300 kg; however, where fibreboard drums are used, a packages must not weigh more than 75 kg.

A packages containing substances of 2° must not weigh more than 75 kg.

(1) Substances of 3° (a) and 4° shall be packed:

(a) if they are to be carried as a full load:

1. in drums made of impermeable fibreboard; or

2. in packagings made of wood or of metal other than black sheet-iron;

(b) if they are not to be carried as a full load

1. in boxes made of fibreboard, tin-plate, zinc sheet or aluminium sheet, or of a suitable plastics material not readily inflammable, or in bags made of closely-woven textile or of stout paper of at least two plies or of stout paper lined with aluminium foil or with a suitable plastics material. These packaging shall be placed in wooden cases; or

2. without preliminary packing in boxes or bags:

a. in drums made of impermeable fibreboard or in wooden casks; or

b. in wooden packagings lined with zinc sheet or aluminium sheet or

c. in receptacles made of metal other than black sheet-iron.

(2) If the powder is in tubes, sticks, threads, bands or sheets it may also be enclosed, without preliminary packing in boxes or bags, in wooden cases.

(3) Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm²; the presence of these closures or safety devices must not impair the strength of the receptacle not impair its closure.

(4) The closure of wooden cases may be ensured by means of band or wires made of a suitable metal fastened tightly round them. If the band or wires are made of iron they shall be covered with a material not liable to produce sparks when subjected to impact or friction.

(5) A package must not weigh more than 120 kg; however, where fibreboard drums are used, a package must not weigh more than 75 kg.

(1) Substances of 3° (b) and 5° shall be packed:

(a) if they are to be carried as a full load:

1. in drums made of impermeable fibreboard; or

2. in packagings made of wood or of metal other than black sheet-iron.

(b) if they are not to be carried as a full load:

1. in boxes made of fibreboard, tin-plate or aluminium sheet. A box must not contain more than 1 kg of powder and must be wrapped in paper. These packagings shall

be placed in wooden packagings or

2. in bags made of closely-woven textile or of stout paper of at least two plies or of stout paper lined with aluminium foil or with a suitable plastics material. These bags shall be placed in fibreboard drums or in wooden casks or in other wooden packagings lined with zinc sheet or aluminium sheet, or in receptacles made of zinc sheet or aluminium sheet. Receptacles made of zinc sheet or aluminium sheet shall be completely lined with wood or fibreboard.

(2) Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm²; the presence of these closures or safety devices must not impair the strength of the receptacle nor impair its closure.

(3) The closure of wooden cases may be ensured by means of band or wires made of a suitable metal fastened tightly round them. If the bands or wires are made of iron they shall be covered with a material not liable to produce sparks when subjected to impact or friction.

(4) A package under (1) (a) must not weigh more than 100 kg; however, where fibreboard drums are used, a package must not weigh more than 75 kg. A package under (1) (b) must not weigh more than 75 kg. It must not contain more than 30 kgr of nitrocellulose powder.

(1) Substances of 6° shall be packed in wooden receptacles. Drums made of impermeable fibreboard are likewise to be accepted for solid trinitrotoluene and for trinitroanisole; and iron receptacles for mixtures termed liquid trinitrotoluene.

(2) Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm²; the presence of these closures or safety devices must not impair the strength of the receptacle nor impair its closure.

(3) A package must not weigh more than 120 kg or, if it can be rolled, more than 300 kg; however, where fibreboard drums are used, a package must not weigh more than 75 kg.

(1) Substances of 7° shall be packed:

(a) Substances of 7° (a): in wooden receptacles or in drums made of impermeable fibreboard. Lead and materials containing lead (alloys or compounds) must not be used in the packaging of hexyl (hexanitrodiphenylamine) and picric acid.

Picric acid may also be packed, not more than 500 g per receptacle, in receptacles made of glass, porcelain, stoneware or similar materials or of a suitable plastics material, secured in a wooden case by cushioning material (e.g. corrugated fibreboard). The receptacles shall be closed by means of a stopper, made of cork or rubber or a suitable plastics material, which shall be held in position by an additional device (such as a cap, crown, seal or binding) capable of preventing any loosening of the closure system during carriage;

(b) Substances of 7° (b) and (c): not more than 30 kg per bag, in cloth bags which do not allow the contents to filter through, or in bags made of stout paper or a suitable plastics material, which shall be placed in leak-proof wooden receptacles or in drums made of hardened fibreboard capable of being so closed as to be leak-proof and whose bottoms and lids shall be made of plywood. The lids of cases shall be secured by means of screws and those of drums by means of a collar.

(2) A package containing substances of 7° (a) must not weigh more than 120 kg if it is a wooden receptacle; where fibreboard drums are used, a package must not weigh more than 75 kg. Packages containing picric acid packed in fragile receptacles or in receptacles made of a plastics material must not weigh more than 15 kg. A package containing substances of 7° (b) or (c) must not weigh more than 75 kg; cases which, with their contents, weigh more than 30 kg shall be fitted with means of handling.

(1) Substances and articles of 8° shall be packed:

(a) substances of 8° (a): in receptacles made of steel not liable to rust, or of any other suitable material (which

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in particular excludes lead and its alloys). Nitro-compounds shall be uniformly wetted with sufficient water to ensure that they contain not less than 25 per cent water throughout the journey, at every point in the substance. Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm²; the presence of these closures or safety devices must not impair the strength of the receptacle nor impair its closure. Receptacles, except those made of steel not liable to rust shall be secured by cushioning materials in wooden packagings;

(b) substances of 8° (b): not more than 15 kg per bag, in bags made of cloth or of a suitable plastics material, placed in wooden packagings;

(c) substances of 8° (a) and (b) may also be packed, not more than 500 g per receptacle, in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, secured by cushioning material (e.g. corrugated fibreboard) in a wooden case. A package must not contain more than 5 kg of nitro-compounds. The receptacles shall be closed by means of a stopper, made of cork or rubber or a suitable plastics material, which shall be held in position by an additional device (such as a cap, seal or binding) capable of preventing any loosening of the closure system during carriage;

(d) articles of 8° (c): separately in stout paper and placed, not more than 100 per box, in sheet-metal boxes. Not more than 100 of these boxes shall be packed in a wooden packing case;

(2) A package under paragraph (1) (a) or (b) must not weigh more than 75 kg; it must not contain more than 25 kg of substances of 8° (a) or more than 50 kg of substances of 8° (b). A package under paragraph (1) (c) not weigh more than 15 kg, or a package under paragraph (1) (d) more than 40 kg.

(1) Substances and articles of 9° shall be packed:

(a) substances of 9° (a) to (c):

1. not more than 10 kg per bag, in bags made of cloth or of a suitable plastics material, placed in an impermeable fibreboard box or in a box made of tin-plate or aluminium sheet or zinc sheet; or

2. not more than 10 kg per receptacle, in receptacles made of fibreboard of adequate strength, impregnated with paraffin wax or rendered impermeable by some other means.

Boxes made of tin-plate or aluminium sheet or zinc sheet and boxes or receptacles of other kinds shall be placed in a wooden case lined with corrugated fibreboard; metal boxes so placed shall be separated from one another by means of a corrugated-fibreboard wrapping. A case may not contain more than four boxes or receptacles of other kinds. The lids of cases shall be secured by means of screws.

b) penthrith [9° (a)] may also be packed either:

1. not more than 5 kg per receptacle, in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, closed by means of a stopper made of cork or rubber or a suitable plastics material; each receptacle shall be placed in a metal receptacle hermetically closed by welding or soldering and cushioned with resilient materials so as to wedge the inner receptacle securely without leaving any empty space. Not more than 4 metal receptacles shall be packed in a wooden case lined with corrugated fibreboard and shall be separated from one another by several thicknesses of corrugated fibreboard or of another material capable of performing the same function; or

2. not more than 500 g dry weight per receptacle, in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, closed by means of a stopper made of cork or rubber or a suitable plastics material. These receptacles shall be placed in a wooden case. They shall be separated from one another by means of a corrugated fibreboard wrapping and from the sides of the case by a space of not less than 3 cm filled with cushioning materials;

(c) hexogen [9° (a)] may also be packed as provided

under (b) 1. above for penthrith;

(d) articles of 9° (d): first separately in stout paper and placed, not more than 3 kg per case, in fibreboard cases in which they shall be fixed in position by cushioning materials; these cases, not more than 10 per wooden case, shall be so secured by cushioning materials in a wooden case closed by means of screws that there is a space of not less than 3 cm filled with cushioning materials at all points between the fibreboard cases and the packing case.

(2) A package under (1) (a) or (1) (b) 1. must not weigh more than 75 kg; a package under 1 (c) must not weigh more than 10 kg; a package under (1) (b) 2. or (1) (d) must not weigh more than 35 kg. Packages which, with their contents, weigh more than 30 kg shall be fitted with means of handling.

(1) Substances of 10° shall be packed, not more than 500 g per bag, in firmly-tied bags made of a suitable pliant material; each bag shall be placed in a box made of metal, fibreboard or paperboard; these boxes, not more than 30 per packing case, shall be secured by cushioning materials in a wooden packing case with complete sides not less than 12 mm thick.

(2) A package must not weigh more than 25 kg.

(1) Substances and articles of 11° shall be packed:

(a) substances of 11° (a) and (b):

1. not more than 2.5 kg per bag, in bags placed in boxes made of fibreboard, tin-plate or aluminium. The boxes shall be secured by cushioning materials in wooden packagings; or

2. in bags made of closely-woven fabric, placed in wooden casks or cases;

(b) articles of 11° (c): rolled in stout paper; each roll must not weigh more than 300 g. The rolls shall be placed in a wooden case lined with stout paper.

(2) The lids of the wooden cases shall be secured by means of screws; if the screws are made of iron they shall be coated with a material not liable to produce sparks when subjected to shock or friction.

(3) A package must not weigh more than 75 kg if it is carried as part of a full load, and not more than 35 kg if it is carried as part of a full load and not more than 35 kg if it is not carried as part of a full load.

(1) Substances of 12° shall be cartridge in wrappings made of a suitable plastic material or of paper. The cartridges may be dipped in paraffin wax, ceresine or resin, or be wrapped in a suitable plastics material, so as to be protected from damp. Explosives containing more than 6 per cent liquid nitric esters shall be cartridge in paper coated with paraffin wax or ceresine or in an impermeable plastics material such as polyethylene. The cartridges shall be placed in wooden packagings.

(2) Cartridges not coated with paraffin wax or ceresine, or cartridges in permeable wrappings, shall be made up into packets weighing not more than 2.5 kg each. Packets so made up, whose wrapping must consist at least of stout paper, shall be dipped in paraffin wax, ceresine or resin or wrapped in a suitable plastics material so as to be protected from damp. The packets shall be placed in wooden packagings.

(3) The closure of wooden packagings may be ensured by means of metal bands or wires fastened tightly round them.

(4) A package must not weigh more than 75 kg. It must not contain more than 50 kg of explosives.

(5) Instead of the wooden packagings prescribed in paragraph (1) and paragraph (2), it is also permissible to use suitable cases, made of solid fibreboard or corrugated fibreboard, which are of sufficient mechanical strength and whose lid flaps and bottom flaps must be closed by means of adhesive strips of sufficient strength. The design of cases made of solid fibreboard or corrugated fibreboard must be approved by the competent authority of the country of departure. Such a package must not weigh more than 30 kg; it must not contain more than 25 kg of explosives.

(1) Substances of 13° shall be cartridge in paper wrappings. Cartridges not coated with paraffin wax or ceresine

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shall first be rolled in paper that has been rendered impermeable. They shall be made up by means of a paper wrapping into packets weighing not more than 2.5 kg each, which shall be secured by cushioning materials in wooden packagings whose closure may be ensured by means of metal bands or wires fastened tightly round them.

(2) A package must not weigh more than 35 kg.

(1) Substances of 14° shall be packed:

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(a) substances of 14° (a): cartridge in wrappings made of paper that has been rendered impermeable. The cartridges shall be made up into packets by means of a paper wrapping or, if without a paper wrapping, secured by cushioning materials in fibreboard cases. The packets or fibreboard cases shall be secured by inert cushioning materials in wooden packagings whose closure may be ensured by means of metal bands or wires fastened tightly round them;

(b) substances of 14° (b): cartridge in wrappings made of paper that has been rendered impermeable. The cartridges shall be placed in a fibreboard box. The fibreboard boxes, wrapped in paper that has been rendered impermeable, shall be secured, leaving no empty spaces, in wooden packaging whose closure may be ensured by means of metal bands or wires fastened tightly round them;

(c) substances of 14° (c):

1. cartridge in wrappings made of suitable plastics material or of paper. The cartridges may be dipped in paraffin wax, ceresine or resin or be wrapped in a suitable plastics material, so as to be protected from damp. Explosives containing more than 6 per cent liquid nitric esters shall be cartridge in paper coated with paraffin wax or ceresine or in an impermeable plastics material such as polyethylene. The cartridges shall be placed in wooden packagings;

2. cartridges not coated with paraffin wax or ceresine, or cartridges in permeable wrappings, shall be made up into packets weight more than 2.5 kg each. Packets so made up, whose wrapping may consist at least of stout paper, shall be dipped in paraffin ceresine or resin or be wrapped in a suitable plastics material so as to be protected from damp. The packets shall be placed in wooden packagings;

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3. the closure of wooden packagings may be ensured by means of metal bands or wires fastened tightly round them;

4. instead of the wooden packagings prescribed under 1. and 2. it is also permissible to use suitable cases, made of solid fibreboard or corrugated fibreboard, which are of sufficient mechanical strength and whose lid flaps and bottom flaps must be closed by means of adhesive strips of sufficient strength. The design of cases made of solid fibreboard or corrugated fibreboard must be approved by the competent authority of the country departure.

(2) A package containing substances of 14° (a) or (b) must weigh more than 35 kg. A package containing substances of 14° (c) must not weigh more than 75 kg; it must not contain more than 50 kg of explosives; in the case of a packing conforming to paragraph 1 (c) 4. package must not weigh more than 30 kg nor contain more than 25 kg of explosives.

3. Mixed packing

Substances listed under an item number of marginal 2101 may be included in the same package either with substances grouped under the same or another item number of that marginal, or with substances or any of other Classes, or with other goods.

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Note: Packages as referred to in marginal 2108 (1) (c) may contain organic nitro-compounds having different compositions and names.

4. Marking and danger labels on packages (see Appendix A.9)

Packages containing picric acid (7° (a)) shall be marked with name of the substance in clearly legible and indelible red characters marking shall be in an official language of the country of departure and also, if that language is not English, or French or German in English, French or German, unless international road transport tariffs, if any

agreements concluded between the countries concerned in the transport operation, provide otherwise.

(1) Packages containing substances and articles of Class Ia shall bear a label conforming to model No. 1. 2117

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

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B. Particulars in the transport document

The description of the goods in the transport document must conform to one of the names underlined in marginal 2101. Where the name of the substance is not indicated in the case of 8° (a) and (b), the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class; the item number (together with the letter, if any), and the initials "ADR" or "RID" [e.g. 1a 3° (a) ADR]. 2119

(2) The following must be certified in the transport document: "The nature of the goods, and the packaging, are in conformity with the provisions of ADR".

(3) For consignments which, under marginal 11 400 of Annex B, are to be accepted for carriage as a full load only, the transport document shall also show the weight of each package and the number and nature of the packagings.

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C. Empty packagings

(1) Packagings of 15° must be securely closed and be leak-proof in the same degree as though they were full. 2126

(2) The description in the transport document must be: "Empty packaging, 1a, 15°, ADR (or RID)". This description must be underlined in red.

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CLASS 1b. ARTICLES FILLED WITH EXPLOSIVE SUBSTANCES

1. List of articles

(1) Among the articles covered by the heading of Class 1b, only those listed in marginal 2131 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These articles to be accepted for carriage under certain conditions are to be considered as articles of ADR. 2130

(2) If the articles listed under 7°, 10° or 11° of marginal 2131 are composed of, or filled with, explosive substances listed in marginal 2101 those substances must satisfy the stability and safety conditions laid down concerning them in Appendix A.1.

1° Fuses, not primed:

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(a) rapid detonating fuses (fuses consisting of a thick tube with a core of black powder, or with a core of threads impregnated with black powder, or with a core of nitrated cotton threads);

(b) detonating fuses in the form of small-section metal tubes with thin walls and a core filled with an explosive substance; see also Appendix A.1, marginal 3108;

(c) flexible detonating fuses wrapped in textile or a plastics material, of small section and with a core filled with an explosive substance; see also Appendix A.1, marginal 3109;

(d) instantaneous detonating fuses (small-section woven fuses with a core filled with an explosive substance more dangerous than penthrite).

For other fuses, see Class 1c, 3° (marginal 2171).

2° Non-detonating primers (primers which do not produce a disruptive effect either with the aid of detonators or by other means):

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(a) percussion caps;

(b) 1. primed cases of central-percussion cartridges, not filled with propellant powder, for firearms of all calibres;

2. primed cases of rim-fire cartridges, not filled with propellant powder, for Flobert weapons and firearms of similar calibres;

(c) quick-matches, screw-primers and other similar primers containing a small charge (black powder or other explosives), set in action by friction, percussion or electricity;

(d) fuses without any device, e.g. detonator, producing a disruptive effect and without a transmission charge.

3° Railway for signals

4° Small-arms cartridges [with the exception of those containing a bursting charge (see under 11°)]:

(a) sporting cartridges;

(b) Flobert cartridges;

(c) tracer cartridges;

(d) incendiary cartridges;

(e) other central-percussion cartridges.

Note: Apart from sporting cartridges with lead pellets, only cartridges whose calibre does not exceed 13.2 mm are to be considered as articles of 4°.

5° Detonating fuses:

(a) detonators with or without a delayed-action device: delayed-action connecting pieces for detonating fuses;

(b) electric detonators fitted with fuses with or without a delayed-action device;

(c) detonators connected firmly to a black-powder fuse;

(d) detonators with gaines (detonators combined with a transmission charge composed of a compressed explosive); see also Appendix A.1, marginal 3110;

(e) fuses with detonators (fused detonators) with or without a transmission charge;

(f) detonators with percussion cap ("bouchons allumeurs") with or without a delayed-action device, with or without a mechanical device for firing, and without a transmission charge.

6° Sounding caps (detonators, with or without primers, contained in sheet-metal tubes).

7° Articles with a propellant charge, other than those listed under 8°; articles with a bursting charge; articles with a propellant and a bursting charge, provided that they contain only explosive substances of Class 1a all without a device producing a disruptive effect (e.g. detonator). The charge in these articles may comprise a tracer substance (see also under 8° and 11°).

Note: Non-detonating primers (2°) are allowed in these articles.

8° Articles filled with tracer substances or substances intended for signalling, with or without a propellant charge, with or without an ejection charge, and without a bursting charge, in which the propellant or tracer substance is compressed in such a way that the articles cannot explode when ignited.

9° Smoke-producing devices containing chlorates or carrying an explosive charge or an explosive ignition charge.

For smoke-producing substances for agricultural and forestry purposes, see Class 1c marginal 2171 27°.

10° Boring devices containing a charge of dynamite or of an explosive similar to dynamite, without fuses and without any device producing a disruptive effect (e.g. detonator), hollow-charge devices for industrial purposes, containing not more than 1 kg of explosive secured within the casing, and without a detonator.

11° Articles with a bursting charge, articles with a propellant and a bursting charge, all fitted with a device producing a disruptive effect (e.g. detonator), the whole well secured. The weight of each article must not exceed 25 kg.

2. Provisions

A. Packages.

1. General conditions of packing

(1) Packagings shall be so closed and leak-proof as to prevent any loss of the contents. The use of metal bands or wires fastened round the packages to ensure their closure is allowed; their use is compulsory with cases having

hinged lids if the lids are not fitted with an effective device to obviate any loosening of the closure.

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. Articles shall be firmly secured in their packagings, and inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled "Packing of articles of the same kind", inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Cushioning materials shall be suited to the nature of the contents.

2. Packing of articles of the same kind

Articles of 1° shall be packed as follows:

(a) articles of 1°(a) and (b): in wooden packagings or in drums made of impermeable fibreboard. A package drums must not weigh more than 120 kg; however, a fibreboard drum must not weigh more than 75 kg;

(b) articles of 1°(c): rolled in lengths of up to 250 m on reels made of wood or fibreboard. The reels shall be placed in wooden cases in such a manner that they cannot come into contact either with one another or with the sides of the cases. A case must not contain more than 1,000 m of fuse;

(c) articles of 1°(d): rolled in lengths of up to 125 m on reels made of wood or fibreboard which shall be packed in a wooden case, closed by means of screws and with sides not less than 18 mm thick, in such a manner that the reels cannot come into contact either with one another or with the sides of the case. A case must not contain more than 1,000 m of instantaneous detonating fuse.

(1) Articles of 2° shall be packed as follows:

(a) articles of 2°(a): caps with an uncovered explosive charge, not more than 500 per box or small case, and caps with a covered explosive charge, not more than 5,000 per box or small case, in sheet-metal boxes, fibreboard boxes or small wooden cases. These packagings shall be placed in a packing case made of wood or sheet-metal;

(b) articles of 2°(b)1: primed cases of central-percussion cartridges, not filled with propellant powder, for firearms of all calibres, for cases made of wood or fibreboard or in textile bags;

(c) articles of 2°(b)2: primed cases of rim-fire cartridges, not filled with propellant powder, for Flobert weapons and firearms of similar calibres, not more than 5,000 per box, in boxes made of sheet-metal or fibreboard which shall be placed in a packing case made of wood or sheet-metal; however, these primed cases for rim-fire cartridges may also be packed, not more than 25,000 per bag, in a bag which must be secured by means of corrugated fibreboard in a packing case made of wood or iron;

(d) articles of 2°(c) and (d): in boxes made of fibreboard, wood or sheet-metal which shall be placed in packagings made of wood or metal.

(2) A package containing articles of 2°(a), (c) or (d) must not weigh more than 100 kg.

(1) Articles of 3° shall be packed in cases made of boards not less than 18 mm thick, tongued and grooved and assembled by means of wood screws. Fog signals shall be secured in cases by cushioning materials in such a manner that they cannot come into contact either with one another or with the sides of the case.

(2) A package must not weight more than 50 kg.

(1) Articles of 4°(a), (b) and (e) shall be placed tightly in firmly-closing boxes made of sheet-metal, wood or fibreboard; these boxes shall be housed, leaving no empty spaces, in packing cases made of metal, wood, hardboard, solid fibreboard or corrugated fibreboard; the fibreboard must have been rendered impermeable by impregnation and be of sufficient mechanical strength.

Fibreboard cases shall be closed by means of adhesive strips of sufficient strength. The production model of cases

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made of solid fibreboard or corrugated fibreboard must be approved by the competent authority of the country of departure.

(2) Articles of 4°(c) and (d) shall be placed, not more than 400 per box, in boxes made of sheet-metal, wood or fibreboard; these boxes shall be packed securely in packing cases made of metal or wood.

(3) A package must not weigh more than 100 kg; however, where hardboard or fibreboard cases are used, a package containing articles of 4(a), (b) or (e) must not weigh more than 40 kg.

(1) Articles of 5° shall be packed as follows:

(a) articles of 5°(a): not more than 100 per receptacle in the case of detonators and not more than 50 per receptacle in the case of connecting pieces, in receptacles, made of sheet-metal or impermeable fibreboard, in which they shall be well protected against ignition and secured by cushioning materials. Sheet-metal receptacles shall be lined with a resilient material. The lids shall be secured all round by adhesive strips. Receptacles shall, not more than 5 per packet or box in the case of detonators and not more than 10 per packet or box in the case of connecting pieces, be enclosed in a packet or placed in a fibreboard box. The packets or boxes shall be packed in a wooden case closed by means of screws and with sides not less than 18 mm thick, or in a sheet-metal packaging, the case or packaging being secured by cushioning materials in a packing case with sides not less than 18 mm thick in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between the wooden case or sheet-metal packaging and the packing case;

(b) articles of 5°(b): not more than 100 per packet, in packets with alternate detonators lying towards opposite ends of the packet. Not more than 10 of these packets shall be tied together to form a collective packet. Not more than 5 of these collective packets shall be secured by cushioning materials in a wooden packing case with side not less than 18 mm thick, or in a sheet-metal packaging, in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between the collective packets and the packing case or sheet-metal packaging;

(c) articles of 5°(c): fuses fitted with detonators, rolled into coils; not more than 10 coils shall be made into a roll which shall be wrapped in paper. Not more than 10 rolls shall be secured by cushioning materials in a small wooden case closed by means of screws and with sides not less than 12 mm thick. Not more than 10 small cases shall be secured by cushioning materials in a packing case with sides not less than 18 mm thick in such a manner that there is a span of not less than 3 cm filled with cushioning materials at all points between the small cases and the packing case; (d) articles of 5°(d):

1. not more than 100 detonators per case, in wooden cases with sides not less than 18 mm thick, in such a manner that the detonators are spaced not less than 1 cm from one another and from the sides of the case. The said sides shall be mortised and the bottom and lid shall be secured by screws. If the case and the bottom and lid shall be secured by screws. If the case is lined with zinc sheet or aluminium sheet, a side thickness of 16 mm is sufficient. The case shall be secured by cushioning materials in a packing case with sides not less than 18 mm thick in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between it and the packing case; or

2. not more than 5 detonators per box, in sheet-metal boxes; the detonators being placed there in slatted wooden frames or in holed pieces of wood. The lid shall be secured all round by adhesive strips. Not more than 20 sheet-metal boxes shall be placed in a packing case with sides not less than 18 mm thick;

(e) articles of 5°(e): not more than 50 per case, in wooden cases with sides not less than 18 mm thick. The articles shall be secured within the cases by a wooden structure in such a manner that they are spaced not less than 1 cm from one another and from the sides of the

case. The sides of the case shall be mortised and the bottom and lid shall be secured by screws. Not more than 6 cases shall be secured by cushioning materials in a packing case with sides not less than 18 mm thick in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between the cases and the packing case. The space may be reduced to not less than 1 cm if it is filled with porous wood-fibre slabs. If the articles are individually packed and firmly secured in hermetically-closing boxes made of sheet-metal or a plastics material, they may be placed in a wooden packing case with sides not less than 18 mm thick. The articles must be separated from one another and firmly secured by fibreboard or by wood-fibre slabs;

(f) articles of 5°(f):

1. not more than 50 per case, in wooden or metal cases; in these cases each detonating part of the "bouchon allumeur" shall be so accommodated in a slotted wooden support that the distance between adjacent detonators and between the detonators of the outermost "bouchons allumeurs" and the side of the case is not less than 2 cm; closing the lid of the case shall ensure complete immobility of the whole; not more than 3 cases shall be placed, leaving no empty spaces, in a wooden packing case with sides not less than 18 mm thick; or

2. in boxes made of wood or metal; in these boxes each "bouchon allumeur" shall be so supported by a frame that the distance between two "bouchon allumeurs" and between a "bouchon allumeur" and the side of the box is not less than 2 cm and that the immobility of the whole is ensured; these boxes shall be placed in a packing case with sides not less than 18 cm thick in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between the boxes and between the boxes and the packing case; a package must not contain more than 150 "bouchons allumeurs".

(2) The lid of the packing case shall be closed by means of screws or of hinges and folding bars.

(3) Each package containing articles of 5° shall be provided with a closure protected either by lead or other seals (stamp or mark) applied to two screw-heads at the ends of the major axis of the lid or the folding bars, or by a strip, bearing the trade mark, gummed on to the lid and on two opposite sides of the case.

(4) A package must not weigh more than 75 kg; packages weigh more than 30 kg shall be fitted with means of handling.

(1) Articles of 6° shall be rolled separately in paper and placed in corrugated fibreboard wrappings. They shall be packed, not more than 25 per box, in boxes made of fibreboard or sheet-metal. The lids shall be secured all round by adhesive strips. Not more than 20 boxes shall be placed in a wooden packing case.

(2) A package must not weigh more than 50 kg. Packages weigh more than 30 kg shall be fitted with means of handling.

(1) Articles of 7° shall be packed in wooden cases closed by means of screws or of hinges and folding and with sides not less than 16 mm thick, or in receptacles made of metal or a suitable plastics material of adequate strength. The lids and bottoms of the wooden cases may also be made of highly-compressed paperboard equalling the sides in strength. Articles weighing more than 20 kg may also be despatched in crates or without packing.

(2) A package must not weigh more than 100 kg if it contains articles each of which weighs not more than 1 kg. Cases which, with the contents, weigh more than 30 kg shall be fitted with means of handling.

(1) Articles of 8° shall be packed in wooden cases, in drums made of fibreboard which has been rendered impermeable, or in receptacles made of metal or of a suitable plastics material of adequate strength. The ignition head shall be protected in such a manner as to prevent any scattering of the charge from the article.

(2) A package must not weigh more than 100 kg; however, when fibreboard drums are used a package shall not

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weigh more than 75 kg. Cases which, with their contents, weigh more than 30 kg shall be fitted with means of handling.

Articles of 9° shall be enclosed in wooden packagings. A package must not weigh more than 75 kg; packages weighing more than 30 kg shall be fitted with means of handling.

Articles of 10° shall be packed in wooden cases. Packages weighing more than 30 kg shall be fitted with means of handling.

Articles of 11° shall be packed as follows:

(a) articles less than 13.2 mm in diameter: not more than 25 per box, packed tightly in firmly – closing fibreboard boxes or in receptacles made of a suitable plastics material of adequate strength; these boxes or receptacles shall be placed, leaving no empty spaces, in a wooden case, with sides not less than 18 mm thick, which may be lined with tin – plate, zinc or aluminium sheet, or a suitable plastics or similar material of adequate strength.

A package must not weigh more than 60 kg. Packages weighing more than 30 kg shall be fitted with means of handling.

(b) articles from 13.2 mm to 57 mm in diameter:

1. separately

in a tube made of fibreboard or of a suitable plastics material, strong, close – fitting and closing firmly at both ends; or

in a tube made of fibreboard or of a suitable plastics material, strong, close – fitting, closed at one end and open at the other; or

in a tube made of fibreboard or of a suitable plastics material, open at both ends but with an inner projection or other suitable internal device to prevent the article from moving.

Packed in this manner, not more than:

300 articles not less than 13.2 mm and not more than 21 mm in diameter; or

60 articles more than 21 mm but not more than 37 mm in diameter; or

25 articles more than 37 mm but not more than 57 mm in diameter shall be placed in layers in a wooden case with sides not less than 18 mm thick, the wooden case being lined with tin – plate, zinc sheet, or aluminium sheet:

In the case of articles packed in tubes open at both ends or at one end, the packing case shall be lined on the side or sides adjacent to the open ends of the tubes either with a felt pad not less than 7 mm thick or with a sheet of the same thickness of double – faced corrugated fibreboard or similar material.

A package must not weigh more than 100 kg. Packages weighing more than 30 kg shall be fitted with means of handling;

2. articles 20 mm in diameter may also be packed, not more than 10 per box, in strong, closely – fitting fibreboard boxes coated with paraffin wax and equipped with a honey – combed bottom insert and with partitions made of fibreboard coated with paraffin wax. The boxes shall be closed by a gummed flap. Not more than 30 boxes shall be tightly packed in a wooden case being with sides not less than 18 mm thick, the wooden case being lined with zinc sheet, tin – plate or aluminium sheet.

A package must not weigh more than 100 kg. Packages weighing more than 30 kg shall be fitted with means of handling;

3. articles not more than 30 mm in diameter may, in a number not exceeding that indicated under 1., also be put on to strips and packed in a strong steel receptacle. This receptacle may be cylindrical.

These articles put on to strips shall be surrounded by a suitable device so as to constitute a compact unit and as to prevent individual articles from becoming detached. One or more units shall be so fixed in the receptacle that they cannot be displaced.

The ends of articles put on to strips shall rest on shock – absorbing non – metallic supports.

The lid of the receptacle must be so closed as to be

leak – proof and be so secured by a locking device capable of being sealed that the articles cannot fall out.

A package must not weigh more than 100 kg. Packages weighing more than 30 kg shall be fitted with means of handling. Receptacles capable of being rolled shall have their lids fitted with a strong handle enabling them to be carried;

4. articles not less than 30 mm and not more than 57 mm in diameter may also be packed separately in a strong, closely – fitting, hermetically – closed cylindrical box made of fibreboard, fibre or a suitable plastics material. Not more than 40 of these boxes shall be placed in layers in a wooden case with sides not less than 18 mm thick.

A package must not weigh more than 100 kg. Packages weighing more than 30 kg shall be fitted with means of handling.

(c) Other articles of 11°: in conformity with the provisions of marginal 2139 (1. A package must not weigh more than 100 Kg. Packages weighing more than 30 kg shall be fitted with means of handling.

Note: In the case of articles containing both propellant and bursting charges, the diameter referred to is that of the cylindrical portion containing the bursting charge.

3. Mixed packing.

(1) Articles listed under an item number of marginal 2131 may not be included in the same package either with articles of a different kind but of the same item number, or with articles of another item number of than marginal, or with substances or articles belonging to other Classes, or with other goods.

(2) The following may, however, be included in the same package:

(a) articles of 1° with one another.

When articles of 1°(a) and (b) are included in the same package, they shall be packed in conformity with marginal 2133 (a).

When articles of 1°(c) are included in the same package with articles of 1°(a) or (b) or both, those of 1°(c) shall be made up into packages in conformity with the provisions applicable to them and the outer packaging shall be that prescribed for articles of 1°(a) or (b). A package must not weigh more than 120 kg;

(b) articles of 2°(a) with those of 2°(b), provided that both are contained in inner packagings consisting of boxes placed in wooden cases. A package must not weigh more than 100 Kg;

(c) articles of 4° with one another, taking into account the provisions for inner packaging, in a wooden outer packaging. A package must not weigh more than 100 kg;

(d) articles of 7° with those of 5°(a) (d), (e) and (f), on condition that the packaging of these latter prevents the transmission of a possible detonation to the articles of 7°. In one package the number of articles of 5°(a), (d), (e), and (f) must be the same as that of the articles of 7°. A package must not weigh more than 100 kg.

4. Marking and danger labels on packages (see Appendix A.9)

Packaging containing articles of Class I b shall bear a label conforming to model No 1. However, packages, containing articles of 1°(d), 5° and 6° shall bear two labels conforming to model No. 1.

B. Particulars in the transport document

(1) The description of the goods in the transport document must conform to one of the names underlined in marginal 2131; it must be underlined in red and followed by particulars of the Class, the item number together with the letter, if any), and the initials «ADR» or «RID» (e.g. 1b 2°(a) ADR. (2) The following must be certified in the transport document:

«The nature of the goods, and the packaging, are in conformity with the provisions of ADR.

C. Empty packaging

No provisions.

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CLASS 1c IGNITERS, FIREWORKS AND SIMILAR GOODS

1. List of goods

(1) Among the substances and articles covered by the heading of Class 1c, only those listed in marginal 2171 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

(2) Articles to be accepted must fulfil the following conditions:

(a) The explosive charge shall be constituted, arranged and distributed in such a manner that neither friction, shaking, shock nor ignition of the packed articles can lead to an explosion of the whole contents of the package;

(b) white or yellow phosphorus may not be used except in articles of 2° and 20°;

(c) the detonating compound of fireworks (21°–24°), flash – powders (26°), and the smoke – producing compounds of pesticides (27°), must not contain chlorates;

(d) the explosive charge must satisfy the stability conditions of Appendix A.I., Marginal 3111.

4. Igniters:

1°. (a) Safety matches (with a potassium chlorate and sulphur base);

(b) Matches with a base of potassium chlorate and of phosphorus sesquisulphide, also friction igniters.

2°. Strips of amorces for safety lamps and strips of paraffin – waxed amorces for safety lamps. 1,000 amorces must not contain more than 7.5 explosive.

For strips of caps, see under 15°

3°. Slow – combustion fuses (fuses consisting of a thin impermeable tube with a narrow – section core of black powder).

For other fuses, see Class 1b, 1° (Marginal 2131).

4°. Pyroxlin thread (nitrated cotton thread). See also Appendix A.I., marginal 3101.

5°. Tubular igniters («lances d'allumage» (tubes, made of paper or fibreboard, containing a small quantity of a fuse composition of oxygenated substances and organic substances and, possibly, of nitrated aromatic compounds) and thermite caps with pellet igniter.

6°. Safety igniters for fuses (paper cartridges containing a primer by thread intended to cause friction or tearing, or similar devices).

7°. (a) Electric primers without detonator;

(b) pellets for electric primers.

8°. Electric igniters (e.g. igniters intended for igniting photograph magnesium powders). The charge of each must not exceed 30 mg nor contain more than 10 per cent fulminate of mercury.

Note: Appliances of the electric bulb type producing a sudden light and containing an ignition charge similar to that of electric igniter are not subject to the provisions of ADR.

B. Pyrotechnic articles and toys: caps and (strips) of caps; detonating articles:

9°. Indoor pyrotechnic articles (e.g. Boscocylinders, confetti bombs cotillon fruits). Articles with a nitrated – cotton (collodion – cotton) base must not contain more than 1 g per article.

10°. Fulminating bonbons, flower crackers, strips of nitrated paper (collodion paper).

11°. (a) Fulminating peas, fulminating grenades and other similar pyrotechnic toys containing fulminate of silver;

(b) fulminating matches;

(c) accessories with fulminate of silver.

Ad (a) (b) and (c): 1,000 articles must not contain more than 2.5 g fulminate of silver.

12°. Detonating pebbles, each carrying on the outside a charge of no more than 3 g of an explosive other than fulminate.

13°. Pyrotechnic matches (e.g. Bengal matches, golden – rain matches cascade – of – flowers matches).

14°. Miracle candles without ignition heads.

15°. Caps for children's toys, strips (strings) of caps and rings of caps. 1,000 caps must not contain more than 7.5 g of an explosive free from fulminate.

For strips of caps for safety lamps, see under 2°.

16°. Explosive corks with an explosive charge having a phosphorus and chlorate base or with a charge of fulminate or a similar compound compressed into cardboard cartridges. 1,000 corks must not contain more than 60g chlorate explosive nor more than 10g of fulminate of a compound with a fulminate base.

17°. Round petards with an explosive charge having a phosphorus and chlorate base. 1,000 petards must not contain more than 45g explosive.

18°. Cardboard caps (toy ammunition) with an explosive charge having a phosphorus and chlorate base or with a charge of fulminate or a similar compound. 1,000 caps must not contain more than 25 g explosive.

19°. Cardboard caps exploding under foot, with a protected charge having a phosphorus and chlorate base. 1,000 caps must not contain more than 30 g explosive.

20°. (a) Detonating sheets;

(b) Martinikas (so called Spanish fireworks).

Both comprise a mixture of white (yellow) and red phosphorus with potassium chlorate and not less than 50 per cent inert substances not taking part in the decomposition of the mixture of phosphorus and chlorate. A sheet must not weigh more than 2.5 g and a martinika not more than 0.1 g.

C. Fireworks

21°. Anti – hail rockets not fitted with a detonator, bombs and firepots. The charge, including the propellant charge, must not weigh more than 14 kg per article, the bomb or firepot not more than 18 kg in all.

22°. Incendiary bombs, rockets, Roman candles, fountains, wheels and similar fireworks, with a charge not weighing more than 1,200 g per article.

23°. Cannon shots each containing not more than 600 g granulated black powder or 220 g of an explosive not more dangerous than aluminium powder with potassium perchlorate, rifle shots (crackers) each containing not more than 20 g granulated black powder, all provided with fuses with covered ends; and similar articles for producing a loud detonation.

For railway fog – signals, see Class 1b, 3o (Marginal 2131).

24°. Small fireworks (e.g. jumping – crackers, serpents, golden rain, silver rain, if they contain not more than 1,000 g granulated black powder per 144 articles; volcanoes and hand comets, if they contain not more than 30 g each of granulated black powder).

25°. Bengal fires without ignition heads (e.g. Bengal torches, lights, flames).

26°. Magnesium flash – powders, not more than 5 g per bag or tube, in paper bags or in small glass tubes.

D. Pesticides (substances and articles):

27°. Smoke producing substances for agricultural and forestry purposes and smoke – producing cartridges for use as pesticides.

For smoke – producing devices containing chlorates or carrying an explosive charge or an explosive ignition charge, see Class 1b (Marginal 2131).

2. Provisions

A. Packages

1. General conditions of packing

(1) Packings shall be so closed and leak – proof as to prevent any loss of the contents.

(2) Packagings, including their closures, must be sufficient rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. Articles shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance or of articles of the same kind», inner packagings may be enclosed in outer packagings, either singly or in groups.

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(3) Cushioning materials shall be suited to the nature of the contents.

2. Packing of a single substance or of articles of the same kind 2173

(1) Articles of 1°(a) shall be packed in boxes or in books. These boxes or books shall be wrapped in stout paper to form a collective packet all the folds of which shall be glued. The books may also be placed in boxes made of thin fibreboard or of a material not readily inflammable (e.g. cellulose acetate). The fibreboard boxes or the collective packets shall be placed in a strong case made of wood, metal, compressed - wood hardboard, strong solid fibreboard or double - faced corrugated fibreboard.

All joints of metal cases shall be secured by soft soldering or double - seaming.

Fibreboard cases shall be closed by means of joined flaps. The edges of the outer flaps, and all joints, must be either glued or firmly closed by some other suitable means.

If the fibreboard boxes or collective packets are packed in fibreboard cases, the weight of a package may not exceed 20 kg.

(2) Articles of 1° (b) shall be so packed in boxes as to prevent any movement. Not more than 12 of these boxes shall be enclosed in a packet all the folds of which shall be glued.

Not more than 12 of these packets shall be wrapped in stout paper to form a collective packet all the folds of which shall be glued. The collective packets shall be placed in a strong case made of wood, metal, compressed - wood hardboard, strong solid fibreboard or double - faced corrugated fibreboard.

All joints of metal cases shall be secured by soft soldering or double - seaming.

Fibreboard cases shall be closed by means of joined flaps. The edges of the outer flaps, and all joints, must be either glued or firmly closed by some other suitable means.

If the collective packets are packed in fibreboard cases, the weight of package must not exceed 20 Kg.

(1) Articles of 2° shall be packed in boxes made of sheet - metal or fibreboard. Not more than 30 sheet - metal or 144 fibreboard boxes shall be enclosed in a packets which must not contain more than 90 g explosive. These packets shall be placed in a packing case, with well-jointed sides not less than 18 mm thick, lined with stout paper or with thin zinc or aluminium sheet or with a sheet of a plastics material not readily inflammable. A side thickness of 11 mm is sufficient for a package weighing not more than 35 kg if the case is encircled with an iron band. 2174

(2) A package must not weigh more than 100 kg.

(1) Articles of 3° shall be packed in wooden cases lined with stout paper or thin zinc or aluminium sheet, or in drums of impermeable fibreboard. 2175

Small consignments weighing not more than 20 kg, wrapped in corrugated fibreboard, may also be made up into packets in stout two ply packing paper securely tied with string.

(2) Where fibreboard drums are used, a package must not weigh more than 75 kg.

(1) Pyroxylin thread (4°) shall be rolled, in lengths not exceeding 30 m per strip, on fibreboard strips. Each roll shall be wrapped in paper. Not more than 10 of these rolls shall be wrapped in packing paper to form packets which shall be secured by cushioning materials in small wooden cases. The cases shall be placed in a wooden packing case. 2176

(2) A package must not contain more than 6,000 m of pyroxylin thread.

(1) Articles of 5° shall be packed, not more than 25 per box, in boxes made of tin-plate or fibreboard; however, thermite caps may be packed, not more than 100 per box, in fibreboard boxes. Not more than 40 of these boxes shall be secured by cushioning materials in a wooden case 2177

in such a manner that they cannot come into contact either with one another or with the sides of the case.

(2) A package must not weigh more than 100 kg.

(1) Articles of 6° - 8° shall be packed.

(a) articles of 6°: in wooden cases; 2178

(b) articles of 7° (a): in wooden cases or in wooden casks or in drums made of impermeable fibreboard;

(c) articles of 7° (b): not more than 1,000 per box, secured by sawdust cushioning in fibreboard boxes divided into not less than three compartments each containing approximately the same number of articles and separated by by interposed fibreboard sheets. The lids of boxes shall be secured by gummed strips applied all round. Not more than 100 of these fibreboard boxes shall be placed in a perforated sheet - iron receptacle. This receptacle shall be secured by cushioning materials in a wooden packing case closed by means of screws and with sides not less than 18 mm thick, in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between the sheet - iron receptacle and the packing case;

(d) articles of 8°: in fibreboard boxes. The boxes shall be made up into a packet containing not more than 1,000 electric igniters. The packet shall be placed in a wooden packing case.

(2) In the case of fibreboard drums, a package containing articles of 7° (a) must not weigh more than 75 kg. A package containing articles of 7° (b) must not weigh more than 50 kg; if it weighs more than 30 kg it shall be fitted with means of handling.

(1) Articles of 9° - 26° shall be enclosed (inner packaging): 2179

(a) articles of 9° and 10°: in paper packagings or in boxes;

(b) articles of 11° (a): not more than 500 per fibreboard box or per small wooden case, secured by sawdust cushioning;

1. in fibreboard boxes which shall be wrapped in paper; or

2. in small wooden cases;

(c) articles of 11° (b): not more than 10 per book, in books; not more than 100 books together shall be packed in a fibreboard box; or wrapped in stout paper;

(e) articles of 12°: not more than 25 per box, in fibreboard boxes;

(f) articles of 13°: in boxes wrapped in paper to form packets each containing not more than 12 boxes;

(g) articles of 14°: in boxes or in bags made of paper or of a suitable plastics material. These packagings shall be wrapped in paper to form packets each containing not more than 144 of these articles;

(h) articles of 15°: in fibreboard boxes each containing: not more than 100 caps each charged with not more than 5 mg explosive; or not more than 50 caps each charged with not more than 7.5. mg explosive.

Not more than 12 of these boxes shall be made up in paper into a roll and not more than 12 of these rolls shall be wrapped in packing paper to form a packet.

Strips (strings) of 50 caps, each cap being charged with not more than 5 mg explosive, may be packed in the following manner

5 strips (strings) per box, in fibreboard boxes wrapped 6 together in paper equivalent in strength to Kraftspaper of a minimum weight of 40 mg/m²; 12 small packets so made up shall be wrapped together in paper of the same quality to form a large packet;

(i) articles of 16°: secured by cushioning materials, not more than 50 per box, in fibreboard boxes. The corks shall be glued to the bottom of the boxes or fixed in position there by some equivalent method. Each box shall be wrapped in paper and not more than 10 of these boxes shall be wrapped in packing paper to form a package;

(k) articles of 17°: not more than 5 per box, in fibreboard boxes. Not more than 200 boxes, arranged in rolls, shall be placed together in a collective fibreboard box;

(l) articles of 18°: secured by cushioning materials, not

more than 10 per box, in fibreboard boxes. Not more than 100 boxes, arranged in rolls, shall be wrapped in paper to form a packet;

(m) articles of 19°: secured by cushioning materials, not more than 15 per box, in fibreboard boxes. Not more than 144 boxes, arranged in rolls, shall be packed in a second fibreboard box;

(n) articles of 20° (a) secured by cushioning materials, not more than 144 per case, in fibreboard cases;

(o) articles of 20° (b): not more than 75 per box, in fibreboard boxes not more than 72 boxes shall be wrapped in fibreboard to form a packet;

(p) articles of 21°: in fibreboard boxes or in stout paper. If the ignition point of the articles is not covered by a protective cap each article must first be wrapped separately in paper. The propellant charge of bombs weighing more than 5 kg shall be protected by a paper case covering the lower part of bomb;

(q) articles of 22°: in fibreboard boxes or in stout paper. However large fireworks need not have an inner packaging if their igniting point is covered by a protective cap;

(r) articles of 23°: secured by cushioning materials in boxes made wood or fibreboard. The ignition heads shall be protected by a protective cap;

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(s) articles of 24°: in fibreboard boxes or in stout paper;

(t) articles of 25°: in fibreboard boxes or in stout paper. However, large fireworks need not have an inner packaging if their ignition point is covered by a protective cap;

(u) articles of 26°: in fibreboard boxes. A box must not contain more than 3 glass tubes.

(2) The inner packagings mentioned under (1) shall be placed:

(a) packagings containing articles of 10°, 13° and 14°, in wooden packing cases;

(b) packagings containing substances or articles of 9°, 11°, 12° and 15° - 26°, in wooden packing cases with well-jointed sides not less than 18 mm thick, lined with stout paper or thin zinc or aluminium sheet. A side thickness of 11 mm is sufficient for a package weighing not more than 35 kg if the case is encircled with an iron band.

The contents of a packing case are to be limited as follows:

Special conditions:

in the case of articles of 17°, to 50 outer fibreboard boxes;

in the case of articles of 18°, to 25 packets;

in the case of articles of 20° (a), to 50 fibre-board cases;

in the case of articles of 20° (b), to 50 packets, each of 72 fibreboard boxes; and

in the case of articles of 21°, to a number of articles such that the weight of their total charge does not exceed 56 kg;

(c) packaging containing magnesium flash-powders (26°), either in conformity with (b) above, or in wooden packing cases each weighing not more than 5 kg, or, in the case of packagings in the form of paper bags, in strong fibreboard cases each weighing not more than 5 kg.

(3) Wooden cases containing articles with an explosive charge with a phosphorus and chlorate base must be closed by means of screws.

(4) A package containing articles of 9°, 11°, 12°, 15° - 22° or 24° - 26° must not weigh more than 100 kg; it must not weigh more than 50 kg if it contains articles of 23° or more than 35 kg if the sides of the case are only 11 mm thick and the case is encircled with an iron band.

(1) Substances of articles of 27° shall be packed in wooden cases lined with packing paper, oiled paper or corrugated fibreboard. No lining is necessary if these substances and articles are wrapped in paper or fibreboard.

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(2) A package must not weigh more than 100 kg.

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(3) Smoke-producing cartridges for use as pesticides may, if wrapped in paper or fibreboard, likewise be packed:

(a) in corrugated-fibreboard boxes or in strong fibreboard cases; such a package must not weigh more than 20 kg; or

(b) in ordinary-fibreboard cases; such a package must not weigh more than 5 kg.

Mixed packing

(1) Substances and articles grouped under the same item number may be included in the same package. The inner packagings shall conform to what is laid down for

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| Item No. | Description of substance | Maximum quantity | | Special provisions |
|-------------|---|---------------------------|-----------------------------|--|
| | | per receptacle | Special per package | |
| 1° | Matches | 5 kg | 5 kg | Must not be packed together with substances of Classes 3,4,1 and 4,2. |
| 2° and 3° | Strips of amorces and slow-combustion fuses | Mixed packing not allowed | | |
| 4° | Pyroxylin thread | | 1.500 m of pyroxylin thread | |
| 5° - 8° | All articles | Mixed packing not allowed | | |
| 9° - 20° | All articles | | | Mixed packing allowed only with small wares or non pyrotechnic toys, from which they must be kept separate. The collective case must meet the requirements laid down for those articles contained therein in respect of which marginal 2179 (2) and (3) imposes the most stringent conditions. |
| 21° - 25° | All articles | | | Mixed packing allowed only with one another. The collective case must meet the requirements laid down for those articles contained therein in respect of which marginal 2179 (2) and (3) imposes the most stringent conditions. |
| 26° and 27° | All articles and substances | Mixed packing not allowed | | |

each dangerous substance, and the outer packaging shall be that laid down for the dangerous substances of the item number in question. In this connexion a fibreboard case containing articles of 20° (a) shall be deemed equivalent to a packet containing articles of 20° (b).

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance or of articles of the same kind dangerous substances of this Class, in quantities not exceeding 6 kg for all of the dangerous substances listed under the same item number or the same letter, may be enclosed in the same package either with dangerous substances of another item number or of another letter of the same class or with dangerous substances belonging to other Classes (if mixed packing is likewise permitted in the case of such substances), or with other goods, subject to the following special conditions.

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions contained in marginals 2001(5) and 2002(6) and (7) must be observed.

A package must not weigh more than 100 kg, or more than 50 kg if it contains articles of 23°.

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4. Marking and danger labels on packages (see Appendix A.9)

(1) Packages containing articles of Class 1c, 16° or 21° to 23°, shall bear a label conforming to model No.1.

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9.

B. Particulars in the transport document

(1) The description of the goods in the transport document must conform to one of the names underlined in marginal 2171; it must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR», or «RID» [e.g. 1c, 1°(a) «ADR»] The wording «Fireworks of ADR, 1c, item number.....», with particulars of the item numbers under with the substances or articles to be carried are listed, is also allowed in the transport document.

(2) In the case of substances or articles of 2°, 4°, 5°, 8°, 9°, 11°, 12° and 15° - 27°, the following must be certified in the transport document: «The nature of the goods, and the packaging, are in conformity with the provisions of ADR».

C. Empty packagings

No provisions.

CLASS 2.

GASES: COMPRESSED, LIQUEFIED OR DISSOLVED UNDER PRESSURE

1. List of substances

(1) Among the substances and articles covered by the heading of Class 2, only those listed in marginal 2201 are to be accepted for carriage, and then only subject to the requirements of this Annex and to the provisions of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

(2) Substances having a critical temperature lower than 50°C or, at 50°C, a vapour pressure greater than 3 kg/cm² are deemed to be substances of Class 2.

(3) The substances and articles of Class 2 are classified as follows:

A: Compressed gases having a critical temperature below -10°C;

B: Liquefied gases having a critical temperature of -10°C or above:

(a) Liquefied gases having a critical temperature of 70°C or above:

(a) Liquefied gases having a critical temperature of 70°C or above;

(b) Liquefied gases having a critical temperature of -10°C or above, but below 70°C;

C: Deeply-refrigerated liquefied gases;

D: Gases dissolved under pressure;

E: Aerosol dispensers and non-refillable containers of gas under pressure;

F: Gases subject to special requirements; and

G: Empty receptacles and empty tanks.

The substances and articles of Class 2 are subdivided according to their chemical properties, as follows:

(a) non-inflammable;

(a t) non-inflammable, toxic;

(b) inflammable;

(b t) inflammable, toxic;

(c) chemically unstable;

(c t) chemically unstable, toxic.

Unless otherwise specified, chemically unstable substances shall be considered to be inflammable.

Class 2

The names of corrosive gases and of articles containing such gases shall be followed by the word «corrosive» in brackets.

(4) Substances of Class 2 which are listed among the chemically unstable gases are to be accepted for carriage only if the necessary steps have been taken to prevent their dangerous decomposition, dismutation or polymerization during carriage.

To this end, care should in particular be taken to ensure that receptacles and tanks do not contain any substances liable to promote these reactions.

A. Compressed gases [see also marginal 2201a under (a). For gases of 1° and (b) and 2° (a) in aerosol dispensers or in non-refillable containers for gases under pressure, see under 10° and 11°]:

Gases having a critical temperature below -10°C are considered to be compressed gases for the purposes of ADR.

1° Pure gases and technically-pure gases

(a) Non-inflammable

Argon; helium; krypton; neon; nitrogen; oxygen; tetrafluoromethane (R 14).

(a t) Non-inflammable, toxic

Boron trifluoride; fluorine (corrosive); silicon tetrafluoride (corrosive).

(b) Inflammable

Deuterium; hydrogen; methane.

(b t) Inflammable, toxic.

Carbon monoxide.

(c t) Chemically unstable, toxic

Nitric oxide (nitrogen monoxide) NO (non-inflammable).

2° Mixtures of gases

(a) Non-inflammable

Mixtures of two or more of the following gases: rare gases (containing not more than 10 per cent xenon by volume), nitrogen oxygen, carbon dioxide (not more than 30 per cent by volume); non-inflammable mixtures of two or more of the following gases hydrogen, methane, nitrogen, rare gases (containing not more than 10 per cent xenon by volume), not more than 30 per cent carbon dioxide by volume; nitrogen containing not more than 6 per cent ethylene by volume; air.

(b) Inflammable

Mixtures of not less than 90 per cent methane by volume with hydrocarbons of 3° (b) and 5° (b); inflammable mixtures of two of the following gases: hydrogen,

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methane, nitrogen, rare gases (containing not more than 10 per cent xenon by volume), not more than 30 per cent carbon dioxide by volume; natural gas.

(b t) Inflammable, toxic

Town gas; mixtures of hydrogen with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; water gas; synthesis gas (e.g. from the Fischer-Tropsch process); mixtures of carbon monoxide with hydrogen or with methane.

(c t) Chemically unstable, toxic

Mixtures of hydrogen with not more than 10 per cent diborane by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume.

Liquefied gases [see also marginal 2201a under (b) and (e)]. For gases of 5° to 6° in aerosol dispensers or in non-refillable containers for gases under pressure, see under 10° and 11°:

Gases having a critical temperature of -10°C or above are considered to be liquefied gases for the purposes of ADR.

(a) Liquefied gases having a critical temperature of 70°C or above:

Pure gases and technically-pure gases

(a) Non-inflammable

Bromochlorodifluoromethane (R 12 B1); chlorodifluoromethane (R 22); chloropentafluoroethane (R 115); 1-chloro-2,2,2-trifluoroethane (R 133a) dichlorodifluoromethane (R 12); dichlorofluoromethane (R 21); 1,2-dichloro-1,1,2,2-tetrafluoroethane (R 114); octofluorocyclobutane (RC 318).

(a t) Non-inflammable, toxic

Ammonia; boron chloride (corrosive); chlorine (corrosive); chlorine trifluoride (corrosive); hexafluoropropylene (R 216); hydrogen bromide (corrosive); methyl bromide; nitrosyl chloride (corrosive); nitrogen dioxide NO_2 (nitrogen peroxide, nitrogen tetroxide N_2O_4) (corrosive); phosgene (corrosive); sulphur dioxide; sulphuryl fluoride; tungsten hexafluoride.

(b) Inflammable

Butane; 1-butylene (1-butene); 1-chloro-1, 1-difluoroethane (R 142b); cis-2-butylene (cis-2-butene); cyclopropane; 1,1-difluoroethane (R 152a); isobutane, isobutylene; methylsilane; propane; propylene; trans-2-butylene (trans-2-butene); 1,1 1-trifluoroethane.

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(b t) Inflammable, toxic

Arsine; dichlorosilane; dimethylamine; dimethyl ether; dimethylsilane; ethylamine; ethyl chloride; hydrogen selenide; hydrogen sulphide; methylamine; methyl chloride; methyl mercaptan trimethylamine; trimethylsilane.

(c) Chemically unstable

1,3-butadiene; vinyl chloride.

(c t) Chemically unstable, toxic

Cyanogen; cyanogen chloride (non-inflammable) (corrosive); ethylene oxide; methyl vinyl ether; trifluorochloroethylene (R 1113); vinyl bromide.

Note: in the case of halogenated hydrocarbons, the use of names customary in the trade, such as the following, is also permitted: Algofrene, Arcton Edifren, Flugene, Forane, Freon, Fresane, Frigen, Isceon, Kaltron, followed by the substance identification number without the letter R.

4° Mixtures of gases

(a) Non-inflammable

Mixtures of substances listed under 3° (a) with or without hexafluoropropylene of 3° (a t), which as:

mixture F 1 have a vapour pressure at 70°C not exceeding 13 Kg/cm² and a density at 50°C not lower than that

of dichlorofluoromethane (1.3).

mixture F 2 have a vapour pressure at 70°C not exceeding 19 Kg/cm² and a density at 50°C not lower than that of dichlorofluoromethane.

mixture F 3 have a vapour pressure at 70°C not exceeding 30 Kg/cm² and a density at 50°C not lower than that of dichlorofluoromethane (1.09).

Note: 1. Trichlorofluoromethane (R 11), trichlorotrifluoroethane (R113 and chlorotrifluoroethane (R133 are not liquefied gases within the meaning of ADR and thus are not subject to the requirements of ADR. They may however enter into the composition of mixtures F1 to F3.

2. See Note under 3°.

The azeotropic mixture of dichlorodifluoromethane (R 12) and 1,1-difluoroethane (R 152a), known as R500;

The azeotropic mixture of chloropentafluoroethane (R 115) and chlorodifluoromethane (R 22), known as R 502;

The mixture of 19 to 21 per cent by weight dichlorodifluoromethane (R 12) and 79 to 81 per cent by weight bromochlorodifluoromethane (R 12 B1).

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(a t) Non-inflammable, toxic

Mixtures of methyl bromide and chloropicrin having a vapour pressure above 3 kg/cm² at 50°C.

(b) Inflammable

Mixture of hydrocarbons listed under 3° (b) and of ethane and ethylene of 5° (b), which as:

mixture A have a vapour pressure at 70°C not exceeding 11 kg/cm² and a density at 50°C not lower than 0.525;

mixture A 0 have a vapour pressure at 70°C not exceeding 16 kg/cm² and a density at 50°C not lower than 0.495;

mixture A 1 have a vapour pressure at 70°C not exceeding 21 kg/cm² and a density at 50°C not lower than 0.485;

mixture B have a vapour pressure at 70°C not exceeding 26 kg/cm² and a density at 50°C not lower than 0.450;

mixture C have a vapour pressure at 70°C not exceeding 31 kg/cm² and a density at 50°C not lower than 0.440.

Note: In the case of the foregoing mixtures the use of the following names customary in the trade is permitted for describing these substances:

Name given under 4°(b)

Mixture A, mixture A 0

Mixture C

Name customary in the trade

butane

propane

Mixtures of hydrocarbons of 3° (b) and 5° (b) containing methane.

(b t) Inflammable, toxic

Mixtures of two or more of the following gases: methylsilane, dimethylsilane, trimethylsilane; methyl chloride and methylene chloride in mixtures having a vapour pressure above 3 kg/cm² at 50°C; mixtures of methyl chloride and chloropicrin and mixtures of methyl bromide and ethylene bromide having in either case a vapour pressure above 3 kg/cm² at 50°C.

(c) Chemically unstable

Mixtures of methylacetylene and propadiene with the hydrocarbons of 3° (b), which as:

mixture P 1 contain not more than 63 per cent methylacetylene and propadiene by volume and not more than 24 per cent propane and propylene by volume, the percentage of C₄-saturated hydrocarbons being not less than 14 per cent by volume; and as mixture P2: contain not

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more than 48 per cent methylacetylene and propadiene by volume and not more than 50 per cent propane and propylene by volume, the percentage of C_4 -saturated hydrocarbons being not less than 5 per cent by volume⁴.

(c) Chemically unstable, toxic

Ethylene oxide containing not more than 10 per cent carbon dioxide weight; ethylene oxide containing not more than 50 per cent methylene formate by weight, with nitrogen up to a total pressure not exceeded 10 kg/cm² at 50°C ethylene oxide with nitrogen up to a total pressure of 10 kg/cm² at 50°C dichlorodifluoromethane containing 12 per cent ethylene oxide by weight.

(b) Liquefied gases having a critical temperature of -10°C or above, below 70°C:

5° Pure gases and technically-pure gases

(a) Non-inflammable

Bromotrifluoromethane (R 13 B 1); carbon dioxide; chlorotrifluoromethane (R 13); hexafluoroethane (R 116);

nitrous oxide N_2O ; sulphur hexafluoride; trifluoromethane (R 23) xenon.

With regard to carbon dioxide, see also marginal 2201a under (c).

Note: 1. Nitrous oxide is to be accepted for carriage only if it is less than 99 per cent pure.

2. See Note under 3°.

(a) Non-inflammable, toxic

Hydrogen chloride (corrosive).

(b) Inflammable

Ethane; ethylene; silane.

(b) Inflammable, toxic

Germane; phosphine.

(c) Chemically unstable

1,1-difluoroethylene; vinyl fluoride.

(c) Chemically unstable, toxic

Diborane.

Class 2

6° Mixtures of gases

(a) Non-inflammable

Carbon dioxide containing not less than 1 per cent and not more than 10 per cent nitrogen, oxygen, air or rare gases by weight; the azeotropic mixture of chlorotrifluoromethane (R 13) and trifluoromethane (R 23) known as R 503.

Note: Carbon dioxide containing less than 1 per cent nitrogen, oxygen, air or rare gases by weight is a substance of 5°(a).

(c) Chemically unstable

Carbon dioxide containing not more than 35 per cent ethylene oxide by weight.

(c) Chemically unstable, toxic

Ethylene oxide containing more than 10 per cent but not more than 50 per cent carbon dioxide by weight.

C. Deeply - refrigerated liquefied gases

7° Pure gases and technically - pure gases

(a) Non-inflammable

Argon; carbon dioxide; helium; krypton; neon; nitrogen; nitrous oxide N_2O ; oxygen; xenon.

(b) Inflammable

Ethane; ethylene; hydrogen; methane.

8° Mixtures of gases

(a) Non-inflammable

Air; mixtures of substances of 7°(a)

(b) Inflammable

Mixtures of substances of 7°(b); natural gas.

D. Gases dissolved under pressure

9° Pure gases and technically - pure gases

(a) Non-inflammable, toxic

Ammonia dissolved in water with more than 35 per cent but not more than 40 per cent ammonia by weight; ammonia dissolved in water with more than 40 per cent but not more than 50 per cent ammonia by weight.

Note: Ammonia solution with an ammonia content not exceeding 35 per cent by weight is not subject to the requirements of ADR.

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(c) Chemically unstable

Acetylene dissolved in a solvent (e.g. acetone) absorbed by porous substances.

E. Aerosol dispensers and non-refillable containers of gas under pressure [see also marginal 2201a under (d)]:

Note: 1. Aerosol dispensers are receptacles which can be used only once are equipped with a release valve or dispersal device, and contain, under pressure, a gas or mixture of gases listed in marginal 2208 (2) or contain an active substance (insecticide, cosmetic, etc.) together with such a gas or mixture of gases as a propellant.

2. Non-refillable containers of gas under pressure are receptacles which can be used only once and contain a gas or a mixture of gases listed in marginal 2208 (2) and (3) (e.g. butane for camp-cookers, refrigerant gases; etc), but are not equipped with a release valve.

3. The term «inflammable substances» means:

(i) gases (propellant in aerosol dispensers; contents of non-refillable containers of gas under pressure) whose mixtures with air can be ignited and have a lower and an upper inflammability limit!

(ii) liquids (active substances in aerosol dispensers) of Class 3.

4. The term «chemically unstable» is applied to contents which the absence of special precautions undergo dangerous decomposition or self-polymerization at a temperature of not more than 70°C.

10° Aerosol dispensers

(a) Non-inflammable

With non-inflammable contents.

(a) Non-inflammable, toxic

With non-inflammable toxic contents.

(b) Inflammable

1. With not more than 45 per cent of inflammable contents by weight

2. With more than 45 per cent of inflammable contents by weight

(b) Inflammable, toxic

1. With toxic contents and not more than 45 per cent of inflammable contents by weight.

2. With toxic contents and more than 45 per cent of inflammable contents by weight.

Class 2

(c) Chemically unstable

With chemically-unstable contents.

(c) Chemically unstable, toxic

With chemically - unstable toxic contents.

11° Non-refillable containers of gas under pressure

(a) Non-inflammable

With non-inflammable contents.

(a) Non-inflammable, toxic

With non-inflammable toxic contents.

(b) Inflammable

With inflammable contents.

(b) Inflammable, toxic

With inflammable toxic contents.

(c) Chemically unstable

With chemically-unstable contents.

(c) Chemically unstable, toxic

With chemically-unstable toxic contents.

F. Gases subject to special requirements

12° Various mixtures of gases

Mixtures containing gases listed under other item numbers of this Class, and mixtures of one or more gases listed under other item numbers of this Class with one or more vapours of substances not excluded from carriage under ADR, on condition that during carriage:

1. the mixture remains entirely gaseous; and

2. all possibility of a dangerous reaction is excluded.

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13° Test gases

Gases and mixtures of gases not listed under other item numbers of this Class and used only in laboratory tests, on condition that during carriage:

- (a) the gas or mixture of gases remains entirely gaseous; and
- (b) all possibility of a dangerous reaction is excluded.

G. Empty receptacles and empty tanks

14° Empty receptacles and empty tanks, uncleaned, which have contained tetrafluoromethane of 1°(a), substances of 1°, (a t) - (c t); 2°, (b) - (c t); 3° - 6°; carbon dioxide and nitrous oxide of 7°(a); or substances of 7°(b), 8°(b), 9°, 12° or 13°.

Note: 1. Receptacles and tanks which after being emptied of substances listed under 14° still contain small residual amounts are regarded as empty receptacles or empty tanks, uncleaned.

2. Empty receptacles or empty tanks, uncleaned, which have contained gases of 1°(a) other than tetrafluoromethane (R 14), or gases 2°(a), 7°(a) other than carbon dioxide and nitrous oxide, or 8°(a) are not subject to the requirements of ADR.

Gases and articles handed over for carriage in conformity with the following provisions are not subject to the requirements or provisions relating to this Class set out elsewhere in this Annex or in Annex B:

(a) compressed gases which are neither inflammable nor toxic nor corrosives and whose pressure in the receptacle, referred to a temperature of 15°C, does not exceed 2 kg/cm²; the same rule applies to mixtures of gases containing not more than 2 per cent inflammable components;

(b) liquefied gases contained, in quantities not exceeding 60 l, or in quantities of less than 5 l with not more than 25g hydrogen, in freeing appliances (refrigerators, ice machines, etc.) and necessary for their operation;

(c) carbon dioxide [5°(a)] in metal capsules (solders, sparklets) if the carbon dioxide in the gaseous state does not contain more than 0.5 per cent air and the capsules contain not more than 25g carbon dioxide and not more than 0.75 g per cm³ of capacity;

(d) articles of 10° and 11° of a capacity not exceeding 50 cm³. A package of such articles shall not weigh more than 10 kg;

(e) liquefied petroleum gases contained in motor-vehicle tanks firmly secured to the vehicles; the fuel cock between tank and engine must be closed and the electrical contact open.

2. Provisions

A. Packages

1. General conditions of packing

(1) The materials of which the receptacles and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

Note: Care must be taken not to allow any moisture to enter receptacles when they are being filled, and to dry receptacles completely after hydraulic pressure tests (see marginal 2216 carried out with water or with aqueous solutions).

(2) Packagings, including their closures, shall be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. When outer packagings are prescribed, the receptacles shall be firmly secured therein. Unless otherwise specified in the section entitled «Packing of a single substance or of articles of the same kind», inner packagings may be enclosed in outer packagings, either singly or in groups.

(3) Metal receptacles intended for the carriage of gases of 1° to 6° and 9° shall contain only the gas for which they have been tested and whose name is inscribed on the receptacle [see marginal 2218 (a)].

Derogations are allowed

2201

1. for metal receptacles tested for one of the substances of 3°(a) or 4°(a) or for bromotrifluoromethane, chlorotrifluoromethane or trifluoromethane of 5°(a). These receptacles may also be filled with some other substance of the aforesaid items on condition that the minimum test pressure prescribed for that substance does not exceed the test pressure of the receptacle and that the name of the substance and its permissible maximum filling weight are inscribed on the receptacle;

2. for metal receptacles tested for hydrocarbons of 3°(b) or 4°(b). These receptacles may also be filled with some other hydrocarbon on condition that the minimum test pressure prescribed for that substance does not exceed the test pressure of the receptacle and that the name of the substance and its permissible maximum filling weight are inscribed on the receptacle.

For 1 and 2, see also marginals 2215, 2218 (1)(a) and 2220, (1) to (3).

(4) A change in the use to which a receptacle is assigned is allowed in principle if it does not conflict with national regulations; it requires however the approval of the competent authority and replacement of the former markings by markings relating to the new use.

2201a

2. Packing of a single substance or of articles of the same kind

Note: Carbon dioxide and nitrous oxide [7°(a)] and mixtures of these two gases [8°(a)] may not be carried otherwise than in specially-equipped tanks (see Annex B, marginal 21400).

a. Nature of receptacles

(1) Receptacles intended for the carriage of gases of 1° to 6°, 9°, 12° and 13° shall be so closed and leak-proof as to prevent any escape of the gases.

(2) These receptacles shall be made of carbon steel or of alloy steel (special steels).

The following may however be used:

(a) copper receptacles for:

1. compressed gases of 1°, (a), (b) and (b t),

and 2o, (a) and (b), whose filling pressure referred to a temperature of 15°C does not exceed 20 kg/cm²; and

2. liquefied gases of 3°(a); sulphur dioxide of 3o(a t); dimethyl-ether, ethyl chloride and methyl chloride of 3°(b) vinyl chloride of 3°(c); vinyl bromide of 3°(a t); mixtures F 1, F 2 and F 3 of 4°(a); and ethylene oxide containing not more than 10 per cent carbon dioxide by weight of 4°(c t);

(b) aluminium - alloy receptacles (see Appendix A.2) for:

1. compressed gases of 1°, (a), (b) and (b t); nitric oxide (nitrogen monoxide) NO of 1°(c t); and compressed gases of 2°(a), (b) and (b t);

2. liquefied gas of 3°(a); sulphur dioxide of 3°(a t); liquefied gases of 3°(b) other than methylsilane; dimethyl ether, hydrogen selenide, and methyl mercaptan of 3°(b t); ethylene oxide of 3°(c t); liquefied gases of 4°, (a) and (b) ethylene oxide containing not more than 10 per cent carbon dioxide by weight, of 4°(c t); and liquefied gases of 5°, (a) and (b), and 6°(a) and (c). Sulphur dioxide of 3°(a t) and substances of 3°(a) and 4°(a) shall be dry; and

3. dissolved acetylene of 9°(c).

All gases which are to be carried in aluminium-alloy receptacles must be free from alkaline impurities.

(1) Receptacles for dissolved acetylene [9°(c)] shall be entirely filled with a porous material, uniformly distributed, of a type approved by the competent authority and which

(a) does not attack the receptacles on form harmful or dangerous compounds either with acetylene or with the solvent;

(b) does not shake down, even after prolonged use or through jolting temperatures up to 60° C;

(c) is capable of preventing the spread of decomposition of the acetylene in the mass.

(2) The solvent must not attack the receptacles.

(1) The following liquefied gases may, in addition, be

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carried in thick-walled glass tubes on condition that the quantity of substance each tube and the degree of filling of the tubes do not exceed the indicated below:

| Names of gases | Quantity of substance | Degree filling of tube |
|--|---------------------------------|--|
| Carbon dioxide, nitrous oxide N_2O [5°(a)], ethane, ethylene [5°(b)], Ammonia, chlorine, methyl bromide [3°(a t)], cyclopropane [3°(b)], ethyl chloride [3°(b t)], Phosgene, sulphur dioxide [3°(a t)] | 3g 20 g 100 g | one half of capacity two-thirds of capacity three-quarters of capacity |

(2) The glass tubes shall be flame-sealed and secured separately by infusorial - earth cushioning in closed sheet - metal capsules which shall be placed in a wooden case or in some other outer packaging of sufficient strength (see also marginal 2222).

(3) For sulphur dioxide of 3°(a t) stout glass siphons containing not more than 1.5 kg of substance and filled to not more than 88 per cent of their capacity are also allowed. The siphons shall be secured by infusorial earth, sawdust or powdered carbonate of lime, or by a mixture of the two latter, in strong wooden cases or in some other outer packaging of sufficient strength. A package shall not weigh more than 100 kg. If it weighs more than 30 kg it shall be fitted with means of handling.

(1) Gases of 3°(a); 3°(b) other than methylsilane; 3o(b t) other than arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane; 3°(c); 3°(c t) other than cyanogen chloride; and mixtures of 4°(a) and 4°(b), may also, on condition that the weight of liquid per litre of capacity does not exceed either the maximum weight of contents indicated in marginal 2220 or 150 g per tube, be contained in thick-walled glass tubes, or in thick-walled metal tubes made of a metal allowed by marginal 2203 (2). The tubes shall be free from faults liable to impair their strength; in particular, internal stresses in glass tubes shall have been suitably relieved and the thickness of the tube walls shall not be less than 2 mm. The leakproofness of the closure system shall be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage. The tubes shall be secured by cushioning material in small boxes made of wood or fibreboard, the number of tubes per box being such that the weight of the liquid contained in a box does not exceed 600 g. These small boxes shall be placed in wooden cases or in some other outer packaging of sufficient strength; if the liquid contents of a case weigh more than 5 kg the case shall be lined with soft-soldered sheet-metal.

(2) A package shall not weigh more than 75 kg.

(1) Gases of 7°(a) other than carbon dioxide and nitrous oxide, and of 8°(a) other than mixtures containing carbon dioxide and nitrous oxide, shall be enclosed in closed, double - walled metal receptacles which are so insulated that they cannot become coated with dew or hoar-frost and which are fitted with safety valves.

(2) Gases of 7°(a) other than carbon dioxide and nitrous oxide, and of 8°(a) other than mixtures containing carbon dioxide and nitrous oxide, may also be enclosed in receptacles which are not hermetically closed and which are:

(a) double - walled vacuum-jacketed glass receptacles surrounded by an absorbent insulating material; these receptacles shall be protected by iron-wire baskets and placed in metal cases; or

(b) metal receptacles protected against heat transmission in such a way that they cannot become coated with dew or hoar-frost; the capacity of these receptacles shall not exceed 100 litres.

(3) The metal cases referred to in subparagraph (2)(a) and the receptacles referred to in subparagraph (2)(b) above shall be fitted with means of handling. The openings of the receptacles referred to in subparagraphs (2)(a) and (b) shall be fitted with devices allowing gases to escape, preventing any splashing out of the liquid, and so fixed that they cannot fall out. In the case of oxygen of 7°(a) and mixtures containing oxygen of 8°(a), the devices referred to above and the absorbent insulating material surrounding the receptacles referred to in subparagraph (2)(a) shall be made of incombustible materials.

(1) Aerosol dispensers (10°) and non-refillable containers for gas under pressure (11°) shall satisfy the following requirements:

(a) aerosol dispensers containing only a gas or a mixture of gases, and non-refillable containers for gas under pressure, shall be made of metal. This requirement shall not apply to non-refillable containers for gas under pressure with a maximum capacity of 100 ml for butane. Other aerosol dispensers shall be made of metal, a plastics material or glass. Receptacles made of metal and having an outside diameter of less than 40 mm shall have a concave bottom;

(b) receptacles made of materials liable to shatter, such as glass or certain plastics materials, shall be enclosed in a device (close - wire netting, flexible cover made of a plastics material, etc.) and affording protection against fragments and their dispersal. Receptacles whose capacity does not exceed 150 cm³ and whose internal pressure 20°C is below 1.5 kg/cm² are exempted from this requirement;

(c) the capacity of receptacles made of metal shall not exceed 1,000 cm³ and that of receptacles made of a plastics material or of glass shall not exceed 500 cm³;

(d) each model of receptacle shall, before being put into service, say a hydraulic pressure test carried out in conformity with Appendix marginal 3291. The internal pressure to be applied (test pressure shall be 1.5 times the internal pressure at 50°C, with a minimum of 10 kg/cm²;

(e) the release valves of aerosol dispensers, and their dispersal devices shall ensure that the dispensers are so closed as to be leak-proof shall be protected against accidental opening. Valves and dispersal devices which close only by the action of the internal pressure are to be accepted.

(2) The following gases shall be accepted as propellants, or as constituents of propellants, or as filler gases, for aerosol dispenser gases of 1°(a) and (b); 2°(a) and (b); 3o, (a) and (b) other than methylsilane; ethyl chloride and dimethyl ether of 3°(b t); 1,3-butadiene of 3°(c); trifluoro-chloroethylene of 3°(c t); gases of 4°, (a) and (b); gases of 5°, (a) and (b) other than silane; gases of 5°(c) and 6°(a) and (c).

(3) All the gases listed under (2) and, in addition, the following gases shall be accepted as filling gases for non-refillable containers for gas under pressure; methyl bromide of 3°(a t); dimethylamine, ethylamine, methylamine, methyl mercaptan and trimethylamine of 3°(b t); ethylene oxide, methyl vinyl ether and vinyl bromide of 3°(c t); ethylene oxide containing not more than 10 per cent carbon dioxide by weight, of 4°(c t).

(1) The internal pressure at 50°C of aerosol dispensers and of non-refillable containers of gas under pressure shall exceed neither two-thirds of the test pressure of the receptacle nor 12 kg/cm².

(2) Aerosol dispensers and non refillable containers of gas under pressure shall be so filled that at 50°C the liquid phase does not exceed 95 per cent of their capacity. The capacity of aerosol dispensers is the available volume in a closed dispenser fitted with the valve support, the valve and the dip tube.

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(3) All aerosol dispensers and non-refillable containers for gas under pressure shall satisfy a tightness (leakproofness) tests in conformity with Appanedit A.2, marginal 3292.

(1) Aerosol dispensers and non-refillable containers of gas under pressure shall be placed in wooden cases or strong fibreboard or metal boxes; aerosol dispensers made of glass or a plastics material and liable to shatter shall be separated from one another by interposed sheets of fibreboard or of another suitable material.

(2) A package shall not weigh more than 50 kg if fibreboard boxes are used or more than 75 kg if other packagings are used.

(3) Where carriage is by full load, each load comprising only aerosol dispensers made of metal, the dispensers may be grouped together and secured on trays with the aid of an appropriate plastics material by means of a shrinkage and heat-sealing process, on condition that the groups of dispensers are then stacked and suitably secured on pallets.

b. Conditions governing metal receptacles

(These conditions are not applicable to the metal tubes referred to in marginal 2206, to the receptacles referred to in marginal 2207 (2)(b), or to the aerosol dispensers or non-refillable metal containers for gas under pressure referred to in marginal 2208).

1. Construction and fittings (see also marginal 2238).

(1) At the test pressure, the stress in the metal at the most severely stressed point of the receptacle (marginals 2215, 2219 and 2220) shall not exceed three-quarters of the guaranteed minimum yield stress (Re). By «yield stress» is meant the stress at which a permanent elongation of 2‰ (i.e. 0.2 per cent) or, for austenitic steels, 1 per cent of the gauge length on the test-piece, has been produced.

Note: In the case of sheet-metal the axis of the tensile test-piece shall be at right angles to the direction of rolling. The permanent elongation at fracture ($l = 5d$) shall be measured on a test-piece of circular cross-section in which the gauge length l is equal to five times, the diameter d ; if test-pieces of rectangular cross-section are used, the gauge length shall be calculated by the formula $l = 5,65 \sqrt{F_0}$ where F_0 indicates the initial cross-sectional area of the test-piece.

(2) (a) Steel receptacles whose test pressure exceeds 60 kg/cm² shall be of seamless construction or welded. For welded receptacles, steels, (carbon or alloy) of fully satisfactory weldability shall be used.

(b) Receptacles whose test pressure does not exceed 60 kg/cm² shall either conform to the provisions of subparagraph (a) above, or be riveted or hard-soldered on condition that the manufacturer guarantees the workmanship of the riveting and hard-soldering and that the competent authorities of the country of origin have given their approval.

(3) Aluminium - alloy receptacles shall be seamless or welded.

(4) Welded receptacles are to be accepted only on condition that manufacturer guarantees the workmanship of the welding and that the competent authorities of the country of origin have given their approval.

(1) A distinction is made between the following types of receptacles.

(a) cylinders of a capacity not exceeding 150 litres;

(b) receptacles of a capacity of not less than 100 litres [with the exception of cylinders in conformity with subparagraph (a)] and not more than 1,000 litres (e.g. cylindrical receptacles equipped with rolling hoops, and receptacles on skids);

(c) tanks (see Annex B);

(d) assemblies, known as «frames», of cylinders in conformity with subparagraph (1)(a), the cylinders being interconnected by a manifold and held firmly together by a metal fitting;

(2) (a) If under the regulations of the country of departure the cylinders referred to in subparagraph (1)(a) are required to be fitted with device to prevent rolling, this

device shall not be integral with the valve cap (marginal 2213 (2)).

(b) Receptacles in conformity with subparagraph (1)(b) which are capable of being rolled shall be equipped with rolling hoops or be otherwise protected against damage due to rolling (e.g. by corrosion-resistant metal sprayed on to the receptacle's outer surface).

Receptacles in conformity with subparagraphs (1)(b) and (1)(c) which are not capable of being rolled shall be fitted with devices (skids, rings straps) ensuring that they can be safely handled by mechanical means and so arranged as not to impair the strength of, nor cause undue stresses in, the wall of the receptacle.

(c) Frames of cylinders in conformity with subparagraph (1)(d) shall be fitted with devices ensuring that they can be handled safely. The manifold and the master cock shall be situated within the frame and be so mounted as to be protected against any damage.

(3) (a) With the exceptions of gases of 7° and 8°, gases of Class 2 may be carried in cylinders in conformity with subparagraph (1)(a).

Note: For possible limitations on the capacity of cylinders for certain gases, see marginal 2219.

(b) With the exception of fluorine and silicon tetrafluoride [1°(a t)]; nitric oxide (NO) [1°(c t)]; mixtures of hydrogen with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume [2°(b t)]; mixtures of hydrogen with not more than 10 per cent diborane by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume [2°(c t)]; boron chloride, chlorine trifluoride, nitrosyl chloride, sulphuryl fluoride and tungsten hexafluoride [3°(a t)]; methylsilane [3°(b)] arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane [3°(b t)]; cyanogen chloride, cyanogen and ethylene oxide [3°(c t)]; mixtures of methylsilanes [4°(b t)]; substances of 4°(c) and 4°(c t) other than dichlorodifluoromethane containing 12 per cent ethylene oxide by weight; nitrous oxide [5°(a)]; silane [5°(b)]; and substances of 5°(b t), 5°(c t), 7°, 8°, 12° and 13°, gases of Class 2 may be carried in receptacles in conformity with subparagraph (1) (b).

(c) With the exception of silicon tetrafluoride [1°(a t)]; nitric oxide [1°(c t)]; mixtures of hydrogen with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume [2°(b t)]; mixtures of hydrogen with not more than 10 per cent diborane by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume [2°(c t)]; boron chloride, chlorine trifluoride, nitrosyl chloride, sulphuryl fluoride and tungsten hexafluoride [3°(a t)]; methylsilane [3°(b)]; arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane [3°(b t)]; cyanogen chloride, cyanogen and ethylene oxide [3°(c t)]; mixtures of methylsilanes [4°(b t)]; substances of 4°(c) and 4°(c t) other than dichlorodifluoromethane containing 12 per cent ethylene oxide by weight; nitrous oxide [5°(a)]; silane [5°(b)]; and substances of 5°(b t), 5°(c t), 7°, 8°, 12° and 13°, gases of Class 2 may be carried in frames of cylinders in conformity with subparagraph (1)(d). The individual cylinders in a frame of cylinders shall contain only one and the same compressed gas, liquefied gas or gas dissolved under pressure. Each cylinder in a frame of cylinders for fluorine [1°(a t)] or dissolved acetylene [9°(c)] shall however be fitted with a cock. The cylinders in a frame of cylinders

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of acetylene shall all contain the same porous material (marginal 2201).

(1) Openings for filling and emptying receptacles shall be fitted with flap valves or needle-valves. Valves of other types may however be allowed if they present equivalent guarantees of safety and have been approved in the country of origin. Nevertheless, whatever the type of valve adopted, its system of attachment shall be strong and such that satisfactory condition can be verified easily before each filling.

Apart from a manhole, which if provided shall be closed by an effective closure, and from the necessary orifice for the removal of deposits, receptacles and tanks in conformity with marginal 2212 (1)(b) and (c) shall not be equipped with more than two openings, for filling and discharge respectively. Nevertheless, receptacles of a capacity of not more than 100 l intended for the carriage of dissolved acetylene [9°(c)] may have more than two openings for filling and discharge.

Similarly, receptacles and tanks in conformity with marginal 2212 (b) and (c), intended for the carriage of substances of 3°(b) and 4°(b) be provided with other openings intended in particular for verifying the level of the liquid and the gauge pressure.

(2) Valves (cocks) shall be effectively protected by caps or fixed flanges. Caps shall possess vent-holes of sufficient cross-sectional area to evacuate gases if leakage occurs at the valves. The caps or flanges shall adequately protect the valve if the cylinder falls and during the carriage and stacking. Valves placed inside the neck of the receptacle and protected by a screw-threaded plug, and receptacles carried packed by protective cases, shall not require a cap. Likewise, no protective case will be required for valves (cocks) on frames of cylinders.

(3) Receptacles containing fluorine [1°(a t)]; chlorine trifluoride [3°(a t)]; or cyanogen chloride [3°(c t)] shall, whether they are carried packed in protective cases, be fitted with steel caps. These caps shall have no openings and shall, throughout carriage, be equipped with a gasket ensuring gas-tightness and made of a material not liable to attack by the contents of the receptacle.

(1) In the case of receptacles containing boron trifluoride or fluorine [1°(a t)]; chlorine trifluoride or liquefied ammonia [3°(a)]; ammonia dissolved in water [9°(a t)]; nitrosyl chloride [3°(a t)]; dimethylamine, ethylamine, methylamine or trimethylamine [3°(b t)]; or made of copper or of any other metal liable to be attacked by these gases are not to be accepted.

(2) The use of substances containing grease or oil for ensuring leakproofness of joints (seams) or for maintaining the closure device and receptacles used for oxygen [10(a)]; fluorine [10(a t)]; mixtures with oxygen [2°(a)]; nitrogen dioxide, chlorine trifluoride [3°(a t)]; nitrous oxide [5°(a)]; nitrogen dioxide, chlorine trifluoride [3°(a t)]; nitrous oxide [5°(a)]; or mixtures of 12° containing more than 10 per cent oxygen by volume is prohibited.

(3) The following requirements shall apply to the construction receptacles referred to in marginal 2207 (1):

(a) The materials and construction of the receptacles shall be in conformity with the requirements of Appendix A.2, B, marginals 3250 to 3254. All the mechanical and technological characteristics of the material used shall be established for each receptacle at the first test; with regard to the impact strength and the bending coefficient, see Appendix A.2, marginals 3265 to 3285.

(b) Receptacles shall be fitted with a safety valve which shall be capable of opening at the working pressure shown on the receptacle. The valves shall be so constructed as to work perfectly even at their lowest working temperature. Their reliability of functioning at that temperature shall be established and checked by testing each valve or a sample of valves of the same type of construction.

(c) The vents and safety valves of receptacles shall be so designed as to prevent the liquid from splashing out.

(d) The closing devices shall be so arranged that they

cannot be opened by unqualified persons.

(e) Receptacles whose filling is measured by volume shall be provided with a level indicator.

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(f) The receptacles shall be thermally insulated. The thermal insulation shall be protected against impact by means of continuous metal sheathing. If the space between the receptacle and the metal sheathing is airless (vacuum insulation), the protective sheathing shall be designed to withstand without deformation an external pressure of at least 1 kg/cm². If the sheathing is so closed as to be gas-tight (e.g. in the case of vacuum insulation), device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas - tightness of the receptacle or its fittings. The device shall prevent moisture from penetrating into the insulation.

(4) In the case of receptacles containing mixtures of 4° (c) or dissolved acetylene [9° (c)], metal parts of closing devices in contact with the contents shall not contain more than 70 per cent copper. Receptacles for dissolved acetylene [9° (c)] may also have stop-valves taking yoke connectors.

(5) Receptacles containing oxygen of 1° (a) or 7° (a) and fitted in fish-tanks are likewise to be accepted if they are provided with appliances enabling the oxygen to escape gradually.

2. Official test of receptacles (for aluminium - alloy receptacles see also Appendix A.2)

(1) Metal receptacles shall be subjected to initial and periodic tests under the supervision of an expert approved by the competent authority. The nature of these tests is specified in marginals 2216 and 2217.

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(2) In order to ensure compliance with the requirements of marginals 2204 and 2221 (2), tests of receptacles intended to contain dissolved acetylene [9° (c)] shall include, in addition, examination of the nature of the porous material and of the quantity of solvent.

(1) The initial test of new or unused receptacles shall comprise:

2216

A. On an adequate sample of receptacles:

(a) testing of the material of construction in respect at least of yield stress, tensile strength, and permanent elongation at fracture; the values yielded by these tests shall comply with national regulations;

2214

(b) measurement of wall thickness at the thinnest point, and calculation of the stress;

(c) checking the homogeneity of the material for each manufacturing batch, and inspection of the external and internal condition of the receptacles;

B. For all receptacles:

(d) a hydraulic pressure test in conformity with the provisions of marginals 2219 to 2221;

(e) an inspection of the markings on the receptacles (see marginal)

C. In addition, for receptacles intended for the carriage of dissolved acetylene [9° (c)]:

(f) an inspection as required by national regulations.

(2) Receptacles shall withstand the test pressure without undergoing permanent deformation or exhibiting cracks.

(3) At the periodic inspections the following shall be repeated:

the hydraulic pressure test; check of the external and internal condition of the receptacle (e.g. by weighing, internal inspection, checks of wall thickness); verification of the equipment and markings and, if necessary verification of the characteristics of the material by suitable tests.

Periodic inspections shall be carried out:

(a) every 2 years in the case of receptacles intended for the carriage of gases of 1° (a t) and 1° (c t); town gas of 2° (b t); gases of 3° (a t) other than ammonia, hexafluoropropylene and methyl; cyanogen chloride of 3° (c t); and substances of 5° (a t);

(b) every 5 years in the case of receptacles intended for the carriage of other compressed and liquefied gases (subject to the provision of subparagraph (c) below) and

of receptacles for the carriage of ammonia dissolved under pressure [9° (a t)];

(c) every 10 years in the case of receptacles intended for the carriage of gases of 1° (a) other than oxygen; of mixtures of nitrogen rare gases, of 2° (a); of gases of 3° (a and 3° (b) other than 1,1-difluoroethane, 1-chloro-1,1-difluoroethane, methylsilane 1,1,1-trifluoroethane, and of mixtures of gases of 4° (a) and if the receptacles have a capacity of not more than 150 litres the country of origin does not prescribe a shorter interval.

(d) in the case of receptacles intended for the carriage of dissolved acetylene [9° (c)], marginal 2217 (1) shall apply, and in that of receptacles conforming to marginal 2207 (1), marginal 2217 (2) shall apply.

(1) The external condition (corrosion, deformation) of, and the condition (loosening, settlement) of the porous material in, receptacles intended for the carriage of dissolved acetylene [9° (c)] shall be examined every 5 years. Sampling shall be performed by cutting up, if considered necessary, a suitable number of receptacles and inspecting them internally for corrosion and for any changes that may have occurred in the constituent materials and in the porous material.

(2) Receptacles conforming to marginal 2207 (1) shall be subjected every 5 years to external inspection and to a tightness (leakproofness) test. The tightness (leakproofness) test shall be carried out with the gas contained in the receptacle or with an inert gas at a pressure of 2 kg/cm². Checking shall be performed by means of a pressure gauge or by vacuum measurement. The thermal insulation shall not be removed. The pressure shall not decline during the 8-hour test period. Changes resulting from the nature of the test gas or from variations in temperature shall be taken into account.

3. Marks on receptacles

(1) Metal receptacles shall bear the following particulars in clearly legible and durable characters:

(a) one of the names of the gas or of the mixture of gases in full, as given in marginal 2201, 1° to 9°; the name or mark of the maker or owner; and the number of the receptacle [see also marginal 2202 (3)]. In the case of halogenated hydrocarbons of 1° (a), 3° (a), 3° (a t), 3° (b), 3° (c t), 4° (a), 5° (a) and 6° (a) the use of the letter R, followed by the substance identification number is also permitted;

(b) in the case of receptacles intended for liquefied gases, the tare of the receptacle including such fittings and accessories as valves, cocks, metal plugs, etc., but excluding the protective cap;

(c) in the case of receptacles intended for compressed gases, the tare of the receptacle proper;

(d) the test pressure (see marginals 2219 to 2221) and the date (month, year) of the last test undergone (see marginals 2216 and 2217);

(e) the stamp of the expert who carried out the tests and inspections; and in addition:

(f) in the case of compressed gases of mixtures of compressed gases [1°, 2°, 12° and 13°]: the maximum filling pressure at 15° C allowed for the receptacle in question (see marginal 2219);

(g) in the case of boron fluoride [1° (a t)], liquefied gases [3° to 6°] and ammonia dissolved in water [9° (a t)]: the maximum filling allowed, and the capacity. In the cases of deeply-refrigerated gases of 7° and 8°: the capacity;

(h) in the case of acetylene dissolved in a solvent [9° (c)]: the permitted filling pressure [see marginal 2221 (2)], and the weight of the empty receptacle including the weight of the fittings and accessories, of the porous material, and of the solvent;

(1) in the case of mixtures of gases of 12° and test gases of 13°, the words «mixtures of gases» of «test gases», as the case may be, shall be engraved on the receptacle as a general indication of the content. An exact description of the contents shall be shown in a durable form throughout carriage;

(k) in the case of metal receptacles which, under marginal 2202 (3), are accepted for the carriage of a number of different gases (multi-purpose receptacles), an exact description of the contents shall be shown in a durable form during carriage.

(2) The marks shall be engraved either on a reinforced part of the receptacle, or on a ring, or on a data plate, immovably affixed to the receptacle. In addition, the name of the substance may be indicated on the receptacle by an adherent and clearly - visible inscription applied by painting or by any other, equivalent, process.

(c) Test pressure, degree of filling, and limitation of capacity, of receptacles (see also marginals 2238, 211 180 and 212 180

2217 (1) In the case of receptacles intended for the carriage of compressed gases of 1°, 2° and 12°, the internal pressure (test pressure to be applied in the hydraulic pressure test shall be at least one and one-half times the filling pressure at 15° C indicated on the receptacle, but shall not be less than 10 kg/cm².

(2) In the case of receptacles used for the carriage of substances 1° (a) other than tetrafluoromethane; of deuterium and hydrogen of 1° (b) or of gases of 2° (a), the filling pressure shall not exceed 300 kg/cm² referred to a temperature of 15° C. In the case of tanks, the filling pressure shall not exceed 250 kg/cm² referred to a temperature of 15° C.

In the case of receptacles and tanks intended for the carriage of other gases of 1° and 2° the filling pressure shall not exceed 200 kg/cm² referred to a temperature of 15° C.

(3) In the case of receptacles intended for the carriage of fluorine [1° (a t)] the internal pressure (test pressure) to be applied in the hydraulic pressure test shall be 200 kg/cm² and the filling pressure shall not exceed 28 kg/cm² at a temperature of 15° C; in addition, on receptacle may contain more than 5 kg fluorine.

In the case of receptacles for the carriage of boron trifluoride [1° (a t)] the hydraulic to be applied in the test (test) pressure shall be either 300 kg/cm², in which case the maximum weight of the contents per litre of capacity shall not exceed 0.86 kg, or 225 kg/cm², in which case the maximum weight of the contents per litre of capacity shall not exceed 0.715 kg.

(4) In the case of receptacles intended for the carriage of nitric oxide No [1° (c t)], the capacity shall be limited to 50 l; the hydraulic pressure to be applied in the test (test pressure) shall be 200 kg/cm²; and the filling pressure shall not exceed 50 kg/cm² at a temperature of 15° C.

(5) In the case of receptacles intended for, the carriage of mixtures of hydrogen with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; of mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume [2° (b t)]; of mixtures of hydrogen with not more than 10 per cent diborane by volume; or of mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume [2° (c t)], the capacity shall be limited to 50 l; the hydraulic pressure to be applied in the test (test pressure) shall be not less than 200 kg/cm²; and the filling pressure shall not exceed 50 kg/cm² at a temperature of 15° C.

(6) Receptacles in conformity with marginal 2207 (1) shall not, at the filling temperature and at a pressure of 1 kg/cm², be filled beyond 98 per cent of their capacity.

Where oxygen of 7° (a) is carried, steps shall be taken to prevent any spillage of the liquid phase.

(7) Where dissolved acetylene [9° (c)] is carried in receptacles in conformity with marginal 2212 (1) (b), the capacity of the receptacles shall not exceed 150 l.

(8) The capacity of receptacles intended for the carriage of mixtures of gases of 12° shall not exceed 50 l. The pressure of the mixture shall not exceed 150 kg/cm² at

2219

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a temperature of 15° C.

(9) The capacity of receptacles intended for the carriage of test gases of 13° shall not exceed 50 l. The filling pressure at a temperature of 15° C shall not exceed 7 per cent of the test pressure of the receptacle.

(10) In the case of tungsten hexafluoride [3° (a t)] the capacity of the receptacles shall be limited to 60 l.

The capacity of receptacles for silicon tetrafluoride [1° (a t)]; boron chloride, nitrosyl chloride and sulphuryl fluoride [3° (a t)]; methylsilane [3° (b)]; arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane [3° (b t)]; cyanogen chloride and cyanogen [3° (c t)]; mixtures of methylsilanes [4° (b t)]; substances of 4° (c t) other than dichlorodifluoromethane containing 12 per cent ethylene oxide by weight; silane [5° (b)]; and substances of 5° (b t) and (c t), shall be limited to 50.

(11) In the case of receptacles intended for chlorine trifluoride [3° (a t)] the capacity shall be limited to 40 l. After filling, a receptacle containing chlorine trifluoride [3° (a t)] shall, before being handed over for carriage, be held back for not less than seven days in order to verify that it is leak-proof.

(1) In the case of receptacles intended for the carriage of liquefied gases of 3° to 6°, and of receptacles intended for the carriage of gases dissolved under pressure of 9°, the hydraulic pressure to be applied in the test (test pressure) shall be not less than 10 kg/cm².

(2) In the case of liquefied gases of 3° and 4° the following values shall be complied with for the hydraulic pressure to be applied to the receptacles in the test (test pressure) and for the maximum degree of filling allowed:

*See the end of the table in paragraph (2).

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| Description of substance | Item number | Minimum Test pressure kg/cm ² | Maximum weight of contents per litre of capacity kg |
|--|-------------|--|---|
| Bromochlorodifluoromethane (R 12 B 1) | 3°(a) | 10 | 1.61 |
| Chlorodifluoromethane (R 22) | 3°(a) | 29 | 1.03 |
| Chloropentafluoroethane (R 115) | 3°(a) | 25 | 1.06 |
| 1-chloro-2,2,2-trifluoroethane (R 133a) | 3°(a) | 10 | 1.18 |
| Dichlorodifluoromethane (R 12) | 3°(a) | 18 | 1.15 |
| Dichlorofluoromethane (R 21) | 3°(a) | 10 | 1.23 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane (R 114) | 3°(a) | 10 | 1.30 |
| Octafluorocyclobutane (RC 318) | 3°(a) | 11 | 1.34 |
| Ammonia | 3°(at) | 33 | 0.53 |
| Boron chloride | 3°(at) | 10 | 1.19 |
| Chlorine | 3°(at) | 22 | 1.25 |
| Chlorine trifluoride | 3°(at) | 30 | 1.40 |
| Hexafluoropropylene (R 216) | 3°(at) | 22 | 1.11 |
| Hydrogen bromide | 3°(at) | 60 | 1.20 |
| Methyl bromide | 3°(at) | 10 | 1.51 |
| Nitrogen dioxide | 3°(at) | 10 | 1.30 |
| Nitrosyl chloride | 3°(at) | 13 | 1.10 |
| Phosgene | 3°(at) | 20 | 1.23 |
| Sulphur dioxide | 3°(at) | 14 | 1.23 |
| Sulphuryl fluoride | 3°(at) | 50 | 1.10 |
| Tungsten hexafluoride | 3°(at) | 10 | 2.70 |
| Butane | 3°(b) | 10 | 0.51 |
| 1-Butene | 3°(b) | 10 | 0.53 |
| 1-Chloro-1,1-difluoroethane (R 142b) | 3°(b) | | |
| Cis-2-butene | 3°(b) | 10 | 0.55 |
| Cyclopropane | 3°(b) | 20 | 0.53 |
| 1,1-Difluoroethane (R 152a) | 3°(b) | 18 | 0.79 |
| Isobutane | 3°(b) | 10 | 0.49 |
| Isobutene | 3°(b) | 10 | 0.52 |
| Methylsilane | 3°(b) | 225 | 0.39 |
| Propane | 3°(b) | 25 | 0.42 |
| Propylene | 3°(b) | 30 | 0.43 |
| Trans-2-butene | 3°(b) | 10 | 0.54 |
| 1,1,1-Trifluoroethane | 3°(b) | 35 | 0.75 |
| Arsine | 3°(bt) | 42 | 1.10 |
| Dichlorosilane | 3°(bt) | 10 | 0.90 |
| Dimethylamine | 3°(bt) | 10 | 0.59 |
| Dimethyl ether | 3°(bt) | 18 | 0.58 |
| Dimethylsilane | 3°(bt) | 225 | 0.39 |
| Ethylamine | 3°(bt) | 10 | 0.61 |
| Ethyl chloride | 3°(bt) | 10 | 0.80 |
| Hydrogen selenide | 3°(bt) | 31 | 1.60 |
| Hydrogen sulphide | 3°(bt) | 55 | 0.67 |
| Methylamine | 3°(bt) | 13 | 0.58 |
| Methyl chloride | 3°(bt) | 17 | 0.81 |

| | | | |
|--|---------|-----|-------|
| Methyl mercaptan | 3°(bt) | 10 | 0.78 |
| Trimethylamine | 3°(bt) | 10 | 0.56 |
| Trimethylsilane | 3°(bt4) | 225 | 0.39 |
| 1,3-Butadiene | 3°(c) | 10 | 0.55 |
| Vinyl chloride | 3°(c) | 12 | 0.81 |
| Cyanogen | 3°(ct) | 100 | 0.70 |
| Cyanogen chloride | 3°(ct) | 20 | 1.03 |
| Ethylene oxide | 3°(ct) | 10 | 0.78 |
| Methyl vinyl ether | 3°(ct) | 10 | 0.67 |
| Trifluorochloroethylene (R 1113) | 3°(ct) | 19 | 1.13 |
| Vinyl bromide | 3°(ct) | 10 | 1.37 |
| Mixture F1 | 4°(a) | 12 | 1.23 |
| Mixture F2 | 4°(a) | 18 | 1.15 |
| Mixture F3 | 4°(a) | 29 | 1.03 |
| Mixture of gases R 500 | 4°(a) | 22 | 1.01 |
| Mixture of gases R 502 | 4°(a4) | 31 | 1.05 |
| Mixture of 19 to 21 per cent by weight dichlorodifluoromethane (R 12) and 79 to 81 per cent by weight bromochlorodifluoromethane (R 12 B1) | 4°(a) | 12 | 1.50 |
| Mixtures of methyl bromide and chloropicrin | 3°(at) | 10 | 1.51 |
| Mixture A (trade name: butane) | 4°(b) | 10 | 0.50 |
| Mixture A 0 (trade name: butane) | 4°(b) | 15 | 0.47 |
| Mixture A 1 | 4°(b) | 20 | 0.46 |
| Mixture B | 4°(b) | 25 | 0.43 |
| Mixture C (trade name: propane) | 4°(b) | 30 | 0.42 |
| Mixtures of hydrocarbons containing methane | 4°(b) | 225 | 0.187 |
| | | 300 | 0.244 |
| Mixtures of methylsilanes | 4°(bt) | 225 | 0.39 |
| Mixtures of methyl chloride and methylene chloride | 4°(bt) | 19 | 0.81 |
| Mixtures of methyl bromide and ethylene bromide | 4°(bt) | 10 | 1.51 |
| Mixtures of methylacetylene / propadiene and hydrocarbons | | | |
| Mixture P 1 | 4°(c) | 30 | 0.49 |
| Mixture P 2 | 4°(c) | 24 | 0.47 |
| Ethylene oxide containing not more than 10 per cent carbon dioxide by weight | 4°(ct) | 28 | 0.73 |
| Ethylene oxide containing not more than 50 per cent methyl formate by weight with nitrogen up to a maximum total pressure of 10 kg/cm ² at 50°C | 4°(ct) | 25 | 0.80 |
| Ethylene oxide with nitrogen up to a total pressure of 10 kg/cm ² at 50°C | 4°(ct) | 15 | 0.78 |
| Dichlorodifluoromethane containing 12 per cent ethylene oxide by weight | 4°(ct) | 18 | 1.09 |

* 1. The test pressures prescribed are at least equal to the vapour pressures of the liquids at 70°C, reduced by 1 kg/cm², the minimum test pressure required being however 10 kg/cm².

2. In view of the high degree of toxicity of phosgene (carbonyl chloride) [3° (at)] and of cyanogen chloride [3°(ct)], the minimum test pressure for these gases has been fixed at 20 kg/cm².

3. The maximum values prescribed for the degree of filling in kg/litre have been determined as follows: maximum weight of contents per litre of capacity=0.95 times the density of the liquid at 50°C; in addition, the vapour phase must not disappear below 60°C.

(3) In the case of receptacles intended to contain liquefied gases of 5° and 6° the degree of filling shall be such that the internal pressure at 65° C does not exceed the test pressure of the receptacles. The following values shall be complied with [see also paragraph (4)]:

| Description of substance | Item number | Minimum Test pressure kg/cm ² | Maximum weight of contents per litre of capacity kg |
|----------------------------------|-------------|--|---|
| Bromotrifluoromethane (R 13 B 1) | 5°(a) | 42 | 1.13 |
| | | 120 | 1.44 |
| | | 250 | 1.60 |
| Carbon dioxide | 5°(a) | 190 | 0.66 |
| | | 250 | 0.75 |
| Chlorotrifluoromethane (R 13) | 5°(a) | 100 | 0.83 |
| | | 120 | 0.90 |
| | | 190 | 1.04 |
| | | 250 | 1.10 |
| Hexafluoroethane (R 116) | 5°(a) | 200 | 1.10 |
| Nitrous oxide N ₂ O | 5°(a) | 180 | 0.68 |
| | | 225 | 0.74 |
| 250 | 0.75 | | |
| Sulphur hexafluoride | 5°(a) | 70 | 1.04 |
| Trifluoromethane (R 23) | 5°(a) | 190 | 0.87 |
| | | 250 | 0.95 |
| Xenon | 5°(a) | 130 | 1.24 |
| Hydrogen chloride | 5°(at) | 100 | 0.30 |
| | | 120 | 0.56 |
| | | 150 | 0.67 |
| | | 200 | 0.74 |
| Ethane | 5°(b) | 95 | 0.25 |
| | | 120 | 0.29 |
| | | 300 | 0.39 |
| Ethylene | 5°(b) | 225 | 0.34 |
| | | 300 | 0.37 |
| Silane | 5°(b) | 225 | 0.32 |
| | | 250 | 0.41 |
| Germane | 5°(bt) | 250 | 1.02 |
| Phosphine | 5°(bt) | 225 | 0.30 |
| | | 250 | 0.51 |
| 1,1.-Difluoroethylene | 5°(c) | 250 | 0.77 |
| Vinyl fluoride | 5°(c) | 250 | 0.64 |

Class 2

| Description of substance | Item number | Minimum test pressure kg/cm ² | Maximum weight of contents per litre of capacity kg |
|--|-------------|--|---|
| Diborane | 5°(ct) | 250 | 0.072 |
| Carbon dioxide containing 1-10 per cent nitrogen, oxygen, air or rare gases by weight | 6°(a) | 190 | 0.64 |
| | | 190 | 0.48 |
| | | 250 | 0.73 |
| | | 250 | 0.59 |
| Mixture of gases R 503 | 6°(a) | 31 | 0.11 |
| | | 42 | 0.20 |
| | | 100 | 0.66 |
| Carbon dioxide containing not more than 35 per cent ethylene oxide by weight | 6°(c) | 190 | 0.66 |
| | | 250 | 0.75 |
| Ethylene oxide containing more than 10 per cent but not more than 50 per cent carbon dioxide by weight | 6°(ct) | 190 | 0.66 |
| | | 250 | 0.75 |

(4) For substances of 5° other than hydrogen chloride [5° (at)]; germane and phosphine [5° (bt)]; and diborane [5° (ct)], and for substances of 6°, the use of receptacles tested at a lower pressure than that indicated in paragraph (3) for the substance in question is allowed, but the quantity of substance per receptacle shall not exceed that which at 65°C would produce inside the receptacle a pressure equal to the test pressure. In such a case the permis-

sible maximum load shall be prescribed by the expert approved by the competent authority.

(1) In the case of gases dissolved under pressure, of 9°, the following values shall be complied with for the hydraulic pressure to be applied to the receptacles in the test (test pressure), and for the maximum degree of filling allowed:

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Class 2

| Description of substance | Item number | Minimum test pressure kg/cm ² | Maximum weight of contents per litre of capacity kg |
|---|-------------|--|---|
| Ammonia dissolved under pressure in water with more than 35 per cent but not more than 40 per cent ammonia by weight with more than 40 per cent but not more than 50 per cent ammonia by weight | 9o (at) | 10 | 0.80 |
| Dissolved acetylene | 9° (at) | 12 | 0.77 |
| | 9° (c) | 60 | see under (2) |

(2) In the case of dissolved acetylene [9o (c)], once equilibrium has been achieved at 15°C the cylinder - filling pressure shall not exceed the value prescribed by the competent authority for the porous mass, which value

shall be engraved on the cylinder. The quantity of solvent and the quantity of acetylene shall likewise correspond to the figures specified in the approval.

Class 2

Special conditions:

| Item No or letter | Description of substance | Maximum quantity | | Special requirements |
|-------------------|---|---|-------------|--|
| | | per receptacle | per package | |
| (a) (at) | Gases packed in accordance with marginal 2205 All gases listed in this marginal | in the quantities prescribed in marginal 2205 | 6 kg | Chlorine [3° (at)] shall not be packed together with sulphur dioxide [3° (at)] |
| | Non-inflammable gases Non-inflammable toxic gases | | | Shall not be packed together with substances of Classes 1a, 1d, 1c, 3, 4.2, 5.2 or 7 |
| | Inflammable gases | | | Shall not be packed together with substances of Classes 1a, 1d, 1c, 3, 4.1, 5.2 7 or 8 |
| (a) (at) | Gases packed in accordance with marginal 2206 All gases listed in the marginal except ammonia and cyclopropane Non-inflammable gases Non-inflammable toxic gases | 150 g | 6 kg | Shall not be packed together with substances of Classes 1a, 1b, 1c, 3, 4.2, 5.2 or 7 |
| | Inflammable gases Inflammable toxic gases | | | Shall not be packed together with substances of Classes 1a, 1d, 1c, 3, 4.1, 4.2, 4.3, 5.1, 5.2 or 7 6 kg |
| | Chemically unstable gases Chemically unstable toxic gases | | | |
| | Ammonia Cyclopropane | 20 g | 6 kg | |

3. Mixed packing

(1) Substances of this Class other than substances of 7° and 8° may be enclosed in the same package with one another if they are contained:

(a) in metal pressure - receptacles of a volume not exceeding 10 litres;

(b) in thick - walled glass tubes or glass syphons in accordance with marginals 2205 and 2206, on condition that these fragile receptacles are secured in accordance with the provisions of marginal 2001 (5). The cushioning materials shall be suited to the properties of the contents. Inner packagings shall be placed in an outer packaging in which they shall be effectively kept apart from one another.

(2) Articles of 10° and 11° may be enclosed in the same package with one another under the conditions prescribed in marginal 2210.

(3) In addition, substances packed in accordance with marginals 2205 and 2206 may be enclosed in the same package with one another subject to the following special conditions.

(4) A package which meets the requirements of (1) and (2) shall not weigh more than 100 kg, or more than 75 kg if it contains fragile receptacles.

Class 2

4. Markings and labels on packages (see Appendix A.9)

(1) Every package containing receptacles holding gases of 1° to 9°, 12° or 13° or non-refillable containers of gas under pressure of 11° shall be marked legibly and indelibly with an indication of its contents, with the addition «Class 2». This marking shall be in an official language of the country of departure, and also, if that language is not English, French or German, in English, French or German, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

This provision need not be complied with if the receptacles and their markings are clearly visible.

(2) Packages containing aerosol dispensers of 10° shall be marked with the word «AEROSOL» in clearly legible and indelible characters.

(3) Where a consignment constitutes a full load, the markings referred to in paragraph (1) are not mandatory.

(1) Packages which contain receptacles made of materials liable to shatter, such as glass or certain plastics materials, shall bear a label conforming to model No. 9.

(2) Every package containing gases of 7° (a) or 8° (a) shall bear, on two opposite sides, labels conforming to model No. 8, and if the substances it contains are enclosed in glass receptacles [marginal 2207 (2) (a)] it shall, in addition, bear a label conforming to model No. 9.

Every package containing aerosol dispensers of 10° (b) 2., 10° (bt) 2., 10° (c) or 10° (ct), or non - refillable containers of gas under pressure of 11° (b), 11° (bt), 11° (c) or 11° (ct), shall bear a label conforming to model No. 2A.

B. Particulars in the transport document

(1) The description of the goods in the transport document must be:

(a) in the case of pure and technically - pure gases of 1°, 3°, 5°, 7° or 9°, of aerosol dispensers of 10°, of non - refillable containers of gas under pressure of 11° one of the names underlined in marginal 2201;

(b) in the case of mixtures of gases of 2°, 4°, 6°, 8°, 12° or 13° «mixture of gases». This description must be supplemented by an indication of the composition of the mixture of gases in volume per cent or weight per cent. Constituents below one per cent need not be indicated. In the case of mixtures of gases of 2° (a), 2° (b), 2° (bt), 4° (a), 4° (b), 4° (c), 6° (a), 8° (a) or 8° (b) the descriptions or names customary in the trade which are underlined in marginal 2201 may likewise be used, without indication of the composition.

Class 2

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These descriptions must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g., 2, 5° (at), ADR]

(2) In the case of consignments of gases which are listed among the chemically unstable gases the sender shall certify as follows in the transport document: «The necessary steps have been taken to satisfy the requirements of ADR marginal 2200 (4)». In the case of consignments of mixtures of gases of 12° or test gases of 13°, the sender shall certify as follows in the transport document: «The conditions laid down in ADR marginal 2201, 12° or 13°, have been complied with».

(3) In the case of consignments of chlorine trifluoride [3° (at)] the sender shall certify as follows in the transport document: «After filling with chlorine trifluoride, the receptacle has been kept under observation for not less than seven days and its leakproofness has been verified».

(4) In the case of tanks containing gases of 7° (a) or 8° (a) other than carbon dioxide and nitrous oxide, the transport document shall bear the following entry:

«The tank is in permanent communication with the atmosphere».

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2236

C. Empty packagings

2223

(1) Receptacles and tanks of 14° shall be closed in the same manner as though they were full.

(2) The description in the transport document must be: «Empty receptacle or («Empty tank»), uncleaned, 2, 14°, ADR (or Item 14, RID)». This text must be underlined in red.

D. Transitional provisions

The following transitional provisions shall apply to receptacles for compressed or liquefied gases or gases dissolved under pressure:

(a) receptacles already in service shall, subject to the following exceptions, be accepted in international traffic so long as the requirements of the contracting country in which the tests in accordance with marginal 2216 were carried out so permit and as the intervals prescribed in marginals 2216 (3) and 2217 for the periodic inspections are observed;

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(b) in the case of receptacles manufactured under the previous system (permissible stress two - thirds, instead of three - quarters, of the yield stress), no increase in either the test pressure or the filling pressure shall be permitted [see marginal 2211 (1)];

(c) transitional measures for tanks: see marginal 211180;

(d) transitional measures for tank-containers: see marginal 212180.

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CLASS 3. INFLAMMABLE LIQUIDS

1. List of substances

2300

(1) Among the inflammable liquids and mixtures thereof, whether liquid or still pasty at a temperature not exceeding 15°C, the substances listed in marginal 2301 are subject to the provisions of this Annex and of Annex B. These substances to be accepted for carriage under certain conditions are to be considered as substances of ADR.

(2) Inflammable liquids which at a temperature of 50° C have a vapour pressure not exceeding 3 kg/cm², except those listed in other Classes, are deemed to be inflammable liquids within the meaning of ADR.

(3) Liquids of Class 3 which are liable to form peroxides easily (as happens with ethers or with certain heterocyclic oxygenated substances) are not to be handed over for carriage unless their peroxide content, reckoned as hydrogen peroxide H₂O₂, does not exceed 0.3 per cent.

(4) The peroxide content referred to above and the flash - point referred to below shall be determined as shown in Appendix A.3 (marginals 3300 - 3303).

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(5) Substances of Class 3 which polymerize easily are to be accepted for carriage only if the necessary precautions have been taken to prevent their polymerization during carriage.

(6) Solid substances soluble in liquids shall be deemed to include driers, fixed oils (boiled or blown linseed oils, etc.) or similar substances (nitrocellulose excepted) whose flash - point is above 100°C.

1o (a) Liquids not miscible, or only partially miscible, with water which have a flash - point below 21°C, also when they contain not more than 30 per cent solids (nitrocellulose excepted) either dissolved, or held in suspension in the liquids, or both, e.g. crude petroleum and other crude oils; volatile products from the distillation of petroleum and of other crude oils or of coal, lignite, shale, wood and peat tars, e.g. petroleum ether, pentanes, benzene, benzol and toluene; condensation products of natural gas; ethyl acetate (acetic ester), vinyl acetate, diethyl ether ether (sulphuric ether) methyl formate and other ethers and esters; carbon disulphide; acrylaldehyde (acrolein); certain chlorinated hydrocarbons [e.g. 1,2 - dichloroethane and chloroprene (chlorobutadiene)];

(b) mixtures of liquids having a flash - point below 21°C and containing not more than 55 per cent nitrocellulose with a nitrogen content not exceeding 12.6 per cent (collodions, semi - collodions and other nitrocellulose solutions).

Class 3

For (a), see also marginal 2301a under (a), (b) and (d); for (b), see also marginal 2301a, under (a).

Note: For mixtures of liquids having a flash - point below 21°C and

— containing more than 55 per cent nitrocellulose, whatever its nitrogen content, or

— containing not more than 55 per cent nitrocellulose with nitrogen content above 12.6 per cent,

see Class 1a, marginal 2101, 1°, and Class 4.1, marginal 2401 7° (a+).

2° Liquids not miscible, or only partially miscible, with water which have a flash - point below 21°C and contain more than 30 per cent solids (nitrocellulose excepted) either dissolved, or held in suspension in the liquids, or both, e.g.: certain colours for rotogravures and for leathers, certain varnishes, certain enamel paints, and rubber solutions. See also marginal 2301a, under (c).

3° Liquids not miscible, or only partially miscible, with water which have a flash - point between 21°C and 55°C inclusive, also when they contain not more than 30 per cent solids either dissolved, or held in suspension in the liquids, or both, e.g.: turpentine: semi - heavy products from the distillation of petroleum and of other crude oils, or of coal, lignite, shale, wood and peat tars, e.g. white spirit (turpentine substitute), heavy benzols, petroleum oils (for lighting, heating or engines), xylene, styrene, cumene, solvent naphtha; butanol; butyl acetate; pentyl acetate (amyl acetate); nitromethane (mononitromethane) and certain mononitro - paraffins; certain chlorinated hydrocarbons (e.g. chlorobenzene). See also marginal 2301a, under (c) and (d).

4° Liquids not miscible, or only partially miscible, with water which have a flash - point above 55°C but not exceeding 100°C, also when they contain not more than 30 per cent solids either dissolved, or held in suspension in the liquids, or both, e.g.: certain tars and their distillation products: heating oils, diesel oils, certain gas oils; tetrahydronaphthalene (tetralin); nitrobenzene; certain chlorinated hydrocarbons (e.g. 1 - chloro - 2 - ethylhexane). See also marginal 2301a, under (c) and (d).

5° Liquids miscible in all proportions with water which have a flash - point below 21°C, also when they contain not more than 30 per cent solids either dissolved, or held in suspension in the liquids, or both, e.g.: methanol (methyl alcohol, wood spirit), denatured or not;

Class 3

Ethanol (ethyl alcohol, ordinary alcohol), denatured or not; acetaldehyde; acetone and acetone mixtures; pyridine. See also marginal 2301a, under (a) and (c).

6° Empty receptacles, uncleaned, and empty tanks, uncleaned, which have contained inflammable liquids of Class 3.

Substances handed over for carriage in conformity with the following provisions are subject neither to the provisions for this Class contained in this Annex nor to those contained in Annex B:

(a) liquids of 1° (except those mentioned under (b) below), and acetone and acetone mixtures (5°): in quantities not exceeding 200 g per receptacle, in receptacles made of sheet - metal, glass, porcelain, stoneware or a suitable plastics material, these receptacles, with a total content not exceeding 1 kg, being placed together in an outer packaging made of sheet - metal, wood or fibreboard and fragile receptacles being suitably secured in the packaging to prevent their leakage;

(b) carbon disulphide, diethyl ether, petroleum ether, pentanes, methyl formate: 50 g per receptacle and 250 g per package, these substances being packed in the same way as those of (a);

(c) liquids of 2° - 5°, except acetaldehyde, acetone and acetone mixtures: 1 kg per receptacle and 10 kg per package, these substances being packed in the same way as those of (a);

(d) the motor - fuel contained in the tanks of motor - driven vehicles or in closed auxiliary tanks firmly fixed to the vehicles. If there is a cock between the tank and the engine it must be closed; the electric circuit must also be disconnected. Motor cycles and motor - assisted pedal cycles whose tanks contain motor - fuel must be loaded upright on their wheels, secured against falling.

2. Provisions

A. Packages

1. General conditions of packing

(1) Receptacles shall be so closed and leak - proof as to prevent any loss of the contents, and particularly any evaporation.

(2) The materials of which the receptacles and their closures are made must not be liable to attack by the contents nor form harmful or dangerous compounds therewith.

Class 3

(3) Packagings, including their closures, must be sufficiently, rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular, receptacles and their closures must, unless the section headed «Packing of a single substance» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage (see also marginal 2305). Inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The walls must be not less than 3 mm thick in the case of receptacles weighing, with their contents, more than 35 kg and not less than 2 mm in the case of other receptacles.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage.

(5) Cushioning materials shall be suited to the nature of the contents and, in particular, shall be absorbent. Suitable materials must be used to secure receptacles in the protective packaging; this securing must be carried out with care and be checked periodically (possibly before each fresh filling of the receptacle).

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2. Packing of a single substance

(1) Substances of 1° - 5° must be packed in suitable receptacles made of metal or of glass, porcelain, stoneware or similar materials. Substances of 4° and corrosive liquids of 1° (a), 3° and 5° may also be packed in receptacles made of a suitable plastics material. [For the special provisions concerning chloroprene and nitromethane, see under (8) and (9), respectively, below].

(2) Fragile receptacles (glass, porcelain, stoneware or similar materials) may not contain more than the following quantities of substances of 1°:

carbon disulphide 1 litre;
diethyl ether, petroleum ether, pentanes 2 litres;
other substances of 1° 5 litres;

Class 3

(3) Tin-plate receptacles having a capacity not exceeding 10 litres must have a wall thickness of not less than 0.25 mm; those having a capacity exceeding 10 litres but not exceeding 60 litres must have a wall thickness of not less than 0.3 mm and their joints shall be double-seamed by welting, or soldered, or produced by a process ensuring a similar degree of strength and tightness.

(4) Receptacles made of sheet-steel [for tin-plate receptacles having a capacity not exceeding 60 litres, see also (3)] must be welded or hard-soldered, and the quantities of substances of 1°-5° they may contain, according to the thickness of their walls, are as follows:

if the wall thickness is not less than 0.5 mm: not more than 30 litres;

if the wall thickness is not less than 0.7 mm: not more than 60 litres;

if the wall thickness is not less than 1.5 mm: over 60 litres.

Packages weighing more than 100 kg shall be fitted with rolling hoops.

(5) Receptacles made of sheet-metal other than steel must be designed and manufactured in such a way that they possess the same strength as the sheet-steel receptacles referred to under (4).

(6) Liquids whose vapour pressure at 50°C does not exceed 1.5 Kg/cm², with the exception of carbon disulphide, may also be carried in metal drums complying with the following provisions:

The body joints of the drums must be welded and the end joints welded or double-seamed by welting. The drums must be fitted with rolling hoops or strengthening ribs. Every drum must have undergone the leakage test prescribed in marginal 3502 of Appendix A.5. The drums must be of a type of construction which has satisfied the other tests prescribed in the aforesaid Appendix A.5. and must bear the mark assigned at the time of type approval.

(7) For the carriage in non-returnable metal packagings (new packagings intended to be used only once) of inflammable products whose vapour pressure at 50°C does not exceed 1.1 kg/cm² it is not necessary, in the case of a package whose unit weight must not exceed 225 kg, for the end of the receptacle to be welded to the body and for the wall thickness to be greater than 1.25 mm, but the receptacle must be able to withstand, without leakage, a hydraulic pressure of 0.3 kg/cm² at least, and its body and ends must be equipped with devices (such as ribs or rolling hoops), whether detachable or not, ensuring rigidity.

(8) Chloroprene [1° (a)] shall be packed:

(a) in hermetically-closed metal receptacles, suitably lined if necessary, having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or other outer packaging of adequate strength; or

(b) in sheet-steel canisters, welded or hard-soldered, having a capacity not exceeding 60 litres, hermetically closed and fitted with means of handling.

(9) Nitromethane (3°) must be contained:

(a) in fragile receptacles containing not more than 1 litre; or

(b) in sheet-steel receptacles in conformity with (4) above having a capacity not exceeding 10 litres; or

(c) in metal drums each having two hermetic closures, one of them screwthreaded, each drum being fitted with rolling hoops and having a capacity not exceeding 200 litres.

(1) Fragile receptacles containing substances of 1° to 5°, receptacles made of a plastics material and containing corrosive liquids of 1° (a), 3° and 5°, tin-plate receptacles containing substances of 1° and 5°, tin-plate receptacles having a wall thickness of less than 0.5 mm and containing substances of 2°-4°, and sheet-steel receptacles containing nitromethane in conformity with marginal 2303 (9) (b), shall be secured by cushioning materials in protective packagings. If receptacles made of a plastics material are secured separately in protective packagings, cushioning materials are not necessary.

Protective packagings enclosing fragile receptacles containing substances of 1° and 5° and protective packagings enclosing receptacles containing nitromethane (3°) must have complete sides and be made of wood, sheet-metal or a similar material.

The closure of fragile receptacles placed in open protective packagings must be provided with a protective cover shielding them from damage. If the packages are loaded on an open vehicle, the protective cover must be incapable of igniting on contact with a flame.

(2) The following are to be accepted for carriage without protective packaging:

(a) receptacles made of a plastics material in conformity with marginal 2304 (1), containing substances of 4°;

(b) receptacles made of tin-plate not less than 0.5 mm thick, containing substances of 2°-4°;

(c) sheet-metal receptacles in conformity with marginal 2303 (4) to (7);

(d) metal canisters in conformity with marginal 2303 (8) (b) containing chloroprene [1° (a)];

(e) metal drums in conformity with marginal 2303 (9) (c) containing nitromethane (3°).

(3) The following packages must not exceed the maximum weights indicated below:

| | | |
|-----|--|---------|
| (a) | packages of fragile receptacles containing substances of 1° | 30 kg; |
| (b) | packages of fragile receptacles containing substances of 2° - 5° | 75 kg; |
| (c) | packages of receptacles made of a plastics material and containing substances of 1° (a) and 3°-5°, and of tin-plate receptacles containing substances of 1°-5° | 75 kg; |
| (d) | packages of receptacles containing chloroprene in conformity with marginal 2303 (8) | 75 kg; |
| (e) | packages of sheet-steel receptacles containing nitromethane in conformity with marginal 2303 (9) (b) | 75 kg; |
| (f) | drums tested in conformity with marginal 2303 (6) | 250 kg; |
| (g) | receptacles in conformity with marginal 2303 (7) | 225 kg; |
| (h) | drums containing nitromethane in conformity with marginal 2303 (9) (c) | 275 kg; |

(4) Packages other than cases and metal drums shall be fitted with means of handling.

Metal receptacles intended to contain liquids of 1°, nitromethane (3°), or acetaldehyde, acetone, or acetone mixtures (5°), shall not be filled beyond 93 per cent of their capacity. Nevertheless, receptacles containing hydrocarbons other than petroleum ether, pentanes, benzene and toluene may be filled to 95 per cent of their capacity.

3. Mixed packing

(1) Substances grouped under the same item number may be included in the same package. The inner packa-

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gings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question.

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance», substances of this Class may be enclosed in the same package either with dangerous substances of other Classes (if mixed packing

is likewise permitted in the case of such substances) or with other goods, as indicated below.

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions contained in marginals 2001 (5) and 2002 (6) and (7) must be observed.

A package must not weigh more than 150° kg, or more than 75 kg if it contains fragile receptacles.

| Item No. | Description of substances | Maximum quantity | | | Special provisions |
|-------------------|--|------------------------|----------------------|-------------|---|
| | | per fragile receptacle | per other receptacle | per package | |
| 1o (a) | Carbon disulphide | 0.3 litre | 1 litre | 1 litre | Liquids of Class 3 must not be packed together with substances of Class 4.2, hydrogen peroxide or perchloric acid of Class 5.1, or substances of Class 8, 2°(a), 3°(a), 4°, 7° and 41°. |
| 1° 3a) and 1° (b) | All substances except carbon disulphide | 1 litre | 5 litres | 5 litres | |
| 2° | All substances | 1 litre | 5 litres | 10 litres | |
| 3° | All substances | 3 litres | 5 litres | 10 litres | |
| 4° | All substances | 5 litres | 5 litres | 10 litres | |
| 5° | Liquids having a boiling point $\leq 50^{\circ}\text{C}$ | 1 litres | 5 litres | 5 litres | |
| | Other substances | 3 litres | 5 litres | 10 litres | |

4. Marking and danger labels on packages (see Appendix A')

(1) Packages containing liquids of 1° to 3° and 5° shall bear a label conforming to model No. 2A.

However, if substances of 2°, 3° or 5° are packed in receptacles made of glass, porcelain, stoneware or similar material, of a capacity exceeding 5 litres, the packages shall bear two labels conforming to model No. 2A.

Packages containing acrylaldehyde or chloroprene (chlorobutadiene) [1° (a)] or methanol (methyl alcohol) (5°) shall in addition bear a label conforming to model No. 4.

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(3) In the case of consignments carried as a full load, labels Nos. 2A and 4, as prescribed under (1), need not be affixed to the packages if the vehicle bears the marking prescribed in Annex B, marginal 10 500.

B. Particulars in the transport document

(1) The description of the goods in the transport document must conform to one of the names underlined in marginal 2301. If the latter does not contain the name of the substance, the trade name shall be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g. 3, 1°(a), ADR].

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(2) In the case of all consignments of substances which polymerize easily, the following must be certified in the transport document: «The necessary steps have been taken to prevent polymerization during carriage».

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C. Empty packagings

(1) Receptacles and tanks of 6° must be closed in the same manner and leak-proof in the same degree as though they were full.

(2) The description in the transport document must be: «Empty receptacle (or empty tank), 3, 6° ADR (or RID)». This description must be underlined in red.

(3) Empty receptacles, uncleaned, of 6° which have contained substances of 1° to 3° and 5° shall bear a label conforming to model No. 2A. Those which have contained acrylaldehyde or chloroprene (chlorobutadiene) (1° (a)) or methanol (methyl alcohol) (5°) shall in addition bear a label conforming to model No. 4.

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CLASS 4.1. INFLAMMABLE SOLIDS

1. List of substances

Among the substances covered by the heading of Class 4.1, those listed in marginal 2401 are subject to the provisions of this Annex and of Annex B. These substances to be accepted for carriage under certain conditions are to be considered as substances of ADR.

1° Substances which can easily be ignited by sparks, such as wood flour, sawdust, wood shavings, wood fibre, wood charcoal, wood parings and wood cellulose, old paper and waste paper, paper fibres, cane (except Spanish broom), reeds, hay, straw, also when damp (including

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maize, rice and flax straw), vegetable textile substances and waste of vegetable textile substances, cork in powder or granular form, expanded or not, with or without an admixture of tar or of other substances not subject to spontaneous oxidation, and cork waste in small lumps. See also Class 4.2, marginal 2431, 8°-10°, and marginal 2431a, under (b).

Note: 1. These substances are included in the list only for the purposes of the prohibitions on mixed loading. For this purpose the provisions of marginal 2416 (1) apply. No other clause, either of this Annex or of Annex B, is applicable to them.

2. Hay still having a degree of humidity which might lead to fermentation is not to be accepted for carriage.

3. Wrappings and slabs of expanded cork, manufactured under pressure, with or without an admixture of tar or of other substances not subject to spontaneous oxidation, are not subject to any of the provisions of ADR.

4. Cork impregnated with substances still subject to spontaneous oxidation is a substance of Class 4.2 (see marginal 2431, 9°).

2° (a) Sulphur (including flowers of sulphur);

3° (b) sulphur in the melted state.

3° Celloidin, produced by incomplete evaporation of the alcohol contained in collodion and consisting mainly of collodion cotton.

4° Celluloid in slabs, sheets, rods or tubes, and fabrics coated with nitrocellulose.

5° Film celluloid, i.e. the raw material for films, without emulsion, in rolls, and developed celluloid films.

6° Celluloid waste and celluloid-film waste.

Note: Nitrocellulose-film waste, free from gelatine, in reels, sheets or strips, is a substance of Class 4.2 (see marginal 2431, 4°).

7° (a) Weakly nitrated nitrocellulose (such as collodion cotton), i.e. with a nitrogen content not exceeding 12.6 per cent, well stabilized and containing in addition not less than 25 per cent water or alcohol (methyl, ethyl, normal propyl or isopropyl, butyl or amyl alcohol, or mixtures thereof), also if denatured, solvent naphtha, benzol, toluene, xylene, mixtures of denatured alcohol and xylene, mixture water and alcohol or alcohol containing camphor in solution;

Note: 1. Nitrocellulose with a nitrogen content exceeding 12.6 per cent is a substance of Class 1a (see marginal 2101, 1°).

2. When the nitrocellulose is wetted with denatured alcohol, the denaturing substance must not have a detrimental effect on the stability of the nitrocellulose.

(b) plasticized nitrocellulose, non-pigmented, containing not less than 18 per cent plasticizer (butyl phthalate or a plasticizer at least equivalent in effect) and in which the nitrocellulose has a nitrogen content not exceeding 12.6 per cent; the nitrocellulose may be in the form of chips;

Note: Plasticized nitrocellulose, non-pigmented, containing not less than 12 per cent and less than 18 per cent butyl phthalate or a plasticizer at least equivalent in effect is a substance of Class 1a (see marginal 2102, 4°).

(c) plasticized nitrocellulose, pigmented, containing not less than 18 per cent plasticizer (butyl phthalate or a plasticizer at least equivalent in effect), in which the nitrocellulose has a nitrogen content not exceeding 12.6 per cent and which contains not less than 40 per cent nitrocellulose; the nitrocellulose may be in the form of chips.

Note: Plasticized nitrocellulose, pigmented, containing less than 40 per cent nitrocellulose is not subject to the provisions of ADR.

For (a), (b) and (c): weakly-nitrated nitrocellulose and plasticized nitrocellulose, pigmented or not, are not to be accepted for carriage unless they satisfy the stability and safety conditions of Appendix A.1 or the conditions set forth above regarding the nature and quantity of the additional substances.

For (a), see also Appendix A.1, marginal 3101, for (b) and (c), see also Appendix A.1, marginal 3102, 1.

8° Red phosphorus (amorphous), phosphorus sesquisulphide and phosphorus pentasulphide.

Note: Phosphorus pentasulphide not free from white or yellow phosphorus is not to be accepted for carriage.

9° Ground rubber, rubber dust.

10° Dust of coal, lignite, lignite coke and peat, artificially prepared (e.g. by pulverization or other processes), and coke from carbonized lignite rendered inert (i.e. not liable to spontaneous ignition).

MNote: 1. Natural dusts obtained as residues in the production of coal, coke, lignite or peat are not subject to the provisions of ADR.

2. Coke from carbonized lignite not rendered completely inert is not to be accepted for carriage.

11° (a) Crude naphthalene with a melting point below 75°C;

(b) pure naphthalene and crude naphthalene with a melting point of 75°C or over;

(c) Naphthalene in the melted state.

for (a) and (b), see also marginal 2401a.

Naphthalene in balls of flakes [11° (a) and (b) is subject neither to the provisions for this Class contained in this Annex nor to those contained in Annex B if it is packed, not more than 1 kg per box, in tightly-closed fibreboard or wooden boxes and these boxes are enclosed, not more than 10 per case, in wooden cases.

2401a

2. Provisions

A. Packages

1. General conditions of packing

(1) Packagings shall be so closed and arranged as to prevent any loss of the contents.

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(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. Solid substances shall be firmly secured in their packagings, and inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Cushioning materials shall be suited to the nature of the contents; in particular, they must be absorbent when the contents are liquid or might exude liquid.

2. Packing of a single substance

(1) Sulphur of 2° (a) shall be packed in stout in stout bags made of paper or of closely-woven jute.

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(2) Sulphur in the melted state, of 2° (b), may not be carried otherwise than in tanks.

Celloidin (3°) shall be so packed as to prevent its desiccation.

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(1) Celluloid in slabs, sheets, rods or tubes, and fabrics coated with nitrocellulose, (4°), shall be enclosed:

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(a) in firmly-closed wooden packagings, or

(b) in strong paper wrappings which shall be placed

1. in crates; or

2. between frames made of boards, the edges of the frames extending beyond the paper wrapping and the frames being bound together with iron bands; or

3. in wrappings of closely-woven fabric.

(2) A package must not weigh more than:

75 kg in the case of celluloid in slabs, sheets or tubes and of fabrics coated with nitrocellulose, if the outer packaging is made of in fabrics conformity with (1) (b) 3;

120 kg in all other cases.

Film celluloid in rolls and developed celluloid films (5°) shall be enclosed in wooden packagings or in fibreboard boxes.

2406

(1) Celluloid waste and celluloid-film waste (6°) shall be enclosed in wooden packagings or in two strong bags made of coarse, closely woven jute canvas, the bags being fireproofed so as not to ignite even on contact with a flame and having strong and continuous seams. These bags shall be placed one inside the other; after filling, their openings shall be separately and several times folded over and closely stitched so as to prevent any escape of the contents. However, celluloid waste may be packed in a single bag if the celluloid waste is first packed in strong packing paper or in a suitable plastics material and it is certified in the transport document that the celluloid waste does not contain any waste in the form of dust.

(2) Packages having a raw-canvas or jute packaging must not weigh more than 40 kg in single packaging not more than 80 kg in double packaging.

(3) For the particulars in the transport document, see marginal 2416(2).

(1) Substances of 7°(a) shall be packed:

(a) in wooden receptacles or in drums made of impermeable fibreboard; these receptacles and drums shall have a lining impermeable to the liquids they contain; their closures must be leak-proof; or

(b) in bags impermeable to the vapours from the liquids they contain (e.g. bags made of rubber or of a suitable plastics material not readily inflammable), placed in a wooden case or in a metal receptacle; or

(c) in zinc-lined or lead-lined iron drums; or

(d) in receptacles made of tin-plate, zinc sheet or aluminium sheet and secured by cushioning materials in wooden cases.

(2) Nitrocellulose of 7°(a), if petted exclusively with water, may be packed in fibreboard drums; this fibreboard must have undergone a special treatment to render it completely impermeable; the closures of the drums shall be water-vapour proof.

(3) Nitrocellulose of 7°(a), with added xylene, may not be packed otherwise than in metal receptacles.

(4) Substances of 7°(b) and (c) shall be packed:

(a) in wooden packagings lined with stout paper or zinc sheet or aluminium sheet; or

(b) in strong fibreboard drums or provided that the substances are dustfree and that this is certified in the transport document, in fibreboard cases which have been rendered impermeable; or

(c) in sheet-metal packagings.

(5) For substances of 7°, metal receptacles must be so constructed that, by reason of the method of assembly of their walls, of their mode of closure, or of the presence of a safety device, they yield when the internal pressure reaches a value not greater than 3 kg/cm²; the presence of these closures or safety devices must not impair the strength of the receptacle nor impair its closure.

(6) A package must not weigh more than 75 kg or, if it can be rolled, not more than 300 kg; however, a fibre board drum must not weigh more than 75 kg and a fibreboard case not more than 35 kg.

(7) For the particulars in the transport document, see marginal 2416(3).

(1) Red phosphorus and phosphorus pentasulphide (8°) shall be packed:

2407

(a) in receptacles made of sheet iron or tin-plate, which shall be placed in a strong wooden case; a package must not weigh more than 100 kg; or

(b) in receptacles made of glass or stoneware not less than 3 mm thick, or of a suitable plastics material, each containing not more than 12.5 kg of substance. These receptacles shall be secured with cushioning materials in a strong wooden case; a package must not weigh more than 100 kg; or

(c) in metal receptacles which, if with their contents they weigh more than 200 kg, shall be fitted with reinforcing hoops at their ends, and with rolling hoops.

(2) Phosphorus sesquisulphide (8°) shall be packed in leak-proof metal receptacles, which shall be secured by cushioning materials in wooden cases with closely-fitting sides. A package must not weigh more than 75 kg.

Substances of 9° shall be packed in firmly-closing leak-proof receptacles.

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(1) Substances of 10° shall be packed in metal or wooden receptacles or in strong bags.

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(2) Wooden receptacles and bags are not, however, to be accepted for coal dust, lignite dust or peat dust artificially prepared unless the dust has been completely cooled after drying by heat.

(3) For the particulars in the transport document, see marginal 2416(4).

(1) Naphthalene of 11°(a) shall be packed in firmly-closed wooden or metal receptacles.

2412

(2) Naphthalene of 11°(b) shall be packed in wooden or metal receptacles, or in stout fibreboard cases, or in strong bags made of textile or of four-ply paper or of a suitable plastics material.

Where fibreboard cases are used, a package must not weigh more than 30 kg.

(3) Naphthalene in the melted state [11°(c)] must not be carried otherwise than in tanks.

3. Mixed packing

(1) Substances grouped under the same item number may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question. A package containing celluloid rods and tubes packed together in a textile wrapping must not weigh more than 75 kg.

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(2) If smaller quantities are not prescribed in the section entitled "Packing of a single substance", substances of this Class, in quantities not exceeding 6 kg for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with dangerous substances belonging to other Classes (if mixed packing is likewise allowed in the case of such substances), or with other goods, subject to the following special conditions.

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions contained in marginals 2001 (5) and 2002 (6) and (7) must be observed.

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Special conditions:

2409

| Item No. | Description of substance | Maximum quantity | | Special provisions |
|----------|---|---------------------------|-------------|---|
| | | per receptacle | per package | |
| 2°(a) | Sulphur | 5 kg | 5 kg | Must not be packed together with chlorates, permanganates, perchlorates, or peroxides (other than solutions of hydrogen peroxide) |
| 7°(a) | Weakly-nitrated nitrocellulose (such as collodion cotton) | 100 g | 1 kg | Must not be packed together with substances of Classes 4.2 and 5.1 |
| 8° | Red (amorphous phosphorus) | 5 kg | 5 kg | |
| 8° | Phosphorus sesquisulphide | Mixed packing not allowed | | |

4. Marking and danger labels on packages (see Appendix A.9)

(1) Packages containing substances of 4° to 8° shall bear a label conforming to model No. 2B.

However, if substances of 4° to 7° are packed in wrappings made of closely woven fabric in accordance with marginal 2405 (1) (b) 3., in fibreboard boxes or cases in accordance with marginals 2406 and 2408 (4) (b), in jute bags in accordance with marginal 2407 (1) or in fibreboard drums in accordance with marginal 2408 (1) (a), (2) and 4 (b), the packages shall bear two labels conforming to model No. 2B.

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(3) In the case of consignments carried as a full load, label No. 2B need not be affixed to the packages.

B. Particulars in the transport document

(1) The description of the goods in the transport document must conform to one of the names underlined in marginal 2401. Where the name of the substance is not indicated in the case of 1°, the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials "ADR" or "RID" [e.g. 4.1, 7° (a), ADR].

(2) In the case of cellulosid waste (6°) packed in stout packing paper or in a suitable plastics material and placed, so packed, in bags made of closely-woven raw canvas or jute, the following must be certified in the transport document: "Contains no waste in dust form".

(3) In the case of substances of 7° (b) and (c) packed in fibreboard cases, the following must be certified in the transport document: "Substances free from dust".

(4) In the case of coal dust, lignite dust or peat dust (10°) artificially prepared and packed in wooden receptacles or in bags [see marginal 2411(2)], the following must be certified in the transport document: "Substances completely cooled after drying by heat".

Empty packagings

No provisions.

CLASS 4.2 SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION

1. List of substances

Among the substances and articles covered by the heading of Class 4.2 only those listed in marginal 2431 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

1° White or yellow phosphorus.

2° Compounds of phosphorus with alkali metals or alkali-earth metals, e.g., sodium phosphide, calcium phosphide, strontium phosphide.

Note: Compounds of phosphorus with the so-called heavy metals, such as iron, copper, tin, etc., but with the exception of zinc (zinc phosphide is a substance of Class 6.1 - see marginal 2601 33°), are not subject to the provisions of ADR.

3° Zinc alkyls, magnesium alkyls, aluminium alkyls and halides and hydrides of aluminium alkyls. See also marginal 2431a under (a).

4° Nitrocellulose-film waste, free from gelatine, in reels, sheets or strips.

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Note: Nitrocellulose-film waste free from gelatine is not to be accepted for carriage if it is dusty or includes dusty portions.

5° (a) Used rags and waste;

(b) Greasy or oily fabrics, wicks, cord or thread;

(c) The following greasy or oily substances: wool, hair (and horsehair), artificial wool, reclaimed wool (also called wool shoddy), cotton, recarded cotton, artificial fibres (rayon, etc.), silk, flax, hemp and jute, also in the form of spinning or weaving waste.

For (a), (b) and (c), see also marginal 2431a under (b).

Note: Wetted substances of 5° (b) and (c) are not to be accepted for carriage.

6° (a) Dust and powder of aluminium or zinc and mixtures of dust or powder of aluminium and zinc, also when greasy or oily; powder of zirconium and titanium; dust from blast-furnace filters;

(b) Dust, powder and fine shavings of magnesium and of magnesium alloys with a magnesium content of more than 80 per cent, all free from particles likely to promote ignition;

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(c) The following salts of dithionous (hydrosulphurous) acid (H_2SO_3): dithionites (hydrosulphites) of sodium, potassium, calcium and zinc;

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(d) Metals in a pyrophoric form.

For (a), see also marginal 2431a under (b) and (c); for (b) and (c), see also marginal 2431a under (b).

7° Freshly calcined soot. See also marginal 2431a under (b).

8° Newly-quenched charcoal, powdered, granulated or in lumps.

See also marginal 2431a under (b) and Class 4.1, marginal 2401, 1°.

Note: By "newly-quenched charcoal" is meant:

in the case of charcoal in lumps, charcoal which has been quenched less than four days previously;

in the case of powdered charcoal and of granulated charcoal in a granule size of less than 8 mm, charcoal which has been quenched less than eight days previously and has been air-cooled in thin layers or by a process ensuring an equivalent degree of cooling.

9° Mixtures of granulated or porous combustible substances with constituents still liable to spontaneous oxidation, such as linseed oil or other natural drying oils, boiled or with added drying compounds, resin, resin oil, petroleum residues, etc. (e.g. the substance known as cork waste, lupuline), and oily residues from the bleaching of soya oil.

See also marginal 2431a under (b) and Class 4.1, marginal 2401, 1°.

10° Paper, cardboard and products made of paper or cardboard (e.g. cardboard wrappings and cardboard rings), wood-fibre sheets, skein of thread, fabrics, string, thread, spinning or weaving wastes, are impregnated with oils, greases, natural drying oils, boiled or with added drying compounds or other impregnating substances liable to spontaneous oxidation. See also marginal 2431a under (b) and Class 4.1, marginal 2401, 1°.

Note: Substances of 10° are not to be accepted for carriage if their humidity exceeds the hygroscopic humidity.

2431

11° The substance with an iron oxide base having been used for purifying lighting gas (spent oxide of iron).

Note: If the substance which has been used for purifying lighting gas (spent oxide of iron) is, after storage and aeration, no longer liable to spontaneous ignition, and if this is certified in the transport document by the entry: "Substance not liable to spontaneous ignition", it is not subject to the provisions of ADR.

12° Used yeast bags, uncleaned. See also marginal 2431a under (b).

13° Empty sodium nitrate bags made of a textile fabric.

Note: Textile bags from which all the nitrate impregnating them has been completely removed by washing are not subject to the provisions of ADR.

14° Empty iron drums, uncleaned, and empty tanks, uncleaned, which have contained phosphorus of 1°.

15° Empty receptacles, uncleaned, which have contained substances of 3°.

Note: re 14° and 15°: Empty packagings which have contained other substances of Class 4.2 are not subject to the provisions of ADR.

Dangerous substances handed over for carriage in conformity with the following provisions are subject neither to the provisions for this Class contained in this Annex nor to those contained in Annex B:

2431a

(a) solutions of substances of 3° in a concentration not exceeding 10 per cent in solvents with a boiling point not lower than 95°C, if their condition is such as to exclude any danger of spontaneous ignition and if this is certified in the transport document by the entry: "Substance not liable to spontaneous ignition"; see, however, Class 3;

(b) substances of 5° - 10° and 12° (excluding, however, those of 6° (d)), if their condition is such as to exclude any danger of spontaneous ignition and if this is certified in the transport document by the entry: "Substance not liable to spontaneous ignition"; for the substances of 8° certain substances of 9° and 10°, however, see Class 4.1 marginal 2401, 1°;

(c) dust and powder of aluminium or zinc [6°(a)], e.g. packed together with varnish for use in the manufacture of colours, if packed with care in quantities not exceeding 1 kg.

2. Provisions

A. Packages

1. General conditions of packing

(1) Packagings shall be so closed and arranged as to prevent any loss of the contents.

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(2) The materials of which the packagings and their closures are made, must not be liable to attack by the contents nor form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular, in the case of substances in the liquid state of immersed in a liquid or in solution, receptacles and their closures must, unless the section headed "Packing of a single substance or of articles of the same kind" provides otherwise, be able to withstand any pressure which, the pressure of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage. Solid substances shall be firmly secured in their packagings, and inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled "Packing of a single substance or of articles of the same kind", inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The thickness of the walls must be not less than 3 mm in the case of receptacles which, with their contents, weigh more than 35 kg, and not less than 2 mm in the case of other receptacles.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage.

(5) When receptacles made of glass, porcelain, stoneware of similar materials are prescribed or allowed, they must be secured by cushioning materials in protective packagings.

Cushioning materials shall be suited to the nature of the contents; in particular, they shall be dry and absorbent when the content are liquid or might exude liquid.

2. Packing of a single substance or of articles of the same kind

(1) Phosphorus of 1° shall be packed:

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(a) in leak-proof tin-plate receptacles hermetically closed and placed in wooden cases; or

(b) in sheet-iron drums closing hermetically. Press-on lids shall not be allowed. The sheet-iron constituting the body, bottom and lid shall not be less than 1.5 mm thick. A package must not weigh more than 500 kg. If it weighs more than 100 kg, it shall be fitted with rolling hoops or strengthening ribs, and shall be welded; or

(c) not more than 250 g per receptacle, in hermetically-closed glass receptacles secured by cushioning materials in leak-proof tin-plate receptacles closed by soldering and secured, likewise by cushioning materials, in wooden cases.

(2) Receptacles and drums containing phosphorus shall be filled with water.

(2) Receptacles and drums containing phosphorus shall be filled with water.

(1) Substances of 2° shall be packed in leak-proof tin-plate receptacles hermetically closed and placed in wooden cases.

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(2) Substances of 2° may also be packed, not more than 2 kg per receptacle, in receptacles made of glass, porcelain, stoneware or similar materials, secured by cushioning materials in wooden cases.

(1) Substances of 3° shall be packed in receptacles made either of metal or of glass, porcelain, stoneware or similar materials, hermetically closed. Receptacles must not be filled beyond 90 per cent of their capacity.

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(2) Metal receptacles shall be secured by cushioning materials in protective packagings which, if they are not closed, shall be covered. If the covering consists of readily-inflammable substances, it shall be rendered sufficiently fire-resistant to prevent its catching alight in contact with a flame. If the protective packaging is not closed, the package shall be fitted with means of handling and shall not weigh more than 75 kg.

(3) Receptacles made of glass, porcelain, stoneware or similar materials shall have a capacity of not more than 5 litres and shall be secured by cushioning materials in leak-proof sheet-metal receptacles hermetically closed.

(4) Substances of 3° may also be packed in hermetically-closed drums made of corrosion-resistant steel and having a capacity of not more than 300 litres and a wall thickness of not less than 3 mm. The drums must withstand a test pressure of 10 kg/cm² and satisfy the conditions of marginal 2211 (1) and (2) (b). The closure of the filling and emptying device must be ensured by a protective cap. Receptacles must not be filled beyond 90 per cent of their capacity; however, with the liquid at a mean temperature of 50° C, a free space of 5 per cent must remain for safety purposes. When handed over for carriage, the liquid must be under a layer of inert gas at a pressure not exceeding 0.5 kg/cm². Receptacles shall be tested in conformity with the provisions of marginal 2216 (2) and (3). The tests shall be repeated every 5 years. The receptacles shall bear the following particulars in clearly legible and indelible characters:

1. the name of the substance in full, the name or mark of the maker or owner, and the number of the receptacle;

2. the tare of the receptacle, including fittings and accessories;

3. the test pressure, the date (month, year) of the last test undergone, and the stamp of the expert who carried out the tests and inspections;

4. the capacity of the receptacle and the maximum filling allowed;

5. the wording: «Do not open during carriage; liable to spontaneous ignition».

A package must not weigh more than 400 kg.

(1) Substances of 4° shall be packed in bags placed in drums made of impermeable fibreboard or in receptacles

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made of zinc sheet or aluminium sheet. The sides of metal receptacles shall be lined with fibreboard. The bottoms and lids of fibreboard drums and metal receptacles shall be lined with wood.

(2) Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm²; the presence of these closures or safety devices must impair the strength of the receptacle nor impair its closure.

(3) A package must not weigh more than 75 kg.

(1) Substances of 5° (a) shall be tightly compressed and be placed in leak-proof metal receptacles.

(2) Substances of 5° (b) and (c) shall be tightly compressed and be packed either in wooden or fibreboard cases or in paper or textile wrappings firmly secured.

(1) Substances of 6o (a) shall be enclosed in tightly-closing leak-proof receptacles made of wood or metal. However, zirconium shall be enclosed only in metal or glass receptacles, which shall be secured by cushioning materials in strong wooden cases. If the cushioning materials are inflammable, they shall be fireproofed.

(2) Substances of 6o (b) shall be enclosed in tightly-closing leak-proof iron drums or in wooden cases with a sheet-metal lining rendered leak-proof (by soldering, for example) or in boxes made of tin-plate or thin aluminium sheet and so closing as to be leak-proof; these drums, cases or boxes shall be placed in wooden cases. For substances of 6o (b) handed over individually for carriage in boxes made of tin-plate or aluminium sheet, a wrapping of corrugated fibreboard will suffice instead of a wooden case; a package of this nature must not weigh more than 12 kg.

(3) Substances of 6o (c) shall be packed in air-tight sheet-metal receptacles or air-tight iron drums. In the case of sheet-metal receptacles, a package must not weigh more than 50 kg.

(4) Substances of 6o (d) shall be packed in receptacles made of metal, glass or a suitable plastics material and so closing as to be gas-tight. The stoppers used for closure shall be held in position by an additional device (such as a cap, crown, seal or binding) capable of preventing any loosening during carriage. The substances shall be dispatched under a protective liquid (such as methanol) or a protective gas.

Metal receptacles shall be placed in a wooden packing case. A package must not weigh more than 50 kg.

Glass receptacles shall be secured by cushioning materials in fibreboard or metal packagings; the cushioning materials must be incombustible. Receptacles made of a plastics material shall be placed in fibreboard or metal packagings. Packagings containing receptacles made of glass or a plastics material shall be placed in a wooden packing case. A package must not weigh more than 25 kg.

Substances of 7o - 10o and 12o shall be enclosed in tightly-closing packages. Wooden packagings used for substances of 7o and 8o shall be provided with a leak-proof lining.

The substance having been used for purifying lighting gas (spent oxide of iron) (11o) shall be packed in tightly-closing sheet-metal receptacles.

Empty sodium nitrate bags (13o) shall be made up into tightly-packed bundles securely fastened with string and placed either in a wooden case or in a wrapping consisting either of several thicknesses of stout paper or of waterproofed fabric.

3. Mixed packing

(1) Substances grouped under the same item number may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question.

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance or of articles of the same kind substances of this Class, in quantities not exceeding 6 kg in the case solids or 3 litres in the case of liquids for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with dangerous substances delonging to other Classes (if mixed packing is likewise allowed in the case of such substances), or with other goods, subject to the following special conditions.

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions of marginal 2001 (5) and 2002 (6) and (7) must be observed.

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Special conditions:

| Item No. | Description of substance | Maximum quantity | | Special provisions |
|-------------------------------|--|---------------------------|-------------|---|
| | | per receptacle | per package | |
| 1o | White or yellow phosphorus | Mixed packing not allowed | | |
| 2o | Phosphides | | | |
| 3o | Zinc alkyls, etc. | | | |
| 6o (a) (b) and (d) | Dust and powder of aluminium or zinc | 3 kg | 3 kg | Must not be packed together with weakly-nitrated nitrocellulose and red phosphorus of Class 4.1, nor with bifluorides |
| | Dust, powder and fine shavings of magnesium Metals in a pyrophoric form | | | |
| 4o, 5o, 6o (c) 7o - 12o | all substances | | | |

4. Marking and danger labels on packages (See Appendix A.9)

(1) Packages containing substances of 1o to 4o or 6o shall bear a label conforming to model No. 2C.

However, if substances of 4o are packed in drums made of impermeable fibreboard in conformity with marginal 2436 (1), the packages, shall bear two labels conforming to model No. 2C.

(2) Drums containing phosphorus of 1o and having a screw-cap lid shall, unless they are fitted with a device maintaining them upright, bear in addition, high up in two diametrically opposite places, two labels conforming to model No. 8.

(3) Packages containing fragile receptacles not visible from the outside shall bear labels conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(4) In the case of consignments carried as a full load, label No. 2C as prescribed under (1), need not be affixed to the packages if the vehicle bears the marking prescribed in Annex B, marginal 10500.

B. Particulars in the transport document

The description of the goods in the transport document must conform to one of the names underlined in marginal 2431. Where the name of the substance is not indicated in the case of 2°, 3°, 9° and 10°, the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g. 4.2,5° (a), ADR].

C. Empty packagings

(1) Receptacles and tanks of 14o and receptacles of 15o must be closed in the same manner and leak-proof in the same degree as though they were full.

(2) The description in the transport document must be: «Empty receptacle (or empty tank), 4.2, 14o (or 15o), ADR (or RID)». This description must be underlined in red.

CLASS 4.3 SUBSTANCES WHICH GIVE OFF INFLAMMABLE GASES ON CONTACT WITH WATER

1. List of substances

Among the substances and articles covered by the heading of Class 4.3 only those listed in marginal 2471 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of DR.

1° (a) Alkali and alkaline-earth metals, e.g. sodium, potassium, calcium, as well as alkali metal alloys, alkaline-earth metal alloys and alloys of alkali and alkaline-earth metals;

(b) alkali-metal amalgams and alkaline-earth metal amalgams;

(c) alkali-metal dispersions.

2° (a) Calcium carbide and aluminium carbide

(b) alkali-metal and alkaline-earth metal hydrides (e.g. lithium hydride, calcium hydride), mixed hydrides, and boron hydrides and aluminium hydrides of alkali metals and alkaline-earth metals;

(c) alkali silicides;

(d) calcium silicide, in powder, grains or lumps, containing more than 50 per cent silicon, manganese calcium silicide (silicomanganese-calcium);

(e) alloys of magnesium with manganese.

3° Amides of alkali metals and alkaline-earth metals,

e.g. sodamide (sodium amide). See also marginal 2471a.

Note: Calcium cyanamide is not subject to the provisions of DR.

4° Trichlorosilane (silicoclchloroform).

5° Empty receptacles, uncleaned, and empty tanks, uncleaned, which have contained substances of Class 4.3.

Sodamide (3°) in quantities not exceeding 200 g per package is not subject to the provisions for this Class contained in this Annex or in Annex B if it is packed in receptacles which are so closed as to be leak-proof and which cannot be attacked by the contents, and if these receptacles are packed with care in a strong, leak-proof wooden packaging with a leak-proof closure.

2. Provisions

A. Packages

1. General conditions of packing

(1) Packagings shall be so closed and leak-proof as to prevent the ingress of moisture and any loss of the contents.

(2) The materials of which the receptacles and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith. Receptacles must in all cases be free from moisture.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular, in the case of solids immersed in a liquid, receptacles and their closures must, unless the section headed «Packing of a single substance» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage. Solid substances shall be firmly secured in their packagings, and inner packagings shall be firmly secured in outer packagings.

Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The thickness of the walls must in no case be less than 2 mm.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage.

35) Cushioning materials shall be suited to the nature of the contents.

2. Packing of a single substance

(1) Substances of 1o shall be packed:

(a) in receptacles made of sheet-iron, lead-lined sheet-iron or tin-plate. For substances of 1o (b), however, receptacles made of lead-lined sheet-iron or of tin-plate are not to be accepted. These receptacles, with the exception of iron drums, must be placed in wooden packing cases or in protective iron hampers; or

(b) not more than 1 kg per receptacle, in receptacles made of glass or stoneware. Not more than 5 of these receptacles shall be packed in a wooden packing case having a leak-proof lining of ordinary sheet-iron, lead-lined sheet-iron, or tin-plate, assembled by soldering. For glass receptacles containing quantities not exceeding 250 g, the lined wooden case may be replaced by an outer receptacle made of ordinary sheet-iron, lead-lined sheet-iron, or tin-plate. Glass receptacles shall be secured in the outer packagings by incombustible cushioning materials.

(2) If a substance of 1o (a) is not packed in a welded metal receptacle with a lid hermetically closed by soldering, then:

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(a) it must be completely covered by mineral oil whose flash-point is above 50° C, or be sufficiently sprinkled to ensure that the lumps are coated with this oil; or

(b) the air in the receptacle must be completely replaced by a protective gas (e.g. nitrogen) and the receptacle so closed as to be gas-tight; or

(c) the substance must be poured into the receptacle, which must be filled to the brim and so closed, after cooling, as to be gas-tight.

(3) Iron receptacles must have sides not less than 1.25 mm thick. If, with their contents, they weigh more than 75 kg, they must be hard-soldered or welded. If they weigh more than 125 kg, they must in addition be fitted with end and rolling hoops or with rolling flanges.

(1) Substances of 2^o shall be packed:

(a) in receptacles made of sheet-iron, lead-lined sheet-iron or tin-plate. For substances of 2^o (b) and (c) a receptacle must not contain more than 10 kg. Those receptacles, with the exception of iron drums, must be placed in wooden packing cases or in protective iron hampers; or

(b) not more than 1 kg per receptacle, in receptacles made of glass or stoneware or of a suitable plastics material. Not more than 5 of these receptacles shall be packed in a wooden packing case with a leak-proof lining of ordinary sheet-iron, lead-lined sheet-iron or tin-plate, assembled by soldering. For glass receptacles containing quantities not exceeding 250 g, the lined wooden case may be replaced by an outer receptacle made of ordinary sheet-iron, lead-lined sheet-iron or tin-plate. Glass receptacles shall be secured in the packing cases by incombustible cushioning materials.

(2) A package must not weigh more than 75 kg if it contains substances of 2^o (b) or (c) and not more than 125 kg if it contains substances of 2^o (d) or (e).

Amides (3^o) shall be packed, not more than 10 kg per box or drum, in hermetically-closed metal boxes or drums, which shall be placed in wooden cases. A package must not weigh more than 75 kg.

(1) Trichlorosilane (4^o) must be packed in receptacles made of corrosion-resistant steel and having a capacity

not exceeding 500 litres. The receptacles must be hermetically closed; the closing device must be specially protected by a cap. The receptacles must be constructed as pressure vessels for a working pressure of 4 kg/cm² and be tested in conformity with the regulations governing pressure vessels in force in the country of departure. Receptacles with a capacity not exceeding 250 litres must have a wall thickness of not less than 2.5 mm, and those with a higher capacity a wall thickness of not less than 3 mm.

(2) If filling is based on weight, the degree of filling must not exceed 1.14 kg/l. If it is carried out by visual check, the degree of filling shall not exceed 84.5 per cent.

3. Mixed packing

(1) The substances grouped under the same item number may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question.

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance», substances of this Class, in quantities not exceeding 6 kg in the case of solids or 3 litres in the case of liquids for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with dangerous substances belonging to other Classes (if mixed packing is likewise permitted in the case of such substances), or with other goods, subject to the following special conditions.

Class 4.3

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions contained in marginals 2001(5) and 2002(6) and (7) must be observed.

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Special conditions:

| Item No. | Description of substance | Maximum quantity per receptacle | | per package | Special provisions |
|----------|---|---------------------------------------|--|-------------------|---|
| 1°(a) | Alakli and alkaline - earth metals (e.g. sodium, potassium, calcium, barium) - in fragile receptacles - in other receptacles | 500 g 1 kg | | 500 g 1 kg | The limits of 500 g or 1 kg apply to alkali metals and alkaline - earth metals of 1°(a), and to alkali metal and alkaline - earth metal hydrides of 2°(b), in respect of the aggregate weight of these substances. Alkali metals and alkaline - earth metals, and substances of 2° (b), may not be packed together with acids, nor with liquids containign water. |
| 2°(a) | Calcium carbide | Mixed packing not allowed | | | |
| 2°(b) | Alkali metal and alkaline - earth metal hydrides (e.g. lithium hydride, calcium hydride), mixed hydrides, boron hydrides and aluminium hydrides - in fragile receptacles - in other receptacles | 500 g 1 kg | | 500 g 1 kg | |
| 4° | Trichlorosilane | Mixed packing not allowed | | | |

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4. Marking and danger labels on packages (see Appendix A.9)

(1) Every package containing substances of Class 4.3 shall bear a label of model No. 2D and a label conforming to model No. 7.

(2) Every package containing trichlorosilane of 4° shall bear in addition a label conforming to model No. 2A.

(3) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No.8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

B. Particulars in the transport document

The description of the goods in the transport document must conform to one of the names underlined in marginal 2471. Where the name of the substance is not indicated in the case of 1°, the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g.4.3 2°(a), ADR].

C. Empty packagings

(1) Receptacles and tanks of 5o must be closed in same manner and be leak-proof in the same degree as though they were full.

(2) The description in the transport document must be: «Empty receptacle (or empty tank), 4.3. 5°, ADR (or RID)». This description must be underlined in red.

CLASS 5.1 OXIDIZING SUBSTANCES

1. List of substances

Among the substances and articles covered by the heading of Class 5.1, those listed in marginal 2501 are subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

Note: Unless specifically listed in class 1a or Class 1c, mixtures of oxidizing substances with combustible substances are not to be accepted for carriage if they are capable of exploding on contact with a flame or are more sensitive to shock and to friction than dinitrobenzene.

1o Stabilized, aqueous solutions of hydrogen peroxide containing more than 60 per cent hydrogen peroxide, and stabilized hydrogen peroxide.

Note: 1. For aqueous solutions of hydrogen peroxide containing not more than 60 per cent hydrogen peroxide, see marginal 2801, 41°.

2. Aqueous solutions of hydrogen peroxide containing more than 60 per cent hydrogen peroxide, not stabilized, and hydrogen peroxide, not stabilized, are not to be accepted for carriage.

2o Totranitromethane, free from combustible impurities.

Note: Tetranitromethane not free from combustible impurities is not to be accepted for carriage.

3° Perchloric acid in aqueous solutions containing more than 50 per cent but not more than 72.5 per cent perchloric acid (HClO₄).

See also marginal 2501a, under (a).

Note: Perchloric acid in aqueous solutions containing not more than 50 per cent perchloric acid (HClO₄) in a substance of Class 8 (see marginal 2801, 4°). Aqueous solutions of perchloric acid containing more than 72.5 per cent perchloric acid are not to be accepted for carriage; the same applies to mixtures of perchloric acid with any liquid other than water.

4o (a) Chlorates; inorganic chlorate weed - killers consisting of mixtures of sodium chlorate, potassium chlorate

of calcium chlorate with a hygroscopic chloride (such as magnesium chloride or calcium chloride);

Note: Ammonium chlorate is not to be accepted for carriage.

(b) perchlorates (with the exception of ammonium perchlorate, see 5°)

(c) sodium and potassium chlorites;

(d) mixtures of chlorates perchlorates and chlorites of (a), (b) and (c) with one another.

For (a), (b), (c) and (d), see also marginal 2501a, under (b).

5° Ammonium perchlorate. See also marginal 2501a, under (b).

6° (a) Ammonium nitrate not containing combustible substances in a higher proportion than 0.4 per cent;

Note: Ammonium nitrate containing more than 0.4 per cent combustible substances is not to be accepted for carriage unless it is a constituent of an explosive of 12° or 14o of marginal 2101.

(b) mixtures of ammonium nitrate with ammonium sulphate or ammonium phosphate containing more than 40 per cent nitrate but not more than 0.4 per cent combustible substances;

(c) mixtures of ammonium nitrate with an inert substance (e.g. infusorial earth, calcium carbonate, potassiumchloride) containing more than 65 per cent nitrate but not more than 0.4 per cent combustible substances.

For (a), (b), see also marginal 2501a, under (b).

Note: 1. Mixtures of ammonium nitrate with ammonium sulphate or ammonium phosphate containing not more than 40 per cent nitrate, and mixtures of ammonium nitrate with an inert inorganic substance containing not more than 65 per cent nitrate, are not subject to the provisions of ADR.

2. In the mixtures referred to under (c), only inorganic substances which are neither combustible nor oxidizing may be considered as inert.

3. Compound fertilizers in which the total content of nitrogen as nitrate and as ammonia does not exceed 14 per cent or in which the nitrogen content as nitrate does not exceed 7 per cent are not subject to the provisions of ADR.

7° (a) Sodium nitrate;

(b) mixture of ammonium nitrate with nitrates of sodium, potassium, calcium or magnesium;

(c) barium nitrate, lead nitrate.

For (a), (b) and (c), see also marginal 2501a, under (b).

Note: 1. If they do not contain more than 10 per cent ammonium nitrate, mixtures of ammonium nitrate with calcium nitrate or with magnesium nitrate or with both are not subject to the provisions of ADR.

2. Empty textile bags which have contained sodium nitrate and have not been entirely freed from the nitrate impregnating them are articles of Class 4.3 (see marginal 2431, 13°).

8° Inorganic nitrites. See also marginal 2501a, under (b).

Note: Ammonium nitrite and mixtures of an inorganic nitrite with an ammonium salt are not to be accepted for carriage.

9° (a) Peroxides of alkali metals and mixtures containing peroxides of alkali metals which are not more dangerous than sodium peroxide;

(b) dioxides and other peroxides of alkaline - earth metals, e.g. barium dioxide;

(c) permanganates of sodium, potassium, calcium and barium.

For (a), (b) and (c), see also marginal 2501a, under (b).

Note: Ammonium permanganate, and mixtures of a permanganate with an ammonium salt, are not to be accepted for carriage.

10° Chromic trioxide (chromic anhydride; also called chromic acid).

See also marginal 2501a, under (b).

11° Empty packagings, uncleaned, and empty tanks, uncleaned, which have contained substances of Class 5.1.

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Note: Empty packagings and empty tanks, which have contained a chlorate, a perchlorate, a chlorite (4° and 5°), an inorganic nitrite (8°) or substances of 9° and 10°, with residues from their previous contents adhering to the outside, are not to be accepted for carriage.

Class 5.1

Substances handed over for carriage in conformity with the following provisions are subject neither to the provisions for this Class contained in this Annex nor to those contained in Annex B.

(a) substances of 3o, in quantities not exceeding 200 g per receptacle, on condition that they are packed in receptacles so closed as to be leak-proof and not capable of being attacked by the contents, and that receptacles are packed, not more than 10 per case, in a wooden case with inert absorbent cushioning materials;

(b) substances of 4°-10°, in quantities not exceeding 10 kg, packed not more than 2 kg per receptacle in receptacles so closed as to be leak-proof and not capable of being attacked by the contents, these receptacles being enclosed in strong, leak - proof packagings made of wood or sheet - metal and having leak - proof closures.

2. Provisions

A. Packages

1. General conditions of packing

(1) Receptacles shall be so closed and arranged as to prevent any loss of the contents.

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents, or cause the contents to decompose, or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular, where substances are in the liquid state, receptacles and their closures must, unless the section headed «Packing of a single substance» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage. Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength, in particular, internal stresses must have been suitably relieved. The walls must be not less than 3 mm thick in the case of receptacles weighing, with their contents, more than 35 kg and not less than 2 mm in the case of other receptacles.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage.

(5) When receptacles made of glass, porcelain, stoneware or similar materials are prescribed or allowed, they must be secured by cushioning materials in protective packagings. Cushioning materials must be incombustible (asbestos, glass wool, absorbent earth, infusorial earth, etc.) and incapable of forming dangerous compounds with the contents of the receptacles. If the contents are liquid, the cushioning materials shall also be absorbent and proportionate in quantity to the volume of the liquid; this interior absorbent layer must not, however, be less than 4 cm thick at any point.

(1) Aqueous solutions of hydrogen peroxide, and hydrogen peroxide of 1o, shall be packed in drums or other

receptacles made of aluminium of at least 99.5 per cent purity or of special steel not liable to cause the hydrogen peroxide to decompose. These receptacles shall be fitted with means of handling; they must be able to remain upright in a stable fashion and must:

(a) be fitted in their upper part with a closing device ensuring equality of the internal and the atmospheric pressure; this closing device must in all circumstances prevent any escape of the liquid and any entry of foreign matter into the receptacle and must be protected by a vented cap; or

(b) be able to withstand an internal pressure of 2.5 kg/cm² and be fitted in the upper part with a safety device yielding when the excess of internal pressure is 1 kg/cm² at most.

(2) Receptacles shall not be filled beyond 90 per cent of their capacity.

(3) A package must not weigh more than 90 kg.

Tetranitromethane (2o) shall be contained in bottles made of glass, porcelain, stoneware or similar materials or of a suitable plastics material, with incombustible stoppers, placed inside a wooden case with complete sides; fragile receptacles shall be secured therein by absorbent - earth cushioning. Receptacles shall not be filled beyond 93 per cent of their capacity.

Perchloric acid in aqueous solutions (3o) shall be contained in glass receptacles, which shall be filled to not more than 93 per cent of their capacity. The receptacles shall be secured by absorbent and incombustible cushioning materials in incombustible protective packagings impermeable to liquids and capable of retaining the contents of the receptacles. The closure of the receptacles shall be protected by caps if the protective packagings are not completely closed.

Glass bottles closed by glass stoppers may also be secured by absorbent and incombustible cushioning materials in wooden cases with complete sides.

Packages containing fragile receptacles and carried otherwise than as a full load must not weigh more than 75 kg and shall be fitted with means of handling.

(1) Substances of 4° and 5° and solutions of substances of 4° shall be packed in receptacles made of glass, of a suitable plastics material, or of metal; solid substances of 4° (b) may also be enclosed in hardwood casks.

(2) Fragile receptacles and receptacles made of a plastics material must be secured by cushioning materials in wooden or metal protective packagings. They may also be secured separately by incombustible cushioning materials in non-fragile intermediate receptacles which must in, turn be firmly placed or secured by cushioning materials in protective packagings. Each receptacle must contain not more than 5 kg of substance. In the case of receptacles whose contents are liquid, the cushioning materials must be absorbent.

(3) In the case of receptacles made of a plastics material and containing solutions of substances of 4o, the protective packagings may be dispensed with if the walls are not less than 4 mm thick at every point, the walls are strengthened by strong reinforcing rims, the ends are strengthened, the upper part is provided with two strong handholds, and the opening is fitted with a screw-threaded closure.

(4) Receptacles for liquids shall not be filled beyond 95 per cent of their capacity.

(5) Packages containing fragile receptacles or receptacles made of a plastics material [see (2) and (3)], if they contain liquids, and packages containing fragile receptacles or receptacles made of a plastic material [see (2)], if they contain only solid substances and are carried otherwise than as a full load, must not weigh more than 75 kg. Packages carried otherwise than as a full load shall be fitted with means of handling.

(6) Packages which can be rolled must not weigh more than 400 kg; if they weigh more than 275 kg they shall be fitted with rolling hoops.

(7) Receptacles containing solid chlorates other than those referred to under (8) must not contain any combustible material other than a small pad of waxed paper.

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(8) If the chlorate is in the form of tablets, with or without a suitable binder, and is packed in bottles containing not more than 200 g, a sufficient quantity of cotton-wool may be used to prevent excessive movement of the tablets in the bottle. The bottles shall be packed in fibreboard boxes placed in an intermediate packaging separate from the outer packaging. An intermediate packaging may not contain more than 1 kg or a package more than 6 kg of chlorate.

(1) Substances of 6°, 7°, and 8° shall be packed:

(a) in drums or cases; or

(b) in strong bags made of closely-woven fabric or of stout paper of at least five plies or, in quantities not exceeding 50 kg, in bags made of a suitable plastics material sufficiently thick and strong to prevent any loss of the contents.

If the substance is more hygroscopic than sodium nitrate, bags made of closely-woven fabric or of stout paper of five plies must be lined with a suitable plastics material or be rendered impermeable by suitable means.

Packages which can be rolled must not weigh more than 400 kg; if they weigh more than 275 kg they shall be fitted with rolling hoops.

(1) Substances of 9° (a) shall be packed:

(a) in steel drums; or

(b) in receptacles made of sheet-metal, lead-lined sheet-iron, or tinplate, secured in wooden packing cases having a metal lining rendered leak-proof, e.g. by soldering.

When carried as a full load, substances of 9°(a) may be packed in tin-plate receptacles placed solely in protective iron hampers.

(2) Receptacles containing substances of 9°(a) must be so closed and leak-proof as to prevent moisture from entering.

(3) Substances of 9°(b) and (c) shall be packed:

(a) in incombustible receptacles fitted with an incombustible hermetic closure. If the incombustible receptacles are fragile, each shall be secured separately by cushioning materials in a wooden case lined with stout paper; or

(b) in hardwood casks with closely-fitting stave, lined with stout paper.

(4) Packages containing fragile receptacles and carried otherwise than as a full load must not weigh more than 75 kg and shall be fitted with means of handling.

Packages capable of rolling must not weigh more than

400 kg; they must be fitted with rolling hoops if they weigh more than 275 kg.

(1) Chromium trioxide (10°) shall be packed;

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(a) in receptacles made of glass, porcelain, stoneware or similar materials, tightly stoppered, and secured in a wooden case by inert and absorbent cushioning materials; or

(b) in metal drums.

(2) Packages containing fragile receptacles carried otherwise than as a full load must not weigh more than 75 kg and shall be fitted with means of handling.

Packages capable of rolling must not weigh more than 400 kg; they must be fitted with rolling hoops if they weigh more than 275 kg.

3. Mixed packing

(1) Substances grouped under the same letter may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question.

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(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance», substances of this Class, in quantities not exceeding 6 kg in the case of solids or 3 litres in the case of liquids for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with dangerous substances belonging to other classes (if mixed packing is likewise allowed in the case of such substances), or with other goods, subject to the following special conditions.

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Class 5.1

The inner packaging must satisfy the general and special conditions of packing. In addition, the general provisions of marginals 2001 (5) and 2002 (6) and (7)) must be observed.

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A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Special conditions:

| Item No. | Description of substance | Maximum quantity | | Special provisions |
|----------|--|------------------|--------------|---|
| | | per receptacle | per package | |
| 1o | Hydrogen peroxide and aqueous solutions of hydrogen peroxide containing more than 60% hydrogen peroxide. | Mixed packing | not allowed. | |
| 2o | Tetranitromethane | | | |
| 3o | Perchloric acid | | | |
| 4o | Solutions of substances of 4o | | | |
| 4o(a) | Chlorates | | | Must not be packed together with weakly nitrated |
| | -in fragile receptacles | 1 kg | 2.75 kg | nitrocellulose, red phosphorus, |
| | -in other receptacles | 5 kg | 5 kg | bifluorides, liquid halogenated irritants, hydrochloric acid, sulphuric acid, chlorosulphonic acid, acetic acid, benzoic acid, salicylic acid, formic acid, nitric acid, free sulphonic acids, mixed nitrating acids, sulphur, hydrazine. Must be separated from uncombined carbon. |

| Item No. | Description of substance | Maximum quantity | | Special provisions |
|----------------------|---|------------------|----------------|--|
| | | per receptacle | per package | |
| | | | | (in any form), hypophosphites, ammonia and its compounds, triethanolamine, aniline, xylidine, toluidine, or inflammable liquids having a flash-point below 21 °C. |
| 4o(b) and 5o | Perchlorates | 5 kg | 5 kg | Must not be packed together with weakly-nitrated nitrocellulose, red phosphorus, bibluorides, liquid halogenated irritants, hydrochloric acid, sulphuric acid, chlorosulphonic acid, nitric acid, mixed nitrating acids, aniline, pyridine, xylidine, toluidine, sulphur, hydrazine |
| 4o(c) and 6o, 7o, 8o | All substances | | | Must not be packed together with weakly-nitrated nitrocellulose or red phosphorus. |
| 9o(a) and (b) | Peroxides -in fragile receptacles -in other receptacles | 500 g 5 kg | 2.5 kg 5 kg | Same substances prohibited as in the case of perchlorates, and also: aluminium dust, powder or granules, acetic acid; aqueous liquids, inflammable liquids of Classes 3 and 6.1 substances of Class 4.1; metallic peroxides must not be packed in the same package with solutions of hydrogen peroxide. The limitation of 2.5 kg applies to peroxides of 9o(a) and (b) for all of these substances. The use of sawdust or other organic filling materials is prohibited. |
| 9o(c) | Permanganates | 5 kg | 5 kg | Same substances prohibited as in the case of chlorates, and also: solutions of hydrogen peroxide, glycerine, glycols. Must be separated from the same substances as indicated in the case of chlorates. |
| 10o | Chromic anhydride (chromic acid) | 4.5 kg | 4.5 kg | The use of sawdust or other organic filling materials is prohibited. |

Class 5.1

4. Marking and danger labels on packages (see Appendix A.9)

(1) Packages containing substances of Class 5.1 shall bear a label of model No. 3. However, packages containing substances of 1o to 5o or 8o to 10o shall bear two labels conforming to model No.3.

Packages containing substances of 3o shall in addition bear a label conforming to model No. 5.

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(3) In the case of consignments carried as a full load, labels Nos. 3 and 5, as prescribed under (1), need not be affixed to the packages if the vehicle bears the marking prescribed in Annex B, marginal 10 500.

B. Particular in the transport document

The description of the goods in the transport document must conform to one of the names underlined in marginal 2501; it must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g. 5.1, 4o (a) ADR]

C. Empty packagings

(1) Packagings and tanks of 11o must be closed in the same manner and leak-proof in the same degree as though they were full.

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(2) The description in the transport document must be: «Empty packaging, 5.1, 11°, ADR (or RID)». This description must be underlined in red.

(3) Empty textile bags, uncleaned, which have contained sodium nitrate [7o (a)] are subject to the provisions of Class 4.2 (see marginal 2441).

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2549CLASS 5.2
ORGANIC PEROXIDES

1. List of substances

Among the substances and articles covered by the heading of Class 5.2, only those listed in marginal 2551 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

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Note: Organic peroxides which may explode on contact with a flame or which are more sensitive to shock and to friction than dinitrobenzene are not to be accepted for carriage unless they are specifically listed in Class 1a (see marginal 2101, 10o and Appendix A.1, marginal 3112; also marginal 2551, Group E, below).

Group A

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1o Ditertiary butyl peroxide.

2o Tertiary butyl hydroperoxide with not less than 20 per cent ditertiary butyl peroxide and not less than 20 per cent phlegmatizer.

Note: Tertiary butyl hydroperoxide with not less than

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20 per cent ditertiary butyl peroxide but without phlegmatizer is listed under 31o.

3o Tertiary butyl peracetate with not less than 30 per cent phlegmatizer.

4o Tertiary butyl perbenzoate.

5o Tertiary butyl permaleate with not less than 50 per cent phlegmatizer.

6o Ditertiary butyl diperphthalate with not less than 50 per cent phlegmatizer.

7o 2,2-bis (tertiary butyl peroxy) butane with not less than 50 per cent phlegmatizer.

8o Benzoyl peroxide:

(a) with not less than 10 per cent water;

(b) with not less than 30 per cent phlegmatizer.

Class 5.2

Notes: 1. Benzoyl peroxide in the dry state or with less than 10 per cent water or less than 30 per cent phlegmatizer is a substance of Class 1a [see marginal 2101 10o (a)].

2. Benzoyl peroxide containing not less than 70 per cent dry and inert solids is not subject to the provisions of ADR.

9o Cyclohexanone peroxides [1-hydroxy-1-hydroperoxydicyclohexyl peroxide and bis (1-hydroxycyclohexyl) peroxide and mixtures of these two compounds]:

(a) with not less than 5 per cent water;

(b) with not less than 30 per cent phlegmatizer.

Notes: 1. Cyclohexanone peroxides and their mixtures in the dry state or with less than 5 per cent water or less than 30 per cent phlegmatizer are substances of Class 1a [see marginal 2101, 10o (b)].

2. Cyclohexanone peroxides and their mixtures containing not less than 70 per cent dry and inert solids are not subject to the provisions of ADR.

10o a, a - Dimethylbenzyl hydroperoxide (cumyl hydroperoxide) with a peroxide content not exceeding 95 per cent.

11o Dilauroyl peroxide.

12o 1, 2, 3, 4-Tetrahydro-1-naphthyl hydroperoxide.

13o 2,4-Dichlorobenzoyl peroxide:

(a) with not less than 10 per cent water;

(b) with not less than 30 per cent phlegmatizer.

14o p-Menthanyl hydroperoxide with a peroxide content not exceeding 95 per cent (remainder alcohols and ketones).

15o 2,6,6-Trimethyl norpinanyle hydroperoxide (pinanyle hydroperoxide; pinane hydroperoxide) with a peroxide content not exceeding 95 per cent (remainder: alcohols and ketones).

16o Di-(a, a - dimethylbenzyl) peroxide with a peroxide content not exceeding 95 per cent.

Note: Di-(a, oc-dimethylbenzyl)

Dicumyl peroxide containing 60 per cent or more dry and inert solids is not subject to the provisions of ADR.

Class 5.2

17o Parachlorobenzoyl peroxide:

(a) with not less than 10 per cent water;

(b) with not less than 30 per cent phlegmatizer.

Note: 1. Parachlorobenzoyl peroxide in the dry state or with less than 10 per cent water or less than 30 per cent phlegmatizer is a substance of Class 1a [see marginal 2101, 10o(c)].

2. Parachlorobenzoyl peroxide containing 70 per cent or more dry and inert solids is not subject to the provisions of ADR.

18o Di-isopropylbenzene hydroperoxide (isopropylcumyl hydroperoxide) with 45 per cent of a mixture of alcohol and ketone.

19o 4-Methylpentan-2-one peroxide (isobutylmethylketone peroxide) with not less than 40 per cent phlegmatizer.

20o Tertiary butyl (a, a-1-dimethylbenzyl) peroxide with not more than 95 per cent peroxide.

21o Diacetyl peroxide with not less than 75 per cent phlegmatizer.

22o Acetyl benzoyl peroxide with not less than 60 per cent phlegmatizer.

Note: re 1o to 22o. Substances which are inert to organic peroxides and have a flash-point not lower than 100°C and a boiling-point not lower than 150°C are deemed to be phlegmatizing substances. Substances of Group A may also be diluted with solvents which are inert to these substances.

Group B

30o Butanone peroxide (ethyl methyl ketone peroxide):

(a) with not less than 50 per cent phlegmatizer;

(b) in solutions containing not more than 12 per cent of this peroxide in solvents which are inert to it.

31o Tertiary butyl hydroperoxide:

(a) with not less than 20 per cent tertiary butyl peroxide, without phlegmatizer;

(b) in solutions containing not more than 12 per cent of this hydroperoxide in solvents which are inert to it.

Class 5.2

Note: re 30o and 31o. Substances which are inert to organic peroxides and have a flash-point not lower than 100°C and a boiling-point not lower than 150°C are deemed to be phlegmatizing substances.

Group C

35o Peracetic acid containing not more than 40 per cent peracetic acid and not less than 45 per cent acetic acid and not less than 10 per cent water.

Note: re Groups A, B and C. Mixtures of products listed in Groups A, and C are to be accepted for carriage subject to the conditions laid down for Group C if they contain peracetic acid, and in other cases subject to the conditions laid down for Group B.

Group D

40o Samples of phlegmatized organic peroxides not listed in Groups A, B or C, or of their solutions, are to be accepted in quantities not exceeding 1 kg per package on condition that their stability in storage is at least equal to that of the substances listed in Groups A and B.

Group E

Note: Group E comprises organic peroxides which decompose easily at normal temperatures and must therefore be carried only under conditions of adequate refrigeration. Although of an explosive nature as defined by the Note on Class 5.2, a few organic peroxides are included in Group E because they can be safely carried in a refrigerated state and in order to avoid any confusion regarding their handling.

45o Diocetanoyl peroxide (dicaprylyl 1 peroxide) of technical purity.

46o Acetyl cyclohexane sulphonyl peroxide:

(a) containing not less than 30 per cent water;

(b) in solution with not less than 80 per cent solvent;

(c) in solution with not less than 70 per cent phlegmatizer.

47o Diisopropyl peroxydicarbonate:

(a) of technical purity;

(b) in solution with not less than 50 per cent phlegmatizer or solvent.

Class 5.2

48o Dipropionyl peroxide in solution with not less than 75 per cent solvent.

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49o Tertiary butyl perpivalate:
(a) of technical purity;
(b) in solution with not less than 25 per cent phlegmatizer or solvent.

50o Bis-(3,5,5-trimethylhexanoyl) peroxide in solution with not less than 20 per cent phlegmatizer.

51o Dipelargonyl peroxide of technical purity.

52o Tertiary butyl per-2-ethylhexanoate of technical purity.

53o Di-2-ethylhexyl-peroxydicarbonate in solution with not less than 55 per cent phlegmatizer or solvent.

54o Didecanyl peroxide of technical purity.

55o Tertiary butyl perisobutyrate in solution with not less than 25 per cent solvent.

Notes: 1. Substances which are inert to organic peroxides and have a flash-point not lower than 100°C and a boiling point not lower than 150°C are deemed to be phlegmatizing substances.

2. The solvents referred to are substances which are inert to organic peroxides and which also satisfy one of the following conditions:

(a) they are not inflammable and have a boiling point of not less than 85°C; or

(b) they are not inflammable and have a boiling point of less than 85°C but not less than 60°C, in which case hermetically closed containers must be used; or

(c) they have a flash-point of not less than 21°C and a boiling point of not less than 85°C; or

(d) they have a flash-point of less than 21°C but not less than 5°C and a boiling point of not less than 60°C, in which case hermetically closed containers must be used.

Class 5.2

Group F

99o Empty packagings, uncleaned, and empty tanks uncleaned, which have contained substances of Class 5.2.

2. Provisions

A. Packages

1. General conditions of packing

(1) The materials of which the packagings and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

(2) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. Inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(3) Cushioning materials must not be readily inflammable; in addition they shall be suited to the nature of the contents and must not cause the peroxides to decompose.

2. Packing of a single substance

a. Packing of substances of Group A

Receptacles shall be so closed and leak-proof as to prevent any loss of the contents.

(1) Substances of 1° to 7°, 8°, 9° (b) 10° to 12°, 13° (b), 14° to 16°, 17° (b) and 18° to 22° and their solutions must be packed:

(a) in hot-dipped tinned receptacles or in receptacles made of aluminium not less than 99.5 per cent pure; or

(b) in receptacles, made of a suitable plastics material, which shall be placed in protective packagings; or

(c) not more than 2 litres per bottle, in tightly-closing glass bottles which shall be secured by cushioning materials in a protective packaging so as to be protected against breakage.

(2) Substances of 1o to 3o, 5o to 7o, 8o (b), 9o (b), 10o to 12°, 13° (b), 16°, 18° and 20° may also be packed in hot-tipped galvanized receptacles.

(3) Substances of 8o (a), 9o (a), 13 (a) and 17o (a) shall be contained, not more than 5 kg per packaging, in water tight packaging placed in a wooden case.

(4) Pasty and solid peroxides may also be packed in bags, made of a suitable plastics material, placed in suitable protective packagings. The thickness of the packing material shall be sufficient to prevent any loss of the contents from the bags in normal carriage. Solid peroxides may be packed, not more than 1 kg per receptacle, in paraffin - waxed fibreboard receptacles placed in a wooden case; however, in the case of cyclohexanone peroxides of 9o (a) the contents of a receptacle shall be limited to 500 g.

(5) Substances of 10o and of 14o to 18o may also be packed in receptacles made of sheet - steel.

(6) with the exception of bags made of a suitable plastics material, receptacles containing liquid or pasty organic peroxides must not be filled beyond 93 per cent of their capacity.

(7) A package must not weigh more than 50 kg. Packages weighing more than 15 kg shall be fitted with means of handling.

b. Packing of substances of Group B

(1) Receptacles filled with substances of 30° (a) and 31° (a) shall be fitted with a venting device allowing compensation between the internal pressure and the atmospheric pressure and in all circumstances - even in the event of expansion of the liquid through heating - preventing the liquid from splashing out and impurities from entering the receptacle. For substances of 30o (b) and 31o (b), only receptacles so closed and leakproof as to prevent any loss of the contents shall be accepted.

(2) Packages shall be fitted with a base which keeps them securely upright without danger of falling.

(1) Substances of 30o (a) and 31o (a) shall be packed:

(a) in not - dipped tinned or hot - dipped galvanized receptacles or in receptacles made of aluminium not less than 99 - 5 per cent pure; or

(b) in receptacles, made of a suitable plastics material, placed in protective packagings. The strength of these receptacles shall be sufficient to prevent any loss of the contents in normal carriage; or

(c) not more than 2 litres per bottle, in glass bottles, which shall be secured by cushioning materials in protective packagings so as to be protected against breakage.

(2) Receptacles containing liquid or pasty organic peroxides must not be filled beyond 90 per cent of their capacity.

(3) A package must not weigh more than 40 kg. Packages weighing more than 15 kg shall be fitted with means of handling.

(4) Substances of 30o (b) and 31o (b) may be forwarded only in quantities not exceeding 5 kg in receptacles as specified in (1) but not equipped with a venting device (in glass bottles, only in quantities not exceeding 1.5 litre) The receptacles must not be filled beyond 75 per of their capacity.

c. Packing of substances of Group C

1. Substances of 35o and mixtures containing peracetic acid shall be packed, not more than 25 kg per receptacle, in thick walled glass receptacles, or in receptacles made of a suitable plastics material, fitted with a special closure made of a suitable plastics material, capable of being sealed, in communication with the atmosphere through an opening situated above the level of the liquid, and in all circumstances - even in the event of expansion of the liquid through heating - preventing the liquid from splashing out and impurities from entering the receptacle.

(2) Glass receptacles shall be firmly secured, by clean mica powder or glass wool used as cushioning materials, in protective packagings made of sheet - steel or of aluminium, capable of being closed, and fitted with means of handling and with a base which keeps them securely upright without risk of falling; the receptacles shall be secured even if the walls of the protective packagings are not complete. Receptacles made of a suitable plastics material

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must be placed in close - fitting protective packagings made of sheet - steel and capable of being closed.

d. Packing of substances of Group D

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Substances of Group D shall be packed, in quantities not exceeding 1 kg per package, in hot - dipped tinned receptacles, or in receptacles made of aluminium not less than 99.5 per cent pure, or in bottles made of a suitable plastics material injection - moulded or blown and having a sufficient wall thickness, or in glass bottles placed in protective packagings made of sheet - steel, aluminium or wood. The glass bottles shall be firmly secured in the protective packagings by clean mica powder or glass wool used as cushioning materials. Solid compounds may also be packed in bags, made of a suitable plastics material of sufficient thickness, likewise placed in protective packagings made of sheet - steel, aluminium, or wood. If the peroxides give off gases at temperature lower than 40° C, the receptacles must satisfy the conditions of marginal 2555.

e. Packing of substances of Group E

2559

1. Packages containing substances of Group E shall be fitted with a venting device allowing compensation between the internal pressure and the atmospheric pressure and in all circumstances - even in the event of expansion of the liquid through heating preventing the liquid from splashing out and impurities from entering the receptacle.

2. Receptacles containing liquid organic peroxides must not be filled beyond 95 per cent of their capacity.

1. Substances of 45o, 51o and 54o shall be packed, not more than 50 kg per receptacle or bag, in receptacles or bags, made of a suitable plastics material, which shall be placed in suitable protective packagings in quantities not exceeding 50 kg per packaging.

2. Substances of 46o (a) shall be packed, not more than 5 kg per bag, in bags made of a suitable plastics material, which shall be placed, not more than 20 kg packaging and either singly or in groups, in suitable protective packagings.

3. Substances of 47o (a) shall be packed.

a) not more than 1 kg per receptacle, in receptacles, made of a suitable plastics material;

b) not more than 3 kg per bowl, in bowls made of aluminium not less than 99.5 per cent pure, with plastics lids.

The protective packagings must not contain more than 10 kg of the substance.

4. Substances of 46o (b) and (c), 47o (b), 48o, 49o(b), 50o, 52o, 53o and 55o shall be packed, not more than 25 kg per receptacle, in receptacles made of a suitable plastics material, which shall be placed not more than 50 kg per packaging (but not more than 25 kg per packaging in the case of substances of 52o), in protective packagings.

5. Substances of 49o (a) shall be packed, not more than 10 kg per receptacles, in receptacles made of a suitable plastics material, which shall be placed, not more than 40 kg per packaging, in protective packagings.

6. Packages weighing more than 35 kg which contain substances of Group E shall be fitted with means of handling.

f. Packing of substances in small quantities.

Substances of 1° to 22°, 30° and 31°, forwarded in small quantities, may also be packed as follows:

a) Liquids

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not more than 1 kg per package, in bottles, made of aluminium, a suitable plastics material, or glass, with stoppers, made of a suitable plastics material or with yoke or screw closures having, in either case, an elastic gasket. The bottles shall be secured, by clean mica powder or glass wool used as cushioning materials, in fibreboard or wooden boxes. The filling material must be sufficient in quantity to absorb the whole of the liquid. The bottles must not be filled beyond 75 per cent of their capacity;

b) pasty or powdered substances

not more than 1 kg per package, in aluminium boxes or in fibreboard or wooden boxes (the two latter being lined with aluminium or with a suitable plastics material) with

a strong closure. A free space of 10 per cent shall be left in the packagings.

3. Mixed packing

2562

Substances of Class 5.2 may not be included in the same package either with other substances or articles of ADR or with other goods. Substances of Group C Must not be included in the same package with substances of Groups A, B or E.

4. Marking and danger labels on packages (see Appendix A. 9)

2563

1. Every package containing substances of Class 5.2. shall bear a label conforming to model No 3.

Packages containing substances of 46o (a), 47o (a) and 49o (a) shall also bear a label conforming to model No 1.

2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No 8; packages containing substances of 30o, 31o, 35o, 40o and 45o to 55o shall also bear label conforming to model No 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

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B. Particulars in the transport document

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The description of the goods in the transport document must conform to one of the names underlined in marginal 2551; it must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» (e. g. 5.2., 8o (a) ADR).

C. Empty packagings

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1. Receptacles and tanks of 99o must be closed in the same manner and leak - proof in the same degree as though they were full.

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2. The description in the transport document must be «Empty receptacle, 5.2, 99o ADR (or RID)». This description must be underlined in red.

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CLASS 6.1. TOXIC SUBSTANCES

1. List of substances

1. Among the substances and articles covered by the heading of Class 6.1, those which are listed in marginal 2601 or are covered by a collective heading of that marginal are subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

2600

2. Substances of Class 6.1. which polymerize easily are not to be accepted for carriage unless the necessary precautions have been taken to prevent their polymerization during carriage.

3. The flash point referred to below shall be determined in the manner described in Appendix A.3.

A. Toxic substances having a flash - point below 21° C and a boiling point below 200° C

2601

1. Hydrocyanic acid and inflammable volatile substances having a similar toxic effect, such as:

a) hydrocyanic acid containing not more than 3 per cent water (absorbed by an inert porous substance or in the liquid state), on condition that the filling of the receptacles was carried out less than one year previously;

Note: Hydrocyanic acid not satisfying these conditions is not to be accepted for carriage.

b) aqueous solutions of hydrocyanic acid containing not more than 20 per cent hydrocyanic acid (HCN).

Note: Solutions of hydrocyanic acid containing more than 20 per cent hydrocyanic acid (HCN) are not to be accepted for carriage.

2. Nitriles (organic cyanides), such as:

a) acetonitrile;

b) acetonitrile (methyl cyanide);

c) isobutyronitrile (isobutyric nitrile).

3. Other nitrogenous organic substances, such as:

ethyleneimine and propyleneimine containing not more than 0.003 per cent total chlorine, and their aqueous solutions; normal butyl isocyanate, tertiary butyl isocyanate, isobutyl isocyanate and isopropyl isocyanate.

Note: Ethyleneimine and propyleneimine of any other nature are not to be accepted for carriage.

4. Halogenated organic, substances such as:

- a) allyl chloride;
- b) methyl chloroformate;
- c) ethyl chloroformate.

5. Metal carbonyls, such as:

- a) nickel carbonyl (nickel tetracarbonyl 1);
- b) iron carbonyl (iron pentacarbonyl).

B. Toxic substances having a flash - point of 21° C or a over, and non - inflammable toxic substances, both having a boiling point below 200° C

11° Nitrogenous organic substances, such as:

- a) 2 - cyanopropan - 2 - Ol (acetone cyanohydrin);
- b) aniline

12° Halogenated organic substances, such as:

- a) 1 - chloro - 2, 3 - epoxyp propane (epichlorohydrin);
- b) glycol chlorohydrin (2 - chloroethanol);
- c) acetylene tetrachloride (1, 1, 2, 2-tetrachloroethane);
- d) chloropicrin;

Note: Mixtures of chloropicrin with methyl chloride or methyl bromide are substances of Class 2 if the vapour pressure of the mixture at 50° C exceeds 3 Kg/cm² [see marginal 2201 4o (bt)].

e) trichloromethanesulphenyl chloride;

f) 2, 2-dichlorodiethyl ether, (chloroethyl ether, 2-chloroethyl ether.

13° Oxyrenated organic substances, such as:

- a) allyl alcohol;
- b) dimethyl sulphate;
- c) phenol.

14° Lead alkyls, such as tetraethyl lead, tetramethyl lead and mixtures of lead alkyls with halogenated organic compounds, e.g. ethyl fluid.

C. Toxic organic substances having a boiling point of 200° C or over.

21. Nitrogenous organic substances, such as:

- a) 2-bromophenylacetoneitrile (bromobenzyl cyanide);
- b) phenylcarbylamine chloride;
- c) 2, 4-diisocyanatotoluene;
- d) allyl isothiocyanate;
- e) chloroanilines;
- f) mononitronalines and dinitroanilines;
- g) naphthylamines;
- h) 2, 4-diaminotoluene;
- i) dinitrobenzenes;
- k) chloronitrobenzenes;
- l) mononitritoluenes;
- m) dinitrotoluenes;
- n) nitroxylenes;
- o) toluidines;
- p) xylidines

22° Oxygenated organic substances not covered by 21o and 23o, such as:

- a) cresols;
- b) xlenols.

23° Halogenated organic substances not covered by 21o, 2601 such as:

- a) xylol bromide;
- b) phenacyl chloride (ω-chloro aceto phenone);
- c) phenacyl bromide (ω-bromoacetophenone);
- d) 4-chloro aceto phenone (methyl p-chlorophenylketone);
- e) symmetrical dichloroacetone.

D. Inorganic substances which may release toxic gases on contact with acids (but see under E for silicon alloys).

31° Inorganic cyanides

- a) cyanides and complex cyanides in a solid form;

b) solutions of inorganic cyanides;

c) preparations of inorganic cyanides.

Note: Ferrocyanides and ferricyanides are not subject to the provisions of ADR.

32° The following azides:

- a) sodium azide;
- b) barium azide with not less than 50 per cent water or alcohols, and aqueous solutions of barium azide.

Note: Barium azide in the dry state or with less than 50 per cent water or alcohols is not to be accepted for carriage.

33. Zinc phosphide

Note: Zinc phosphide capable of spontaneous ignition or, under the effect of moisture, of releasing toxic gases is not to be accepted for carriage.

E. Silicon alloys capable of releasing toxic gases.

41° (a) Ferro - silicon and mangano - silicon with more than 30 per cent and less than 70 per cent silicon;

(b) ferro-silicon alloys with aluminium, manganese, calcium or more than one of these metals, with a total content of silicon and of elements other than iron and manganese greater than 30 per cent but less than 70 per cent, all the substances of 41° having been stored for not less than three days in a dry place open to the air.

Note: 1. Ferro-silicon and mangano-silicon briquettes, whatever their silicon content, are not subject to the provisions of ADR.

2. Substances of 41° are not subject to the provisions of ADR if they are not liable to release dangerous gases under the effect of moisture during carriage and the sender so certifies in the transport document.

3. Substances of 41° which have not been stored for not less than three days in a dry place open to the air are not to be accepted for carriage.

F. Other toxic inorganic substances.

51° Beryllium in powder form; beryllium compounds in powder form.

52° Arsenical compounds, such as:

- (a) oxides of arsenic;
- (b) sulphides of arsenic.

Note: With regard to arsenical substances and preparations used as pesticides, see under 81° (i), 82° (i) and 83° (i).

53° mercury compounds, such as:

Mercuric chloride (corrosive sublimate), except cinna bar and mercurous chloride (calomel).

Note: With regard to mercurial substances and preparations used as pesticides, see under 81° (f), 82° (f) and 83° (f).

54° Thallium compounds

Note: With regard to substances and preparations containing thallium and used as pesticides, see under 81° (h), 82° (h) and 83° (h).

G. Halogenated organic substances having a harmful or irritant effect.

61° Halogenated organic substances, volatile, inflammable or non-inflammable, having a flash-point of 21° C or over and a boiling point below 200° C, such as:

- (a) ethylene dibromide (symmetrical dibromoethane);
- (b) chloroacetone;
- (c) bromoacetone;
- (d) 1,2 -dibromobutan-3-one;
- (e) methyl chloroacetate;
- (f) ethyl chloroacetate;
- (g) methyl bromoacetate;
- (h) ethyl bromoacetate;
- (i) 1,1-dichloro- 1-nitroethane;
- (k) benzyl chloride;
- (l) 1-chloro- 1-nitropropane.

62° Halogenated organic substances of low volatility having a boiling point of 200° C or over and not covered by 23°, such as:

- (a) benzyl iodide;

(b) acetylene tetrabromide (1, 1, 2, 2-tetrabromethane).

H. Inorganic substances having a harmful effect.

71° Barium compounds, such as barium oxide, barium hydroxide, barium sulphide and other barium salts (except barium sulphate and barium titanate).

Note: Barium chlorate, perchlorate, nitrate, nitrite, dioxide and permanganate are substances of Class 5.1 [see marginal 2501 under 4°(a) and (b), 7°(c), 8° and 9° (b) and (c)].

72° Lead compounds, such as lead oxides, lead salts including lead acetate, lead pigments (e.g. white lead and lead chromate), except lead titanate and lead sulphide (galena).

Note: Lead chlorate, lead perchlorate and lead nitrate are substances of Class 5.1 [see marginal 2501 4° (a) and (b) and 7° (c)].

73° Residues and wastes containing compounds of antimony or of lead or of both, e.g. ashes of lead or of antimony or of lead and antimony: lead sludges containing less than 3 per cent free acid.

Note: Lead sludges containing 3 per cent or more free acid are substances of Class 8 [see marginal 2801, 1° (e)].

74° Vanadium compounds in powder form, such as vanadium pentoxide and the vandates.

Note: Vanadium chlorate and vanadium perchlorate are substances of Class 5.1 [see marginal 2501, 4° (a) and (b)].

75° Antimony compounds, such as antimony oxides and antimony salts, except stibnite.

Note: Antimony chlorate and antimony perchlorate are substances of Class 5.1 [see marginal 2501, 4° (a) and (b)]. Antimony pentachloride, antimony trichloride and antimony pentafluoride are substances of Class 8 [see marginal 2801 11° (a), 12° and 15° (b)].

I. Substances and preparations used as pesticides

81° Substances and preparations presenting a risk of very severe poisoning:

(a) organo-phosphorus compounds, such as: azinphos-ethyl, azinphosmethyl, demeton-O+S, dimefox, endosulfon, HETP, mecarbam, methylparathion, mevinphos, parathion, phosphamidon, sulfotep and TEPP, and preparations containing more than 10 per cent of these substances.

(b) Halogenated organic compounds, such as: aldrin, dieldrin, heptachlor, and preparations containing more than 10 per cent of these substances.

(c) Nitrated organic compounds, such as: 4,6-dinitrophenol, dinoseb, dinitrophenyl acetate, dinotro-o-cresol, and preparations containing more than 50 per cent of these substances.

(d) Carbamates and derivatives of urea, such as: ANTU, isolan, and preparations containing more than 25 per cent of these substances.

(e) Alkaloids, such as: nicotine, brucine, strychnine, or their salts, and preparations containing more than 10 per cent of these substances.

(f) Organic compounds of metals, such as:

1. organic mercurial compounds, and preparations containing more than 5 per cent of these substances;

2. trialkyl and triaryl compounds of tin, and preparations containing more than 25 per cent of these substances.

(g) Other organic compounds, such as: cumachlor, sodium fluoracetate, fluoracetamide, pindone, warfarin, and preparations containing more than 5 per cent of these substances.

(h) Inorganic compounds of metals, such as: thallium compounds, and preparations containing more than 10 per cent of these substances.

(i) Other inorganic compounds, such as: compounds of arsenic, and preparations containing more than 10 per cent of these substances.

82° Substances and preparations presenting a risk of severe poisoning:

(a) Organo-phosphorus compounds, such as:

1. demeton-O+S-methyl, dioxathion, ethion, fenthion,

phenkapton, thiometon, and preparations containing more than 25 per cent of these substances;

2. preparations of azinphos-ethyl, azinphos-methyl, demeton-O+S, dimefox, endosulfon, HETP, mecarbam, methylparathion, mevinphos, parathion, phosphamidon, sulfotep and TEPP, containing more than 2.5 per cent but not more than 10 per active substance.

(b) Halogenated organic compounds, such as:

1. toxaphene, pentachlorophenol, and preparations containing more than 20 per cent of these substances;

2. gamma-BHC (gammexane), DDT, and preparations containing more than 50 per cent of these substances.

(c) Preparations of nitrated organic compounds, such as:

1. preparations of 4,6-dinitrophenol, dinoseb, dinitrophenyl acetate and dinitro-o-cresol, containing more than 10 per cent but not more than 50 per cent active substance;

2. preparations of binapacryl, containing more than 50 per cent active substance.

(d) Carbamates and derivatives of urea, such as:

1. dimethan, urbazid, and preparations containing more than 25 per cent of these substances;

2. preparations of ANTU and isolan, containing more than 5 per cent but not more than 25 per cent active substance.

(e) Preparations of alkaloids, such as: preparations of nicotine, brucine, and strychnine, or their salts, containing more than 2.5 per cent but not more than 10 per cent active substance.

(f) Preparations of organic compounds of metals, such as:

1. organic mercurial preparations, containing more than 1 per cent but not more than 5 per cent active substance;

2. preparations of trialkyl and triaryl compounds of tin, containing more than 5 per cent but not more than 25 per cent active substance.

(g) Preparations of other organic compounds, such as:

1. preparations of cumachlor, sodium fluoracetate, pindone and warfarin, containing more than 1 per cent but not more than 5 per cent active substance;

2. preparations of fluoracetamide, containing not more than 5 per cent active substance;

(h) Preparations of inorganic compounds of metals, such as: Preparation of thallium compounds, containing more than 2.5 per cent but not more than 10 per cent active substance.

(i) Preparations of other inorganic compounds, such as: Preparations of compounds of arsenic, containing more than 2.5 per cent but not more than 10 per cent active substance.

83° Harmful substances and preparations:

(a) Organo-phosphorus compounds, such as:

1. diazinon, dimethoate, trichlorfon, malathion, and preparation containing more than 5 per cent of these substances;

2. preparations of demeton-O+S-methyl, dioxathion, ethion, fenthion, phenkapton and thiometon, containing more than 2.5 per cent but not more than 25 per cent active substance;

3. preparations of azinphos-ethyl, azinphos-methyl, demeton-O+S, dimefox, endosulfon, HETP, mecarbam, methylparathion, mevinphos, parathion, phosphamidon, sulfotep and TEPP, containing not more than 2.5 per cent active substance.

(b) Preparations of halogenated organic compounds, such as:

1. preparations of toxaphene and pentachlorophenol, containing more than 5 per cent but not more than 20 per cent active substance;

2. preparations of gamma-BHC (gammexane) and DDT, containing more than 10 per cent but not more than 50 per cent active substance.

3. preparations of aldrin, dieldrin and heptachlor, containing more than 2.5 per cent but not more than 10 per cent active substance.

(c) Preparations of nitrated organic compounds, such as:

1. preparations of binapacryl, containing more than 10 per cent but not more than 50 per cent active substance;

2. preparations of 4,6 -dinitrophenol, dinoseb, dinitrophenyl acetate and dinitro-o-cresol, containing more than 2.5 per cent but not more than 10 per cent active substance.

(d) Preparations of carbamates and derivatives of urea, such as:

1. preparations of ANTU and isolan, containing more than 1 per cent but not more than 5 per cent active substance;

2. preparations of dimethan and urbazid, containing more than 2.5 per cent but not more than 25 per cent active substance.

(e) Preparations of alkaloids, such as: preparations of nicotine, brucine and strychnine, or their salts, containing not more than 2.5 per cent active substance.

(f) Preparations of organic compounds of metals, such as:

1. preparations of organic mercurial compounds, containing not more than 1 per cent active substance;

2. preparations of trialkyl and riaryl compounds of tin, containing more than 1 per cent but not more than 5 per cent active substance.

(g) Preparations of other organic compounds, such as:

preparations of cumachlor, sodium fluoracetate, pin-done and warfarin, containing not more than 1 per cent active substance.

(h) Preparations of inorganic compounds of metals, such as:

preparations of thallium compounds, containing not more than 2.5 per cent active substance.

(i) Preparations of other inorganic compounds, such as:

preparations of compounds of arsenic, containing not more than 2.5 per cent active substance.

84° (a) cereal grains and seeds impregnated with one or more of the pesticides or other toxic substances of Class 6.1, used as pesticides;

(b) dressed seeds treated with pesticides or with other toxic substances of Class 6.1, but not used as pesticides.

K. Empty packagings:

91° Empty packagings, uncleaned, empty tanks, uncleaned, and empty bags, uncleaned, which have contained substances of 1°-5°, 11°-14°, 21°-23°, 31°-33°, 41°, 51°-54°, 81° and 82°.

92° Empty packagings, uncleaned, empty tanks, uncleaned, and empty bags, uncleaned, which have contained substances of 61°, 62°, 71°-75°, 83° and 84°.

Note: 91° and 92°. Empty packagings with residues from their previous contents adhering to the outside are not to be accepted for carriage.

Class 6.1

2. Provisions

A. Packages

1. General conditions of packing

(1) Packagings shall be so closed and arranged as to prevent any loss of the contents. For the special provision relating to substances of 41° see marginal 2618.

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular, where substances are in the liquid state or in solution, or have been wetted by a liquid, the receptacles and their closures must, unless the section headed «Packing of a single substance» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which

they are likely to reach during carriage. Inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The thickness of the walls must be not less than 3 mm in the case of receptacles which, with their contents, weigh more than 35 kg, and not less than 2 mm in the case of other receptacles.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage, unless the said closure comprises two plugs, one placed over other, one of them being screw-threaded.

(5) When receptacles made of glass, porcelain, stone-ware or similar materials are prescribed or allowed, they must be secured by cushioning materials in protective packagings. Cushioning materials shall be suited to the nature of the contents; in particular, they shall be absorbent when the contents are liquid.

(6) When handed over for carriage, packages must not be contaminated on the outside by toxic substances.

2. Packing of a single substance

(1) Hydrocyanic acid and inflammable volatile substances having a similar toxic effect [1° (a)] shall be packed:

(a) when completely absorbed by an inert porous material: in strong sheet-steel boxed, with a capacity of not more than 7.5 litres, entirely filled with the porous material, which must be of such a nature that it does not shake down or form dangerous spaces, even after prolonged use or under impact, at temperatures up to 50°C. The boxes must be able to withstand a pressure of 6 kg/cm² and must, when filled at 15°C, still be leak-proof at 50°C. The date of filling shall be stamped on the lid of each box. The boxes shall be placed in packing cases with sides not less than 18 mm thick in such a manner that they cannot come into contact with one another. The total capacity of the boxes in one packing case must not exceed 120 litres and the package must not weigh more than 120 kg;

(b) When liquid but not absorbed by a porous material: in carbon-steel receptacles. These shall conform to the spirit of the provisions relating to such receptacles in Class 2, marginals 2211, 2212(1), 2213, 2215 and 2218, with the following derogations and special requirements:

The internal pressure to be applied for the hydraulic pressure test must be 100 kg/cm².

The pressure test shall be repeated every two years, when a meticulous inspection of the inside of the receptacle shall also be carried out and the receptacle's weight determined.

In addition to the marks prescribed in marginal 2218(1) (a)-(c) and (e)-(g), the receptacles must bear the date (month, year) of the most recent filling.

The maximum filling allowed for the receptacles is 0.55 kg liquid per litre of capacity.

(c) With regard to the particulars in the transport document, see marginal 2634(2).

(2) Aqueous solutions of hydrocyanic acid [1o (b)] shall be packed in flame-sealed glass ampoules containing not more than 50 g, or in glass-stoppered glass bottles so closed as to be leak-proof and containing not more than 250 g. The ampoules and bottles shall be secured by absorbent cushioning materials in soft-soldered tin-plate boxes or in protective cases with a soft-soldered tin-plate lining. A package comprising a tin-plate box must not weigh more than 15 kg or contain more than 3 kg hydrocyanic acid solution; a package comprising a case must not weigh more than 75 kg.

(1) Substances of 2o shall be packed:

(a) 1. in sheet-steel canisters with walls not less than 1mm thick and a capacity not exceeding 60 litres, the

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openings being closed two plugs, one placed over the other, one of them being screwthreaded. The sheet-steel canisters must have welded lengthwise seams, two reinforcing ribs in the walls, and a protective rim below the joint recessed at the bottom. Canisters with a capacity of 40 to 60 litres must have their bottoms welded on and be fitted with means of handling on the side; or

2. in all-welded steel drums with walls not less than 1.25 mm thick fitted with rolling hoops and reinforcing ribs and having the openings closed by two plugs, one placed over the other, one of them being screw-threaded;

(b) acrylonitrile may also be packed:

1. in aluminium bottles of a capacity not exceeding 2 litres, secured by infusorial-earth cushioning in sheet-metal receptacle whose lids shall be firmly stuck down by means of suitable adhesive strips. The sheet-metal receptacles shall be placed, with filling material, in wooden cases. A package must not weigh more than 75 kg; or

2. in non-returnable metal drums (new packagings intended to be use only once); these drums, whose walls shall not be less than 1.2 mm thick, shall be provided with a screw-threaded plug fitted with a gasket. The plug shall be situated on one of the ends be protected by the rim of the drum. The drums may have a body with ends recessed, the joints being strengthened by chimb reinforcements; if they do not possess rolling hoops they must be provided with reinforcing ribs. A package must not weigh more than 200 kg. Carriage in non-returnable drums shall take place only as a full load on open vehicles; or

3. in non-returnable steel drums (new packagings intended to be use only once) having sides made of sheet steel 1.24 mm thick, end made of sheet steel 1.5 mm thick, and a tare weight of 22.5 kg; the drums must be provided with reinforcing ribs. The body sea shall be welded and the ends shall be double-seamed by welting the body, with a polyethylene liner inserted. Two screw-plug closure units, one of 50.8 mm (2 ??) and one of 19.05 mm (3/4 ??) shall be double-seamed by welting to one of the ends, with a synthetic-rubber liner inserted. Thin sheet-steel caps shall placed over the closure units;

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(c) acetonitrile may also be packed in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of capacity not exceeding 1 litre, with the openings closed by two plugs, one placed over the other, one of them being screw - threaded. These receptacles shall be secured by absorbent cushioning materials in a wooden case or some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling.

(2) Receptacles containing acrylonitrile or acetonitrile must not be filled beyond 95 per cent, and receptacles containing Isobutyronitrile not beyond 92 per cent, of their capacity.

(1) Substances of 3o shall be packed in receptacles made of sheet - steel of sufficient thickness, which shall be closed by a screw - threaded bung or plug rendered leak - proof both to liquid and to vapour by means of a suitable gasket. The receptacles must be capable of withstanding an internal pressure of 3 kg/cm². Each receptacle shall be secured by absorbent cushioning materials in a strong and leak - proof protective metal packaging. The protective packaging shall be hermetically closed and its closure shall be secured against any inadvertent opening. The degree of filling shall not exceed 0.67 kg per litre of capacity of the receptacle.

(2) A package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling.

Substances of 4° shall be packed:

(a) in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres, with the openings closed by two plugs, one placed over the other, one of them being

screw - threaded. These receptacles shall be secured by absorbent cushioning materials in a wooden case or some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 75 kg. Package weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame - sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in metal receptacles having, if necessary, a suitable lining, the receptacles having a capacity not exceeding 15 litres and having the openings closed by two plugs, one placed over the other, one of the being screw - threaded. These receptacles shall be secured by absorb cushioning materials in a wooden case or some other outer packaging sufficient strength. The receptacles must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in welded metal drums having, if necessary, a suitable lining, the drums having the openings closed by two plugs, one placed over the other, one of them being screw - threaded. The drums must not be filled beyond 93 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be equipped with rolling hoops;

(e) in receptacles made of strong black sheet - iron or tin - plate and hermetically closed. A tin - plate receptacle must not, with its contents, weigh more than 6 kg. These receptacles shall be secured by absorbent cushioning materials, either singly or in groups, in a wooden packing case. Such a package must not weigh more than 75 kg.

(1) Substances of 5o shall be packed in metal receptacles. The receptacles must be fitted with completely leak - proof closing devices, which shall be secured against mechanical damage by protective caps. Steel receptacles must have walls not less than 3 mm thick and receptacles made of other materials must have walls at least thick enough to ensure equivalence mechanical strength. A package must not contain more than 25 kg of liquid. The maximum filling allowed shall be 1 kg of liquid per litre of capacity.

(2) Receptacles shall be tested before being put into service for the first time. The test pressure to be applied for the hydraulic pressure test shall be not less than 10 kg/cm². The pressure test shall be repeated every five years and shall include a meticulous inspection of the inside of the receptacle and a check of the tare weight. Metal receptacles shall bear the following particulars in clearly legible and indelible characters:

(a) the name of the product in full (the names of both substances may al be shown side by side);

(b) the name of the owner of the receptacle;

(c) the tare of the receptacle, including such fittings and accessories valves, protective caps, etc.;

(d) the date (month, year) of the acceptance test and the subsequent tests, and the expert's stamp;

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(e) the maximum permissible filling per receptacle in kg;
(f) the internal pressure (test pressure) to be applied for the hydraulic pressure test.

(1) Substances of 11° (a) shall be packed:

(a) in sheet - steel canisters with walls not less than 1 mm thick and a capacity not exceeding 60 litres, the openings being closed by two plugs, one placed over the other, one of them being screw - threaded. The sheet - steel canister must have welded lengthwise seams, two reinforcing ribs in the walls, and a protective rim below the joint recessed at the bottom. Canisters with a capacity of 40 to 60 litres must have their bottoms welded on and be fitted with means of handling on the side; or

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(b) in all - welded steel drums, with walls not less than 1.25 mm thick, fitted with rolling hoops and reinforcing ribs and having the openings closed by two plugs, one placed over the other, one of them being screw - threaded.

(2) Substances of 11° (b) shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in metal receptacles having, if necessary, a suitable lining, the receptacles having a capacity not exceeding 15 litres and having the openings closed by two plugs, one placed over the other, one of them being screw - threaded. These receptacles shall be secured by absorbent cushioning materials in a wooden case or some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(c) in hermetically - closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg they shall be fitted with rolling hoops; or

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(d) in hermetically - closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg.

(1) Substances of 12° (a) and (b) shall be packed:

(a) not more than 5 litres per bottle, in glass bottles placed separately with absorbent materials, in a strong tin - plate receptacle; in the case of 1 - chloro - 2, 3 - epoxyp propane, black sheet - iron may be used instead of tin - plate. The receptacles shall be secured by absorbent cushioning materials in a wooden packing case. A package must not weigh more than 75 kg; or

(b) not more than 5 litres per receptacle, in receptacles, made of stout tin - plate, with leak - proof closures; in the case of 1 - chloro - 2, 3 - epoxyp propane black sheet - iron may be used instead of tin - plate. The receptacles shall be secured by absorbent cushioning materials or wood - wool cushioning in a wooden packing case. A package must not weigh more than 75 kg; or

(c) in welded steel drums with the openings closed by two plugs, one placed over the other, one of them being screw - threaded, the drums being fitted with rolling hoops. In the case of glycol chlorohydrin (2 - chloroethanol) it is also permissible to use welded canisters with the openings closed by two plugs, one placed over the other, one of them being screw - threaded, the canisters being fitted with means of handling, being of sheet steel 1 mm thick galvanized on both sides, and having a capacity not exceeding 60 litres;

(d) the receptacles must not be filled beyond 93 per cent of their capacity.

(2) Substances of 12° (c) shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame - sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoule must

not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

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(c) in hermetically - closed canisters made of a suitable metal, welded or hard - soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity; or

(d) in hermetically - closed metal drums having, if necessary, a suitable inner lining. The drums must not be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(3) Substances of 12° (d) and (e) shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stone - ware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically - closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or (d) in hermetically - closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(4) Substances of 12° (e) may also be packed in hermetically - closed canisters made of a suitable metal, welded or hard - soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity.

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(5) Substances of 12° (f) shall be packed:

(a) in hermetically - closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(b) in hermetically - closed canisters made of a suitable metal, welded or hard - soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 93 per cent of their capacity; or

(c) in hermetically - closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 93 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(1) Substances of 13° (a) and (b) shall be packed:

(a) in flame - sealed glass ampoules or in hermetically - closed glass bottles for this purpose a stopper made of cork coated with paraffin wax, or ground - glass stopper,

may be used. The ampoules and bootles must not be filled beyond 93 per cent of their capacity and must not weigh, with their contents, more than 3 kg. They shall be wrapped in corrugated fibreboard and secured by a sufficient quantity of inert and absorbent cushioning materials (infusorial earth or similar materials) in soft - soldered tin - plate boxes or in wooden cases lined with a tin - plate lining assembled by soft soldering. A package comprising a tin - plate box must not weigh more than 15 kg and a package comprising a wooden case not more than 75 kg; or

(b) in soldered or seamless sheet metal receptacles or in receptacles made of a suitable plastics material. These receptacles shall be hermetically - closed; they must not be filled beyond 93 per cent of their capacity and must not weigh, with their contents, more than 50 kg; if they are made of thin sheet - metal, e.g. tin - plate, they must not weigh, with their contents, more than 6 kg. The sheet - metal or plastics receptacles shall be secured by a sufficient quantity of inert and absorbent cushioning materials ((e.g. infusorial earth or similar materials) in protective receptacles fitted with means of handling. Such a package must not weigh more than 100 kg; or

(c) in hermetically - closed welded or seamless metal drums fitted with bands and rolling hoops and not filled beyond 93 per cent of their capacity.

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(2) Substances of 13° (c) shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stone - ware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically - closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically - closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically - closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg; or

(e) in bags made of a suitable plastics material, so closed as to be leak - proof, and placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg.

Substances of 14° shall be packed:

(a) in welded steel drums with openings closed by two plugs, one placed over the other, one of them being screw - threaded, the drums being fitted with rolling hoops. The drums must not be filled beyond 95 per cent of their capacity; or

(b) in receptacles made of strong black sheet - iron or of tin - plate and hermetically closed. A tin - plate receptacle must not, with its content, weigh more than 6 kg. These receptacles shall be secured by absorbent cushioning materials in a wooden packing case. Such a package must not weigh more than 75 kg.

(1) Substances of 21° (a), (b), (c) and (d), and liquids of 21° (e) and (f), shall be packed:

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(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a

package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame - sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically - closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically - closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(2) Substances of 21° (b), (c) and liquids of 21° (e) and (f) may also be packed in hermetically - closed canisters made of a suitable metal, welded or hard - soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity.

(3) Substances of 21° (e) and (f) in the solid state, and substances of 21° (g), (h), (i) and (k), shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically - closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically - closed metal drums having, if necessary, a suitable lining. If the drums weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(4) Substances of 21° (e) and (f) in the solid state, and substances of 21° (g) and (h), may also be packed:

(a) in bags made of a suitable plastics material, so closed as to be leakproof, and placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically - closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg.

(5) Substances of 21° (g) may also be packed in hermetically - closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength.

(6) Substances of 21° (1), (m), (n), (o) and (p) shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 3, kg, other than those forwarded as a full

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load, shall be fitted with means of handling; or

(b) in flame - sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically - closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically - closed canisters made of a suitable metal, welded or hard - soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity; or

(e) in hermetically - closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(7) 4 - nitrotoluene [21° (1)] may also be packed:

(a) in bags made of a suitable plastics material, so closed as to be leak - proof, and placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically - closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg; or

(c) in bags made of stout paper of four plies, lined with a bag made of a suitable plastics material, so closed as to be leak - proof. Such a package must not weigh more than 55 kg.

(8) Substances of 21° (o) in flakes may also be packed in bags made of stout paper of four plies, lined with a bag made of a suitable plastics material and so closed as to be leak - proof. Such a package must not weigh more than 55 kg.

Substances of 22° shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically-closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg or

(c) in hermetically-closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically-closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength; or

(e) in bags made of a suitable material, so closed as to be leak-proof, and placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in hermetically-closed wooden casks of sufficient

strength, with a suitable lining. Such a package must not weigh more than 250 kg.

(1) liquids of 23° shall be packed:

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame-sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically-closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning material in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically-closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(2) Solids of 23° shall be packed in the same way as substances of 22°.

(1) Substances of 31° (a) and solid preparations of 31° (c) shall be packed:

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically-closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically-closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically-closed receptacles, made of a suitable plastics material of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength; or

(e) in hermetically-closed wooden casks of sufficient strength, with suitable lining. Such a package must not weigh more than 250 kg.

(2) Substances of 31° (b) and liquid preparations of 31° (c) shall be packed:

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full

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load, shall be fitted with means of handling; or

(b) in flame-sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically-closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically-closed canisters made of a suitable metal, welded or hard-soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity; or

(e) in hermetically-closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops.

(1) Sodium azide [32°(a)] shall be packed in receptacles made of black sheet-iron or tin-plate.

(2) Substance of 32°(b) shall be packed in receptacles made of glass or of a suitable plastics material. A receptacle must not contain more than 10 kg of barium azide nor more than 20 litres of barium azide solution. The receptacles shall be secured separately, by absorbent cushioning materials, in case or in iron hampers with complete sides; the volume of the cushioning material must be at least equal to that of the content of the receptacle. Where hampers are used, the cushioning materials, if readily inflammable, shall be fireproofed sufficiently to prevent ignition on contact with a flame.

Zinc phosphide (33°) shall be packed in metal receptacles secured in wooden cases. A package must not weigh more than 75 kg.

Substances of 41° shall be enclosed in wooden or metal packaging which may be fitted with a device allowing gases to escape. Finely granulated substances may also be packed in bags.

Substances of 51° shall be packed:

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically-closed metal receptacles having, if necessary, a suitable lining, and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically-closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically-closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength; or

(e) in bags made of a suitable plastics material, so closed as to be leak-proof, which shall be placed in a wooden case or in some other outer packaging of sufficient

strength. Such a package must not weigh more than 75 kg; or

(f) in hermetically-closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg.

(1) Substances of 52° shall be packed:

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware, or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each; receptacles made plastics material may, if forwarded as a full load, contain up to 10 kg of substance. The receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically-closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically-closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically-closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength; or

(e) in bags made of a suitable plastics material, so closed as to be leak-proof, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in receptacles made of wood or paperboard, lined with a vapour-tight plastics material and hermetically closed. Such a package must not weigh more than 75 kg; or

(g) in hermetically-closed metal receptacles. Such a package must not weigh more than 75 kg.

(2) When forwarded as a full load, the substances may also be packed:

(a) in hermetically-closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg; or

(b) in bags made of stout paper of four plies, lined with a bag made of a suitable plastics material, so closed as to be leak-proof. Such a package must not weigh more than 55 kg.

(1) Solids of 53° shall be packed:

(a) not more than 10 kg per bag, in bags made of paper of two plies; or

(b) in bags made of a suitable plastics material; or

(c) in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material; or

(d) in steel receptacles or in strong wooden casks or in wooden cases fitted with strengthening bands.

Re (a), (b) and (c): The receptacles and bags shall be secured by cushioning materials in wooden outer packagings.

(2) Liquids or substances in solution of 53° shall be packed:

(a) in receptacles made of glass, porcelain, stoneware or similar materials. These receptacles shall be secured by cushioning materials in protective packagings which, if not cases, shall be fitted with means of handling; or

(b) in metal receptacles.

(3) A package containing fragile receptacles or bags made of a plastics material must not weigh more than 75 kg.

Thallium compounds (54°) shall be packed:

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material which must not contain more than 5 kg each. Receptacles made of plastics material may, if forward-

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ded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

- (b) in tin-plate receptacles; or
- (c) in wooden cases fitted with strengthening bands; or
- (d) in wooden cases fitted with iron hoops or strong wooden hoops.

(1) Substances of 61° and 62°, other than those of 61°(1), shall be packed:

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding five litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame-sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically-closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically-closed canisters made of a suitable metal, welded or hard-soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity; or

(e) in hermetically-closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(f) in hermetically-closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paper-board or of some other material of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity.

(2) Substances of 61° (1) shall be packed:

(a) in all-welded steel drums with walls not less than 1.25 mm thick, fitted with rolling hoops and reinforcing ribs and having the openings closed by two plugs, one placed over the other, one of them being screw-threaded; or

(b) in sheet-steel canisters with walls not less than 1 mm thick and a capacity not exceeding 60 litres, the openings being closed by two plugs, one placed over the other, one of them being screw-threaded. The sheet-steel canisters must have welded lengthwise seams, two reinforcing ribs in the walls, and a protective rim below the joint recessed at the bottom. Canisters with a capacity of 40 to 60 litres must have their bottoms welded on and be fitted with means of handling on the side; or

(c) in aluminium bottles of a capacity not exceeding 2 litres, secured by infusorial-earth cushioning in sheet-metal receptacles whose lids shall be firmly stuck down by means of suitable adhesive strips. The sheet-metal receptacles shall be placed, with filling materials, in wooden cases. A package must not weigh more than 75 kg; or

(d) in non-returnable metal drums (new packagings

intended to be used only once); these drums, whose walls shall be not less than 1.2 mm thick, shall be provided with a screw-threaded plug fitted with a gasket. The plug shall be situated in one of the ends of the drum and be protected by the rim. The drums may have a body with ends recessed, the joints being strengthened by climb reinforcements; if they do not possess rolling hoops they must be provided with reinforcing ribs. A package must not weigh more than 200 kg. Carriage in non-returnable drums shall take place only as a full load on open vehicles; or

(e) in non-returnable steel drums (new packagings intended to be used only once) having sides made of sheet steel 1.24 mm thick, ends made of sheet steel 1.5 mm thick, and a tare weight of 22.5 kg; the drums must be provided with reinforcing ribs. The body seam shall be welded and the ends shall be double-seamed by welting to the body, with a polyethylene liner inserted. Two screw-plug closure units, one of 50.8 mm (2) and one of 19.05 mm (3/4), shall be double-seamed by welting to one of the ends, with a synthetic-rubber liner inserted. Thin-sheet-steel caps shall be placed over the closure units.

(3) The receptacles referred to under (2)(2) to (e) must not be filled beyond 93 per cent of their capacity.

Substances of 71° shall be packed:

(a) in iron or wooden packagings; or

(b) in bags made of stout paper of at least two plies, or made of jute, lined with a bag made of a suitable plastics material, so closed as to be leak-proof.

(1) Substances of 72° and 73° shall be packed:

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in steel or wooden packagings; or

(c) in bags made of stout paper of at least 2 plies. However, bags for lead acetate must be made:

1. of hemp lined with a suitable plastics material or with stout crepe paper stuck on with bitumen; such a bag, with its contents, must not weigh more than 30 kg; or

2. of stout paper of at least two plies, lined with a bag made of suitable plastics material; such a bag, with its contents, must not weigh more than 30 kg; or

3. of stout paper of at least five plies, lined with a bag made of suitable plastics material; such a bag, with its contents, must not weigh more than 55 kg; or

4. of stout paper of at least three plies, placed in jute bags; such a bag, with its contents, must not weigh more than 55 kg; or

(d) in bags made of suitable plastics material, so closed as to be leak-proof, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg.

(2) Substances of 72° may also be packed in receptacles made of tin-plate or of sheet-steel.

Substances of 74° and 75° shall be packed:

(a) in hermetically-closed receptacles made of glass, porcelain stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in steel or wooden packagings; or

(c) in bags made of stout paper of at least 2 plies, or in jute bags; or

(d) in receptacles made of tin-plate or sheet-steel.

Pesticides of 81° shall be packed:

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(a) in solid or paste form:

1. in hermetically-closed receptacles made of glass, porcelain stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

2. in hermetically-closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

Class 6.1

3. in hermetically - closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops;

4. in hermetically - closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength; or

5. in bags made of a suitable plastics material, so closed as to be leak-proof, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

6. in receptacles made of wood or paperboard, lined with a vapour-tight plastics material and hermetically closed. Such a package must not weigh more than 75 kg; or

7. in hermetically-closed metal receptacles. Such a package must not weigh more than 75 kg;

8. arsenical compounds forwarded as a full load may also be packed in hermetically-closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg;

9. preparations may also be enclosed in packagings ready for use, which shall be firmly packed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg;

(b) in liquid form:

1. in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres, with the opening closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

2. in flame-sealed glass ampoules containing not more than 50 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

3. in metal receptacles having, if necessary, a suitable lining, the receptacles having a capacity not exceeding 15 litres and having the openings closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 100 kg; or

4. in canisters made of a suitable metal, welded or hard-soldered, with walls not less than 0.5 mm thick and a capacity not exceeding 60 litres, the openings being closed by two plugs, one placed over the other, one of them being screw-threaded, the canisters being fitted with means of handling. The canisters must not be filled beyond 93 per cent of their capacity; or

5. in hermetically-closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops. The drums must not be filled beyond 93 per cent of their capacity; or

6. in receptacles made of a suitable plastics material, of a capacity not exceeding 60 litres, the openings being closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. The receptacles must not be filled beyond 93 per cent of their capacity.

Pesticides of 82o shall be packed:

(a) in solid form:

1. in the same way as solids of 81o;

2. when forwarded as a full load, also in bags made of stout paper of four plies, lined with a bag made of a suitable plastics material, so closed as to be leak-proof. Such a package must not weigh more than 55 kg;

(b) in liquid form:

in the same way as liquids of 81o.

Pesticides of 83o shall be packed:

(a) in solid form:

1. in the same way as solids of 81o; or

2. in jute bags rendered impermeable to moisture by a lining made of a suitable material, stuck on with bitumen, or in jute bags lined with a bag made of a suitable plastics material, so closed as to be leak-proof. Such a package must not weigh more than 55 kg; or

3. in the case of preparations, and of other pesticides if they are forwarded as a full load, in bags made of stout paper of four plies, lined with a bag made of a suitable plastics material and hermetically closed. Such a package must not weigh more than 55 kg; or

4. in the case of solid arsenical compounds:

i. in double-walled wooden casks lined with stout paper; or

ii. in fibreboard boxes placed in a wooden case; or

iii. not more than 12.5 kg per bag, in double bags, made of stout paper or of a suitable plastics material, which shall be placed either in a wooden case lined with stout paper or tightly in a stout case made of double-faced corrugated fibreboard or of solid fibreboard of equivalent strength, the case being lined with stout paper. All joints and flaps shall be covered over with adhesive strips. A package comprising a fibreboard case must not weigh more than 30 kg.

5. in the case of arsenical compounds forwarded as a complete load:

i. in ordinary wooden packagings lined with stout paper; or

ii. not more than 25 kg per bag, in two-ply paper bags, or in bags made of a suitable plastics material, which shall be placed separately in bags made of jute or of a similar material lined with crepe paper; or

iii. in bags made of paper of at least three plies or in two-ply paper bags lined a bag made of a suitable plastics material. Such a package must not weigh more than 20 kg; or

iv. in two-ply paper bags or in bags made of a suitable plastic material, which shall be placed in four-ply paper bags. Such a package must not weigh more than 60 kg.

In cases as referred to under iii. and iv. above, each consignment must be accompanied by empty bags in the proportion of 1 for every 20 bags containing arsenical substances, these empty bags being intended to accommodate such quantity of substances as may escape from bags damaged during carriage.

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(b) in liquid form:

1. in the same way as liquids of 81^o; or

2. in the case of preparations:

i. in hermetically-closed cylindrical receptacles made of glass, porcelain, stoneware or similar materials, of a capacity not exceeding 25 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

ii. in hermetically-closed glass carboys, of a capacity not exceeding 25 litres, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength, or which shall be well secured in iron or wicker hampers. The carboys must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

iii. in receptacles, made of a suitable plastics material, with walls not less than 4 mm thick and a capacity not exceeding 60 litres, the openings being closed by two plugs, one placed over the other, one of them being screw-threaded, the receptacles having to protective packaging if the competent authority of the country of departure so allows. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg.

Substances of 84^o shall be packed:(a) in the same way as solids of 81^o; or(b) in the case of substances of 84^o (a) very conspicuously

coloured, in bags made of paper of at least two plies, or of a suitable plastics material, which shall be placed in textile bags; or

(c) in the case of substances of 84^o(b), in closely-woven jute bags.

3. Mixed packing

(1) Substances grouped under the same item number may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question.

(2) If smaller quantities are not prescribed in the section headed «Packing of a single substance», substances of this Class, in quantities not exceeding 6 kg in the case of solids or 3 litres in the case of liquids for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with dangerous substances belonging to other Classes (if mixed packing is likewise allowed in the case of such substances), or with other goods, subject to the following special conditions:

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions of marginals 2001 (5) and 2002 (6) and (7) must be observed.

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Special conditions:

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| Item No | Description of Substance | Maximum quantity | | Special provisions |
|---------------------|---|---------------------------|-------------|---|
| | | per receptacle | per package | |
| 1 ^o (a) | Hydrocyanic acid | mixed packing not allowed | | |
| 1 ^o (b) | Solutions of hydrocyanic acid containing not more than 4% hydrocyanic acid (solutions containing more than 4% are prohibited) | 1 litre | 1 litre | Must not be packed together with any other acid |
| 2 ^o | Acrylonitrile, acetonitrile, isobutyronitrile | 1 litre | 1 litre | Must not be packed together with substances of Classes 5.1 and 8. Glass receptacles must be secured by cushioning materials in protective receptacles |
| 5 ^o (a) | Nickel carbonyl | mixed packing not allowed | | |
| 11 ^o (a) | 2-cyanopropan-2-ol | 1 litre | 1 litre | Must not be packed together with substances of Classes 5.1 and 8. Glass receptacles must be secured by cushioning materials in protective receptacles |
| 13 ^o (b) | Dimethyl sulphate | 1 litre | 3 litres | |
| 31 ^o (a) | Cyanides in a solid form | | | Must not be packed together with substances of an acid nature |
| | - in fragile receptacles | 500g | 500g | |
| | - in other receptacles | 5 kg | 5 kg | |
| 31 ^o (b) | Solutions of inorganic cyanides | 1 litre | 3 litres | |
| 41 ^o (b) | Ferro-silicon alloys with aluminium | 2.5 kg | 2.5 kg | |

4. Marking and danger labels on packages (see Appendix A.9)

(1) Packages containing substances of 1° - 5°, 11° - 14°, 21° - 23°, 31° - 33°, 41°, 51° - 54°, 81° and 82° shall bear a label conforming to model No. 4; packages containing substances of 2°, 4°(a), 5° and 11°(a) shall bear, in addition a label conforming to model No. 2A. Packages containing substances of 61°, 62°, 71°-75°, 83° and 84° shall bear a label conforming to model No. 4A.

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(3) In the case of consignments forwarded as a full load, labels Nos. 2A, 4 or 4A need not be affixed to the packages if the vehicle bears the marking prescribed in Annex B, marginal 10500.

B. Particulars in the transport document

(1) In the case of substances which are referred to by name in the list of substances (marginal 2601), the description of the goods in the transport document must conform to the name underlined in marginal 2601. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g. 6.1, 1o(a), ADR].

In the case of substances which are not referred to by name in the list of substances (marginal 2601), the trade name or the chemical name must be used. This description must be underlined in red and followed by particulars of the Class and item number (together with the letter, if any) of the substance presenting a comparable degree of danger, and the initials «ADR» [e.g. 6.1, 21°(m), ADR].

(2) In the case of hydrocyanic acid [1o(a)] the following must be certified in the transport document: «The nature of the goods, and the packaging, are in conformity with the provisions of ADR».

(3) In the case of substances of 41°, the following must be certified in the transport document: «Stored in the open air and in a dry place for not less than three days».

(4) In the case of consignments of substances which polymerize easily, the following must be certified in the transport document: «The necessary steps have been taken to prevent polymerization during carriage».

C. Empty packagings

(1) Bags of 91° and 92° must be packed in cases or in impermeable bags preventing any loss of substances.

(2) Other packagings and tanks of 91° and 92° must be closed the same manner and leak-proof in the same degree as though they were full.

(3) Packagings of 91° forwarded otherwise than as a full load, tanks, and packed bags of 91° shall bear labels conforming to model No. 4; packed bags of 92° shall bear labels conforming to model No. 4A (see Appendix A.9).

(4) The description in the transport document must be: «Empty packaging, 6.1, 91° (or 92°), ADR (or RID). This description must be underlined in red.

CLASS 6.2 REPUGNANT SUBSTANCES AND SUBSTANCES LIABLE TO CAUSE INFECTION

1. List of substances

Among the substances and articles covered by the heading of Class 6.2, only those listed in marginal 2651 are

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to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

1° (a) Fresh tendons, clippings of fresh skins not limed or salted, trimmings from fresh tendons or from clippings of fresh skins; Note: Clippings of wet fresh skins, limed or salted, are not subject to the provisions of ADR.

(b) fresh horns, claws or hoofs not cleansed of bone and soft adhering parts, fresh bones not cleansed of flesh or other soft adhering parts;

(c) undressed pig's bristles and hair.

2° Fresh skins, unsalted or salted, from which effusive quantities of blood or brine drip.

Note: Properly salted skins containing only a small quantity of moisture are not subject to the provisions of ADR.

3° Cleaned or dried bones, cleaned or dried horns, claws or hoofs.

Note: Dry bones divested of fat, not giving off any putrid odour, are not subject to the provisions of ADR.

4° Fresh calf rennets, cleansed of all traces of edible matter.

Note: Dried calf rennets not giving off an offensive odour are not subject to the provisions of ADR.

5° Compressed residues arising from the manufacture of skin glue (calcareous residues, residues from the liming of skin clippings, or residues used as fertilizers).

6° Non-compressed residues arising from the manufacture of skin glue

7° Non-infected urine protected against decomposition.

8° Anatomical pieces, entrails and glands.

(a) non infected

(b) infected

9o Manure.

10° Excrement.

11° Other animal substances, repugnant or liable to cause infection, not already specifically mentioned in 1° to 10°.

12° Empty packagings and empty bags which have contained substances of 1° to 8°, 10° and 11°, and sheets which have been used to cover substances of Class 6.2.

Note: If uncleaned, these packagings, bags and sheets are not to be accepted for carriage.

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2. Provisions

A. Packages

1. General conditions of packing

(1) Packagings shall be so closed and leak-proof as to prevent any loss of the contents.

(2) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular where substances are in the liquid state or are liable to ferment, receptacles and their closures must, unless the section headed «Packing of a single substance» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage.

(3) No trace of the contents must adhere to the outside of packages.

2. Packing of a single substance

Substances of 1o shall be packed:

(a) if forwarded otherwise than as a full load:

1. in metal receptacles fitted with a safety closure capable of yielding to internal pressure, or in casks, small vats or cases; or

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2. in the case of substances of 1o (c) in the dry state, also in bags, on condition that the bad odour can be removed by disinfection. In the case of substances not in the dry state, packing in bags is allowed only from 1 November to 15 April;

(b) if forwarded as a full load:

1. in the packagings specified in (a) 1. above; or
2. on condition that the bad odour can be removed by disinfection, in bags impregnated with suitable disinfectants.

Substances of 2° shall be packed:

(a) if forwarded otherwise than as a full load:

1. in casks, small vats or cases; or
2. during the months from November to February inclusive, in bags impregnated with suitable disinfectants, on condition that the bad odour can be removed by disinfection;

(b) if forwarded as a full load:

1. in the packagings specified in (a) 1. above; or
2. on condition that the bad odour be removed by disinfection, in bags impregnated with suitable disinfectants.

Substances of 3° shall be packed in casks, small vats, cases, metal receptacles or bags.

Substances of 4° shall be packed:

(a) if forwarded otherwise than as a full load:

in casks, small vats, cases, metal receptacles or bags;

(b) if forwarded as a full load: in any suitable packagings.

Substances of 5° and 6o shall be packed in casks, small vats, cases or metal receptacles.

Substances of 7° shall be packed in hermetically closed receptacles made of galvanized sheet-steel.

(1) Substances of 8° shall be packed in metal receptacles fitted with a safety closure capable of yielding to internal pressure, in casks or small vats; substances of 8o (a) may also be packed in cases.

(2) Substances of 8° may also be packed as follows:

(a) substances of 8° (a), in receptacles made of glass, porcelain, stoneware, metal or a suitable plastics material. These receptacles shall be placed, either singly or in groups, in a strong wooden case, with absorbent cushioning materials if the receptacles are fragile. If the substances to be carried are immersed in a preserving fluid, the absorbent materials shall be sufficient in quantity to absorb all the fluid. The preserving fluid must not be inflammable. Packages weighing more than 30 kg shall be fitted with means of handling;

(b) substances of 8° (b), in suitable receptacles placed with cushioning materials in a strong wooden case having a metal lining rendered leak-proof e.g. by soldering. Packages weighing more than 30 kg shall be fitted with means of handling;

Substances of 9° shall be forwarded only in bulk.

Substances of 10° shall be packed in receptacles made of sheet-metal.

Substances of 11° shall be packed in metal receptacles fitted with a safety closure capable of yielding to internal pressure, or in casks, small vats or cases.

3. Mixed packing

Substances listed under an item number of marginal 2651 may be included in the same package only with substances listed under the same item number, and then only on condition that the packagings prescribed in sections A.1 and 2 above are used.

4. Marking and danger labels on packages (see Appendix A.9)

Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No.9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear la-

bels conforming to model No.8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner with other packagings are used.

B. Particulars in the transport document

The description of the goods in the transport document must conform to one of the names underlined in marginal 2651. Where the name the substance is not indicated, the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or †«RID» [d.g. 6.2, 1o (a), ADR].

Empty packagings

(1) Articles of 12o shall be cleaned and treated with suitable disinfectants.

(2) The description in the transport document must be: «Empty packaging (or empty bag, or sheet), 6.2, 12o, ADR (or RID)».

This description must be underlined in red.

CLASS 7

RADIOACTIVE SUBSTANCES

Introduction

(1) Scope

(a) Among the substances with a specific activity of more than 0.002 microcurie per gramme and articles containing such substances, only those indicated in the schedules of marginal 2703 are to be accepted for carriage and then only under the conditions set out in the appropriate schedules of the said marginal and in appendix A.6 (marginals 3600 to 3699).

(b) The substances and articles referred to in (a) are substances and articles of ADR

NOTE. Cardiac pacemakers containing radioactive substances, when they have been surgically implanted in medical patients, or radiopharmaceuticals being carried inside patients in the course of medical treatment, are not subject to ADR.

(2) Definitions and explanations

A₁ and A₂

«A₁» means the maximum activity of special form radioactive substances permitted in a Type A package. «A₂» means the maximum activity of radioactive substances, other than special form radioactive substances, permitted in a Type A package. These values either are listed in Appendix A.6 table XXi or may be derived in accordance with the procedure described in marginals 3690 and 3691 of Appendix A.6.

Allowable number of packages

«Allowable number¹ of packages» means the maximum number of Fissile Class II or Fissile Class III packages which may be grouped together in one place during carriage or during transit storage.

* 1) When the group is made up of packages of different designs, the maximum number of packages shall be such that the following formula is satisfied:

$$\frac{n_1}{N_1} + \frac{n_2}{N_2} + \frac{n_3}{N_3} + \dots \text{ shall not exceed } 1. \text{ In this formula,}$$

$$N_1 \quad N_2 \quad N_3$$

$n_1, n_2, n_3 \dots$ are the numbers of packages for which the corresponding allowable numbers are $N_1, N_2, N_3 \dots$ respectively.

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Containment system

«containment system» means the components of the packaging specified by designer as intended to retain the radioactive substance during carriage.

Design

«Desing» means the description of a special form substance, or of a package or a packaging of a particular kind, which enables it to be fully identified. The description may include specifications, engineering drawings, reports demonstrating compliance with regulatory requirements, and other relevant documentation.

Fissile substances

«Fissile substance» means plutonium-238, plutonium-239, plutonium-241, uranium-233, uranium-235, and all substances containing any of these radionuclides. Unirradiated natural and depleted uranium do not come under this definition.

Low-level solid radioactive substances

«Low-level solid radioactive substance» (LLS) means any of the following:

(a) Solids (e.g. consolidated wastes, activated substances) in which:

(i) the activity in normal carriage is and remains distributed throughout the solid or the collection of solids or is and remains uniformly distributed in a solid compact binding agent (such as concretes, bitumen, ceramic);

(ii) the activity is and remains insoluble so that even under loss of packaging the loss of radioactive substance per package resulting from the effects of wind, rain, etc., of from total immersion in water is limited to less than $0.1 A_2$ in a period of one week; and

(iii) the activity averaged throughout the radioactive substance does not exceed $2 \times 10^{-3} A_2/g$.

(b) Articles of non-radioactive substance which are contaminated with a radioactive substance, provided that the radioactive contamination is in a non-readily-dispersible form and that the level of contamination averaged over $1 m^2$ (or over the area of the surface if that area is less than $1 m^2$) does not exceed

$20 uCi/cm^2$ for beta and gamma emitters and the low-toxicity alpha emitters indicated in Table XIX of Appendix A.6; and $2 uCi/cm^2$ for other alpha emitters.

Low specific activity substances (1)

«Low specific activity substances (1)» (LSA) means any of the following:

(a) Uranium or thorium ores and physical or chemical concentrates of those ores;

(b) Unirradiated natural or depleted uranium or unirradiated natural thorium;

(c) Tritium oxide in aqueous solutions, provided that the concentration does not exceed $10 Ci/litre$;

(d) Substances in which the activity is uniformly distributed and which if they were reduced to their minimum volume in conditions likely to be encountered in carriage, such as dissolution in water with subsequent recrystallization; precipitation; evaporation; combustion; abrasion; etc., would have an average specific activity of not more than $10^{-4} A_2/g$;

(e) Articles on non-radioactive substance which are contaminated with a radioactive substance, provided that the non-fixed surface contamination does not exceed ten times the values in Table XIX of Appendix A.6 and that the contaminated article or the contamination on the article, if it was reduced to its minimum volume in conditions likely to be encountered in carriage, such as dissolution in water with subsequent recrystallization;

precipitation; evaporation; combustion; abrasion; etc., would have an average specific activity of not more than $10^{-4} A_2/g$.

Low specific activity substances (II)

«Low specific activity substances (II)» (LSA) means any of the following:

(a) Substances in which the activity in normal carriage is and remains uniformly distributed and in which the average specific activity does not exceed $10^{-4} A_2/g$;

(b) Articles of non-radioactive substance which are contaminated with a radioactive substance, provided that the radioactive contamination is in a non-readily-dispersible form and that the level of contamination averaged over $1 m^2$ (of over the area of the surface if that area is less than $1 m^2$) does not exceed

$1 uCi/cm^2$ for beta and gamma emitters and the low-toxicity alpha emitters indicated in Table XIX of Appendix A.6; and $0.1 uCi/cm^2$ for other alpha emitters.

Maximum normal operating pressure

«Maximum normal operating pressure» means the maximum pressure above atmospheric pressure at mean sea-level that would develop in the containment system in a period of one year in conditions of temperature and solar radiation corresponding to environmental conditions of transport in the absence of venting, external cooling by an ancillary system, or operational controls during carriage.

Multilateral approval

«Multilateral approval» means approval by the competent authority of the country of origin and by the competent authority of each country in whose territory the consignment is to be carried.

Package

«Type A package» means a type A packaging together with its limited radioactive contents. As the contents of a Type A package are limited to A_1 or A_2 , such a package does not require approval by the competent authority.

«Type B(U) package» means a Type B packaging, together with its radioactive contents, which since it is designed in accordance with specified design and containment criteria requires unilateral approval only of the package design and of any stowage provisions that may be necessary for heat dissipation.

«Type B(M) package» means A Type B packaging, together with its radioactive contents, which since its design fails to meet one or more of the specific additional design criteria for Type B(U) packages (see marginal 3603 of Appendix A.6) requires multilateral approval of the package design and, in certain circumstances, of the conditions of despatch.

Packaging

«Packaging» means the assembly of components necessary to ensure compliance with the packaging requirements of this Class. It may, in particular, consist of one or more receptacles, absorbent materials, spacing structures, radiation shielding, and devices for cooling, for absorbing mechanical shocks and for thermal insulation. These devices may include the vehicle with the tie-down system when these are intended to form an integral part of the packaging.

«Type A packaging» means a packaging which in normal carriage is able to prevent any loss or dispersal of the radioactive content and to retain its shielding function. The conditions of normal carriage shall be reproduced by the tests prescribed in marginal 3635 and 3636 of Appendix A.6, which tests the packaging shall be shown to have passed.

«Type B packaging» means a packaging which is able

to withstand not only the conditions of normal carriage, as a Type A packaging does, but also a transport accident. The conditions of such an accident shall be reproduced by the tests prescribed in marginals 3635 to 3637 of Appendix A.6, which tests the packaging, shall shown to have passed in the conditions likewise prescribed.

Radiation level

«Radiation level» means the corresponding radiation dose-equivalent rate expressed in millirem per hour. Radiation levels may be determined by instruments, combined with the use of conversion tables where necessary of by calculation. Measured or calculated neutron flux densities may be converted into radiation levels by using the data given in the following table.

Neutron flux densities to be regarded as equivalent to a radiation level of 1 mrem/h

| Energy of neutron | Flux density equivalent to 1 mrem/h (n/cm ² ·s) |
|-------------------|---|
| Thermal | 268 |
| 5 keV | 228 |
| 20 keV | 112 |
| 100 keV | 32 |
| 500 keV | 12 |
| 1 MeV | 7.2 |
| 5 MeV | 7.2 |
| 10 MeV | 6.8 |

Note: Equivalent flux densities for energies between those listed above should be obtained by linear interpolation.

Radioactive contents

«Radioactive contents» means the radioactive substance together with any contaminated solids, liquids or gases in the package.

Special form radioactive substance

«Special form radioactive substance» means either a non-dispersible solid radioactive substance or a sealed capsule containing a radioactive substance. The sealed capsule shall be so constructed that it can be opened only by destroying it. The special form radioactive substance shall meet the following requirements:

(a) It shall have at least one dimension of not less than 5 mm; and

(b) It shall comply with the relevant test requirements specified in marginals 3640 to 3642 of Appendix A.6.

In general, the «special form» concept enables substances exhibiting a higher activity level to be included in a Type A package.

Specific activity

The «specific activity» of a radionuclide means that radionuclide's activity per unit mass. The specific activity of a substance in which the radionuclides are essentially uniformly distributed is that substance's activity per unit mass.

Transport index

The «transport index» of a package means:

(a) The number expressing the maximum radiation

level in millirem per hour at 1 m from the external surface of the package; or

(b) In the case of packages of Fissile Class II or Fissile Class III, the higher of the following numbers:

the number expressing the maximum radiation level as under (a) above; and the number obtained by dividing 50 by the allowable number of such packages.

The «transport index» of a container means either;

the sum of the transport indices of all packages within the container, except that for containers carrying Fissile Class III packages, the transport index shall be 50 unless the sum of the transport indices of the packages necessitates a higher figure.

or for containers not carrying Fissile Class II or III packages and under full load, the number expressing the maximum radiation level in mrem/h at 1 m from the external surface of the container multiplied by the value in the following table appropriate to the maximum cross-sectional area of the container.

Multiplication factors

| Size of load | Multiplication factor |
|---|-----------------------|
| Measurement (cross-sectional area measurements of the load perpendicular to the direction of interest). | |
| 1 m ² and less | 1 |
| Ø 1 m ² to 5 m ² | 3 |
| Ø 5 m ² to 20 m ² | 6 |
| Ø 20 m ² to 100 m ² | 19 |

(c) The figure expressing the transport index shall be rounded upwards to the first decimal place.

Uncompressed gas

«Uncompressed gas» means a gas at a pressure not exceeding the ambient atmospheric pressure at the time when the containment system is closed.

Unilateral approval

«Unilateral approval» means approval by the competent authority of the country of origin only. If the country of origin is not a party to ADR, the approval shall require validation by the competent authority of the first ADR country reached by the consignment.

Unirradiated uranium

«Unirradiated uranium» means uranium containing not more than 10⁻⁶ g plutonium per g uranium-235 and a fission product activity of not more than 0.25 mCi per g uranium-235.

2700

Unirradiated thorium

«Unirradiated thorium» means thorium containing not more than 10⁻⁷ g of uranium-233 per g of thorium-232.

Uranium; natural, depleted, enriched

«Natural uranium» means chemically-separated uranium with the naturally-occurring distribution of uranium isotopes (approximately 99.28 per cent uranium-238 and 0.72 per cent uranium-235). «Depleted uranium» means uranium containing less than 0.72 per cent uranium-235, the remainder being uranium-238. «Enriched uranium» means uranium containing more than 0.72 per cent uranium-235, the remainder being uranium-238. In all cases a very small amount of uranium-234 is present.

(3) Prohibitions on mixed loading

Substances of class 7 contained in packages bearing a label conforming with models Nos. 6A, 6B or 6C shall not be loaded in the same vehicle together with substances and articles of Classes 1a (marginal 2101), 1b (marginal 2131) or 1c (marginal 2171) contained in packages bearing one or two labels conforming with model No. 1.

The substances and articles of this class contain one or more of the radionuclides referred to in chapter VI of Appendix A.6 (marginals 3690 and 3691).

The list hereunder specifies the different types of consignment:

1. Empty packages which have contained radioactive substances;

2. Articles manufactured from natural or depleted uranium or natural thorium;

3. Small quantities of radioactive substances;

4. Instruments and manufactured articles;

5. Low specific activity substances LSA (I)

6. Low specific activity substances LSA (II)

7. Low-level solid radioactive substances;

8. Radioactive substances in Type A packages;

9. Radioactive substances in Type B(U) packages;

10. Radioactive substances in Type B(M) packages;

11. Fissile substances;

12. Radioactive substances carried under special arrangement.

1. Substances

Empty packages: with have contained radioactive substances.

2. Packaging/Package

(a) Packaging shall be in accordance with the requirements given in marginal 3600 of Appendix A.6, and shall be securely closed and in good condition.

(b) Permitted internal contamination levels: not more than 100 times those levels set out in paragraph 5.

(c) Where an empty packaging includes natural or depleted uranium or natural thorium in its structure its surface shall be covered with a substantial, inactive sheath made of metal or some other resistant material.

Schedule 1

Danger labels on package.

None

Note: Anty labe indicating a danger shall be covered or removed.

3. Packages maximum radiation level

0.5 mrem/h at the surface of the package.

4. Mixed packing

No provisions.

5. Contamination on packages

Non-fixed external contamination limits:

Beta/gamma/low-toxicity

alpha emitters

10^{-4} uCi/cm²

Natural/depleted uranium/

natural thorium

10^{-3} uCi/cm²

Other alpha emitters

10^{-5} uCi/cm²

For full details, see marginal 3651 of Appendix A.6.

6. Marking on packages

(a) Packages shall be plainly and durably marked with the weight if over 50 kg.

(b) Any marking indicating a radioactive danger shall not be visible.

7. Transport documents

The transport document shall include the description «Radioactive substances (Empty packages), 7, schedule 1, ADR», with the name underlined in red.

8. Storage and despatch

No provisions.

9. Carriage of packages in vehicles and containers

No provisions.

10. Carriage in bulk in vehicles and containers

Not applicable.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers

None.

13. Prohibitions on mixed loading

No provisions.

14. Decontamination of vehicles, tank vehicles, tank containers and containers

No provisions.

15. Other provisions

None.

1. Substances

Articles manufactured from natural or depleted uranium or natural thorium.

The outer surface of the uranium or thorium shall be covered by a substantial, inactive sheath made of metal or some other resistant material.

Schedule 2

Danger labels on packages.

None.

NOTE: Such articles may for example be unused packagings intended for the transport of radioactive substances.

2. Packaging/Package

Packaging shall be in accordance with the requirements given in marginal 3600 of Appendix A.6.

3. Package maximum radiation level

0,5 mrem/h at the surface of the package.

4. Mixed packing

No provisions.

5. Contamination on packages

Non-fixed external contamination limits:

Beta/gamma/low-toxicity

alpha emitters

10^{-4} uCi/cm²

Natural/depleted uranium/

natural thorium

10^{-3} uCi/cm²

Other alpha emitters

10^{-5} uCi/cm²

For full details see marginal 3651 of Appendix A.6.

6. Marking on packages

None.

7. Transport documents

The transport document shall include the description «Radioactive substances (Manufactured articles), 7, schedule 2, ADR», with the name underlined in red.

8. Storage and despatch

No provisions.

9. Carriage of packages in vehicles and containers

No provisions.

10. Carriage in bulk in vehicles and containers

Not applicable.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers

None.

13. Prohibitions on mixed loading

No provisions.

14. Decontamination of vehicles, tank vehicles, tank containers and containers

No provisions.

15. Other provisions

None.

1. Substances

Small quantities of radioactive substances in amounts which do not exceed those given in the table below and which do not contain more than 15 g of uranium-235.

Schedule 3

Danger labels on packages.

None (but see paragraph 15).

| Nature of substances | Package limits |
|------------------------------------|----------------|
| Solids and gases | |
| Special form | 10^{-3} A1 |
| Other forms | 10^{-3} A2 |
| Tritium | 20 Ci* |
| Liquids | |
| Tritium oxide in aqueous solutions | |
| less than 0.1 Ci/l | 1000 Ci |
| between 0.1 Ci/l and 1.0 Ci/l | 100 Ci |
| greater than 1.0 Ci/l | 1 Ci |
| Other liquids | 10^{-4} A2 |

For mixtures of radionuclides, see marginal 3691 of Appendix A.6.

2. Packaging/Package

(a) Packaging shall be in accordance with the requirements given in marginal 3600 of Appendix A.6.

(b) During transport there shall be no leakage of radioactive substances.

3. Package maximum radiation level

0.5 mrem/h at the surface of the package.

4. Mixed packing

No provisions.

5. Contamination on packages

Non-fixed external contamination limits:

| | |
|--|-------------------------------|
| Beta/gamma/low-toxicity | |
| alpha emitters | 10^{-4} uCi/cm ² |
| Natural/depleted uranium/ natural thorium | 10^{-3} uCi/cm ² |
| Other alpha emitters | 10^{-5} uCi/cm ² |

For full details, see marginal 3651 of Appendix A.6.

6. Marking on packages

The outermost surface of the containment system shall be marked «RADIOACTIVE» as a warning on opening the package.

7. Transport documents

The transport document shall include the description «Radioactive substances (Small quantities), 7, schedule 3, ADR», with the name underlined in red.

8. Storage and despatch

No provisions.

9. Carriage of packages in vehicles and containers

No provisions.

10. Carriage in bulk in vehicles and containers

Not permitted.

11. Carriage in tank vehicles and tank containers

Not permitted.

12. Placards and labels on vehicles tank vehicles, tank containers and containers

None.

13. Prohibitions on mixed loading

No provisions.

14. Decontamination of vehicles, tank vehicles, tank containers and containers

See marginal 3695 (3) of Appendix A.6.

15. Other provisions

(a) Accident provisions - see marginal 3695 (1) of Appendix A.6.

(b) Decontamination in storage - see marginal 3695 (2) of Appendix A.6.

(c) Radioactive substances which possess other hazardous properties shall also comply with the provisions of the appropriate class.

* The values for tritium also apply to tritium in activated luminous paint and tritium adsorbed on solid carriers.

1. Substances

Instruments and Manufactured articles such as clocks, electronic tubes or apparatus, having radioactive substances as a component part, whose activity does not exceed the amounts given in the table below and which do not contain more than 15 g. of uranium-235.

| Nature of substances | Item limits | Package limits |
|----------------------|--------------------------|--------------------------|
| Solids | | |
| Special form | 10^{-2} A ¹ | A ¹ |
| Other forms | 10^{-2} A ² | A ² |
| Liquids | 10^{-3} A ² | 10^{-1} A ² |
| Gases | | |
| Tritium | 20 Ci* | 200 Ci* |
| Special form | 10^{-3} A ¹ | 10^{-2} A ¹ |
| Other forms | 10^{-3} A ² | 10^{-2} A ² |

For mixtures of radionuclides, see marginal 3691 of Appendix A.6.

2. Packaging/Package

(a) Packaging shall be in accordance with the requirements given in marginal 3600 of Appendix A.6.

(b) The instruments and articles shall be securely packed.

3 Package maximum radiation level

0.5 mrem/h at the surface of the package and 10 mrem/h at 10 cm from any point on the external surface of any unpacked instrument or article.

4. Mixed packing

No provisions.

5. Contamination on packages

Non-fixed external contamination limits:

| | |
|--|-------------------------------|
| Beta/gamma/ low-toxicity | |
| alpha emitters | 10^{-4} uCi/cm ² |
| Natural/depleted uranium/ natural thorium | 10^{-3} uCi/cm ² |
| Other alpha emitters | 10^{-5} uCi/cm ² |

For full details, see marginal 3651 of Appendix A.6.

6. Marking on packages

Each instrument or article (except radioluminescent timepieces or devices) shall bear the marking «RADIOACTIVE».

7. Transport Documents

The transport document shall include the description «Radioactive substances (Instruments) or (Manufactured articles), 7, schedule 4, ADR», with the name underlined in red.

8. Storage and despatch

No provisions.

9. Carriage of packages in vehicles and containers

No provisions.

10. Carriage in bulk vehicles and containers

Not applicable.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and Labels on vehicles tank vehicles, tank containers and containers

None.

13. Prohibitions on mixed loading

No provisions.

14. Decontamination of vehicles, tank vehicles, tank containers and containers

See marginal 3695 (3) of Appendix A.6.

15. Other provisions

(a) Accident provisions - see marginal 3695 (1) of Appendix A.6.

(b) Decontamination in storage - see marginal 3695 (2) of Appendix A.6.

* The values for tritium also apply to tritium in activated luminous paint and tritium adsorbed on solid carriers.

Class 7

1. Substances

Low specific activity substances LSA(I), belonging to one of the following groups as defined fully in marginal 2700(2):

- (i) uranium or thorium ores or concentrates (sub-para (a) of definition)
- (ii) unirradiated natural or depleted uranium or unirradiated natural thorium (sub-para (b) of definition)
- (iii) tritium oxide in aqueous solutions - concentration 10 Ci/l or less. (sub-para (c) of definition)
- (iv) substances with uniform activity under minimum volume conditions of not more than 10-4 A2/g (sub-para (d) of definition).
- (v) Non-radioactive articles contaminated to not more than 10 times the package limits set in para 5 below and so that the specific activity under minimum volume conditions never exceeds 10-4 A2/g (sub-para (e) of definition).

Schedule 5

Danger labels on packages (see Appendix A.9).

Unless transported as a full load, labels to models 6A, 6B or 6C shall be affixed externally to two opposite sides, see marginals 3653 to 3655 of Appendix A.6 for package category. The contents shall be described on the labels as «Radioactive LSA». Subsidiary labelling:

- (i) for thorium nitrate and uranium nitrate - model No. 3 labels are required.
- (ii) for uranium hexafluoride - model No. 4 labels are required.

If fissile substances are present the requirements of schedule II shall be met in addition to the requirements of this schedule.

2. Packaging/Package

Packages transported other than as full load-packaging shall be in accordance with the requirements of marginal 3600, marginal 3650 to 3655 and marginal 3656(1) to (4) of Appendix A.6.

Substances of paragraph 1(ii) above in massive solid form shall be packed so as to prevent abrasion, and in other solid forms shall be contained in a substantial sheath.

3. Package maximum radiation level

200 mrem/h at the surface of the package and 10 mrem/h at 1 metre from that surface (see marginals 3653 to 3655 of Appendix A.6).

Except in the case of a full load when the limit is 1,000 mrem/h at the surface of the package and may exceed 10 mrem/h at 1 metre from that surface (see marginal 3659(7) of Appendix A.6).

4. Mixed packing

See marginal 3650 of Appendix A.6.

5. Contamination on packages

(a) Non-fixed external contamination limits for packages carried other than full load.

Beta/gamma/low-toxicity alpha emitters 10^{-4} $\mu\text{Ci}/\text{cm}^2$
Natural/depleted uranium/natural thorium 10^{-3} $\mu\text{Ci}/\text{cm}^2$

Other alpha emitters 10^{-5} $\mu\text{Ci}/\text{cm}^2$

For full details, see marginal 3651 of Appendix A.6.

(b) For packages carried in a full load - No provisions.

6. Marking on packages

Packages transported as full load - stencilled or otherwise marked «RADIOACTIVE LSA».

Package transported other than full load - plainly and durably marked with the weight if over 50 kg.

7. Transport documents

The transport document shall include the description «Radioactive substances (Low specific activity LSA (I)), 7,

schedule 5, ADR», with the name underline in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

8. Storage and despatch

(a) Storage and segregation from other dangerous goods - see marginal 3658 (1) Appendix A.6.

(b) Storage and segregation from packages labelled «FOTO» - see marginal 240000 of Appendix B.4 for segregation table.

(c) Total transport index limitation for storage, no limit except in the case Fissile Class II or III packages, see marginal 3658 (2) to (5) of Appendix.

9. Carriage of packages in vehicles and containers

(a) Segregation from packages labelled «FOTO» - see marginal 240001 of Appendix B.4 for segregation Table.

(b) Total transport index limitation - 50. This limit does not apply to a load, provided that if Fissile Class II or III packages are present the allowable number is not exceeded, (see marginal 3659(5) of Appendix A.6).

(c) Maximum radiation levels for vehicles and large containers in the case of a full load

200 mrem/h at surface

10 mrem/h at 2 metres from surface

(see marginal 3659(1) of Appendix A.7)

Also, for vehicles - 2 mrem/h in any normally occupied position - see marginal 3659(8) of Appendix A.6.

(d) Packages not in conformity with the requirements of marginal 3600 shall be transported as full load, and the limits in the following table shall not be exceeded:

| Nature of substances | Vehicle or large container activity limit |
|------------------------------------|---|
| Solids | No limit |
| Tritium oxide in aqueous solutions | 50,000 Ci |
| Other liquids and gases | 100 x A ₂ |

10. Carriage in bulk in vehicles and containers

Permitted under full load provided that, after loading, external surfaces of vehicles are carefully cleaned by the consignor and provided that no leakage can occur under normal transport. Quantity limits as in the table in paragraph 9 above.

11. Carriage in tank-vehicles and tank-containers

(a) Carriage in tank-vehicles: permitted for liquids or solids other than uranium hexafluoride and substances liable to spontaneous ignition (see Appendix A.6, marginal 3660);

(b) Carriage in tank-containers: permitted for liquids or solids, including natural or depleted uranium hexafluoride (see Appendix A.6, marginal 3661).

12. Placards and labels on vehicles, tank vehicles, tank containers and containers (see Appendices A.9 and B.4)

Containers - labels to models 6A, 6B or 6C on all four sides. Vehicles and large containers - placards to model in Appendix B.4 marginal 240 010 on each lateral side and on rear wall of vehicle (see marginals 3659(6) and 71 500).

Subsidiary labelling

(i) for thorium nitrate and uranium nitrate - model No. 3 labels are required

(ii) for uranium hexafluoride - model No. 4 labels are required.

13. Prohibitions on mixed loading

See marginal 2700(3).

14. Decontaminated of vehicles, tank vehicles, tank containers and containers

(a) For full load consignments, after unloading, vehicles to be decontaminated by the consignee to the levels in Table XIX of Appendix A.6 unless to be used for carrying

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the same substances. See also marginal 3695(4) of Appendix A.6.

(b) For non-full load consignments, see marginal 3695(3) of Appendix A.6.

15. Other provisions

(a) Accident provisions - see marginal 3695(1) of Appendix A.6.

(b) Decontamination in storage - see marginal 3695(2) of Appendix A.6.

1. Substances

Low specific activity substances LSA(II) belonging to either of the following groups as defined fully in marginal 2700(2):

(i) substances with uniform activity of not more than 10^{-4} A2/g. (sub-para (a) of definition).

(ii) non-radioactive articles contaminated non-dispersibly to a level not exceeding $1 \mu\text{Ci}/\text{cm}^2$ for beta and gamma emitters and low toxicity alpha emitters, or $0.1 \mu\text{Ci}/\text{cm}^2$ for other alpha emitters (sub-para (b) of definition).

If fissile substances are present the requirements of schedule 11 shall be met in addition to the requirements of this schedule.

2. Packaging/Package

Packaging shall be in accordance with the requirements of marginal 3600, marginal 3650 and marginal 3651 of Appendix A.6.

3. Package maximum radiation level

Closed vehicles under conditions of marginal 3659(7) (a) of Appendix A.6 - 1000 mrem/h at the surface of the package and may exceed 10 mrem/h at one metre from that surface. All other vehicles not under the conditions of marginal 3659 (7)(a) of Appendix A.6 - 200 mrem/h at the surface of the package and 10 mrem/h at one metre from that surface.

4. Mixed packing

See marginal 3650 of Appendix A.6.

5. Contamination on packages

Non-fixed external contamination limits:

| | |
|--|-----------------------------------|
| Beta/gamma/low toxicity alpha emitters | $10^{-4} \text{ UCI}/\text{cm}^2$ |
| Natural/depleted uranium/natural thorium | $10^{-3} \text{ UCI}/\text{cm}^2$ |
| Other alpha emitters | $10^{-5} \text{ UCI}/\text{cm}^2$ |

For full details, see marginal 3651 of Appendix A.6

Schedule 6

Danger labels on packages

None required unless fissile substances are present (see Schedule 11).

6. Marking on packages

Packages shall be stencilled or otherwise marked «RA-DIOACTIVE LSA».

7. Transport documents

The transport document shall include the description «Radioactive substances (Low specific activity LSA (II)), 7, schedule 6, ADR, «with the name underlined in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

8. Storage and despatch

Only under full load

9. Carriage of packages in vehicles and containers

(a) Carriage only by full load

(b) If the consignment includes Fissile Class II or III packages the allowable number shall not be exceeded. (see Schedule 11).

(c) Maximum radiation levels for vehicles and large containers

200 mrem/h at surface

10 mrem/h at 2 metres from surface (see marginal 3659(7) of Appendix A.6)

Also, for vehicles - 2 mrem/h in any normally occupied position - (see marginal 3659(8) of Appendix A.6)

(d) The limits in the following table shall not be exceeded:

| Nature of substances | Vehicle or large container activity limit |
|--------------------------------------|---|
| Solids | No limit |
| Tritium isotope in aqueous solutions | 50000 Ci |
| Other liquids and gases | $100 \times A_2$ |

10. Carriage in bulk in vehicles and containers

Not permitted.

11. Carriage in tank vehicles and tank containers

Not permitted.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers (see Appendices A.9 and B.4) Containers - labels to 6A, 6B or 6C on all four sides.

Vehicles and large containers - placards to model in Appendix B.4, marginal 240 010 on each lateral side and on rear wall or vehicle (see marginals 3659(6) and 71 500).

13. Prohibitions on mixed loading

See marginal 2700(3).

14. Decontamination of vehicles, tank vehicles, tank containers and containers

See marginal 36953(3) and (4) or Appendix A.6.

15. Other provisions

Accident provisions - see marginal 3695 (1) of Appendix A.6.

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1. Substances

Low level solid radioactive substances LLS belonging to either of the following groups as defined fully in marginal 2700(2):

(i) substances with uniform activity of not more than 2×10^{-3} A2/g. (sub para (a) of definition).

(ii) non-radioactive articles contaminated to a level not exceeding $20 \text{ UCI}/\text{cm}^2$ for beta and gamma emitters and low toxicity alpha emitters or $2 \text{ UCI}/\text{cm}^2$ for other alpha emitters. (sub-para (b) of definition).

If fissile substances are present the requirements of schedule 11 shall be met in addition to the requirements of this schedule.

2. Packaging/Package

(a) Packaging shall be in accordance with the requirements of marginals 3600 and 3650 of Appendix A.6 and shall be capable of withstanding the tests set out in marginal 3635(4) and (5) of Appendix A.6.

(b) Under the conditions of the tests set out in (a) there shall be

(i) no loss or dispersal of the radioactive contents

(ii) no increase of the maximum radiation level recorded or calculated at the external surface for the condition before the test.

3. Package maximum radiation level

Closed vehicles under conditions of marginal 3659(7) (a) of Appendix A.6 - 1000 mrem/h at the surface of the package and may exceed 10 mrem/h at one metre from that surface. All other vehicles not under the conditions of marginal 3659(7) (a) of Appendix A.6 - 200 mrem/h at the surface of the package and 10 mrem/h at one metre from that surface.

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4. Mixed packing

See marginal 3650 of Appendix A.6.

Schedule 7

Danger labels on packages

None required unless fissile substances are present. (see schedule 11).

5. Contamination on packages

No provisions.

6. Marking on packages

Packages shall be stencilled or otherwise marked «RA-DIOACTIVE LLS».

7. Transport documents

The transport document shall include the description «Radioactive substances (Low - level solid (LLS), 7, schedule 7, ADR», with the name underlined in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

8. Storage and despatch

Only under full load.

9. Carriage of packages in vehicles and containers

(a) Carriage only by full load

(b) If the consignment contains Fissile Class II or III packages the allowable number shall not be exceeded (see schedule 11).

(c) Maximum radiation levels for vehicles and large containers.

200 mrem/h at surface

10 mrem/h at 2 metres from surface

see marginal 3659(7) of Appendix A.6.

Also, for vehicles - 2 mrem/h in any normally occupied position - see marginal 3659(8) of Appendix A.6.

10. Carriage in bulk in vehicles and containers,

Not permitted.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers (see Appendices A.9 and B.4)

Containers - labels to model 6A, 6B or 6C on all four sides.

Vehicles and large containers - placards to model in Appendix B.4, marginal 240 010 on each lateral side and on rear wall of vehicle (see marginals 3659(6) and 71 500).

13. Prohibitions on mixed loading

See marginal 2700(3).

14. Decontamination of vehicles, tank vehicles, tank containers and containers

After unloading, vehicles to be decontaminated by the consignee to the level set in table XIX of Appendix A.6 unless to be used for carrying the same substances. See also marginal 3695(3) and of Appendix A.6.

15. Other provisions

Accident provisions - see marginal 3695 (1) of Appendix A.6.

Schedule 8

Danger labels on packages (see Appendix A.9)

Labels to models 6A, 6B or 6C shall be affixed externally to two opposite sides, see marginals 3653 to 3655 of Appendix A. 6 for package category.

1. Substances

Radioactive substances in Type A packages up to an activity per package of A_2 or A_1 if in special form.

If fissile substances are present the requirements of schedule 11 shall be met in addition to the requirements of this schedule.

2. Packaging/Package

Type A, in accordance with the design requirements given in marginals 3600 and 3601 of Appendix A.6.

3. Package maximum radiation level

200 mrem/h at the surface of the package and 10 mrem/h at 1 metre from that surface (see marginals 3653 to 3655 of Appendix A.6).

except in the case of a full load, when the limit is 1000 mrem/h at the surface of the package and may exceed 10 mrem/h at 1 metre from that surface (see marginal 3659 (7) of Appendix A.6).

4. Mixed packing

See Marginal 3650 of Appendix A.6.

5. Contamination on packages

Non - fixed external contamination limits:

Beta/gamma/ low - toxicity alpha emitters $10^{-4} \mu\text{Ci}/\text{cm}^2$

Natural/depleted uranium/natural thorium $10^{-3} \mu\text{Ci}/\text{cm}^2$

Other alpha emitters $10^{-5} \mu\text{Ci}/\text{cm}^2$

For full details, see marginal 3651 or Appendix A.6

6. Marking on packages

Packages shall be plainly and durably marked externally with

I. «Type A»

II. the weight of the package, if over 50 kg.

7. Transport Documents

a) For a summary of the approval and notification requirements - see marginal 2704.

b) The transport document should include the description «Radioactive substances in Type A packages, 7, schedule 8, ADR», with the name underlined in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

c) Where advantage is taken of the increased activity per package permitted if the substance is in special form, the unilateral special form design approval certificate shall be in the consignor's possession before the first shipment (see marginal 3671 of Appendix A.6).

8. Storage and despatch

a) Storage and segregation from other dangerous goods - see marginal 3658 (1) of Appendix A.6.

b) Storage and segregation from packages labelled «FOTO»

- see marginal 240 001 of Appendix B. 4 for segregation table.

c) Total transport index limitation for storage - 50 per group with 6 metres between groups

- see marginal 3658 (2) to (5) of Appendix A.6.

9. Carriage of packages in vehicles and containers

a) Segregation from packages labelled «FOTO»

- see marginal 240 001 of Appendix B.4 for segregation tables.

b) Total transport index limitation - 50. This limitation does not apply to a full load, provided that if Fissile Class II or III packages are present the allowable number is not exceeded. See marginal 3659 (5) of Appendix A.6.

c) Maximum radiation level for vehicles and large containers in the case of a full load.

200mrem/h at surface

10 mrem/h at 2 metres from surface

(See marginal 3659 (7) of Appendix A.6) Also, for vehicles - 2 mrem/h in any normally occupied position - see marginal 3659 (8) of Appendix A.6.

10. Carriage in bulk in vehicles and containers
Not applicable.

11. Carriage in tank vehicles and tank containers
Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers (see Appendices A.9 and B.4). Containers – labels to model 6A, 6B or 6C on all four sides. Vehicles and large containers – placards to model in Appendix B.4, Marginal 240 1010 each lateral side and on rear wall of vehicle (see marginal 3659 (6) and 71 500).

13. Prohibition on mixed loading
See marginal 2700 (3).

14. Decontamination of vehicles, tank vehicles, tank containers and containers
See marginal 3695 (3) of Appendix A.6.

15. Other provisions
(a) Accident provisions – see marginal 3695 (1) of Appendix A.6.
(b) Decontamination in storage – see marginal 3695 (2) of Appendix A.6.

Schedule 9

Danger labels on packages (see Appendix A.9)
Labels to models 6A, 6B or 6C shall be affixed externally two opposite sides, see marginals 3653 to 3655 of Appendix A.6 for packages category.

1. Substances

Radioactive substances in Type R (U)
Packages

No limit on the quantity per package except as prescribed in the approval certificates. If fissile substances are present, the requirements of schedule 11 shall be met in addition to the requirements of this schedule.

2. Packaging/Package

Type B (U), in accordance with the design requirements given in marginals 3600 to 3603 of Appendix A.6 requiring competent authority unilateral approval, see marginal 3672 of Appendix A.6.

3. Package maximum radiation level

200 mrem/h at the surface of the package and 10 mrem/h at 1 metre from that surface. (see Marginal 3653 to 3655 of Appendix A.6).

except in the case of a full load, when the limit is 1000 mrem/h at the surface of the package and may exceed 10 mrem/h at 1 metre from that surface (see marginal 3659 (7) of Appendix A.6).

4. Mixed packing

See Marginal 3650 of Appendix A.6.

5. Contamination on packages

Non – fixed external contamination limits:

Beta/gamma/ low – toxicity alpha emitters 10^{-4} Ci/cm²

Natural/depleted uranium/natural thorium 10^{-3} Ci/cm²

Other alpha emitters 10^{-5} Ci/cm²

For full details, see marginal 3651 or Appendix A.6

6. Marking on packages

Packages shall be plainly and durably marked externally with:

- «TYPE B (U)».
- competent authority identification mark.
- the weight if over 50 kg.
- the trefoil symbol embossed or stamped on the outermost fire and water – resistant receptacle.

7. Transport Documents

a) For a summary of the approval and notification requirements, see marginal 2704.

b) The transport document shall include the description

«Radioactive substances in Type B (U) packages, 7, schedule 9, ADR», with the name underlined in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

c) Unilateral package design approval certificate is required, see marginal 3672 of Appendix A.6.

d) Before the shipment of any package the consignor shall be in possession of all relevant approval certificates.

e) Before the first shipment of a particular design of package, if the activity is greater than 3×10^3 A₂ or 3×10^3 A₁ as appropriate, or 3×10^4 Ci whichever is the lower, the consignor shall ensure that copies of the competent authority approval certificates have been supplied to the competent authorities of countries affected by the movement, see marginal 3682 (1) of Appendix A.6.

f) Prior to each shipment where the activity is greater than 3×10^3 A₂ or 3×10^3 A₁ as appropriate, or 3×10^4 Ci whichever is the lower, the consignor shall notify the competent authorities of all countries affected by the movement, preferably fifteen days in advance as detailed in marginal 3682 of Appendix A.6.

g) Where advantage is taken of the increased activity per package permitted because the substance is in special form, see paras. (e) and (f) above, a unilateral special form design approval certificate is required (see marginal 3671 of Appendix A.6).

8. Storage and despatch

a) Any instructions in the competent authority approval certificate shall be observed.

b) Storage and segregation from other dangerous goods – see marginal 3658 (1) of Appendix A.6.

c) Storage and segregation from packages labelled «FOTO» – see marginal 240 001 Appendix B.4 for segregation table.

d) Total transport index limitation for storage – 50 per group with 6 metres between groups marginal 3658 (2) to (5) of Appendix A.6.

e) The consignor shall have complied with the pre-use and pre-shipment requirements of marginal 3643 and 3644 of Appendix A.6.

use an pre – shipment requirements of marginals 3643 and 3644 of Appendix A.6.

f) The temperature of the accessible surfaces of the package shall not exceed 50° in the shade unless transport is under full load conditions, in which case the limit is 82° C (see marginals 3602 (3) (b) and 3603 (8) of Appendix A.6).

g) If the average surface heat flux from a package exceeds 15W/m² then the package shall be transported as a full load.

9. Carriage of packages in vehicles and containers

a) Segregation from package labelled «FOTO» see marginal 240 001 of Appendix B.4 for segregation table.

b) Total transport index limitation – 50. This limitation does not apply to a full load, provided that if Fissile Class II or III packages are present the allowable number is not exceeded. See marginal 3659 (5) of Appendix A.6.

c) Maximum radiation levels for vehicles and large containers in the case of a full load.

200 mrem/h at surface

10 mrem/h at 2 metres from surface

See marginal 3659 (7) of Appendix A.6. Also for vehicles – 2 mrem/h in any normally occupied position – see marginal 3659 (8) of Appendix A.6.

10. Carriage in bulk in vehicles and containers
Not applicable.

11. Carriage in tank vehicles and tank containers
Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers (see Appendices A.9 and B.4). Containers – Labels to model 6A, 6B or 6C on all four sides.

Vehicles and large containers – placards to model in Appendix B.4 marginal 240 10 on each lateral side and on rear wall of vehicle (see marginals 3659 (6) and 71 500).

13. Prohibition on mixed loading

See marginal 2700 (3)

14. Decontamination of vehicles, tank vehicles, tank containers and containers

See marginal 3695 (3) of Appendix A.6.

15. Other provisions

a) Accident provisions – see marginal 3695 (1) of Appendix A.6.

b) Decontamination in storage – see marginal 3695 (2) of Appendix A.6.

Schedule 10

Danger labels on packages (see Appendix A.9)

Labels to models 6A, 6B or 6C shall be affixed externally two opposite sides, see marginals 3653 to 3655 of Appendix A.6 for package category.

1. Substances

Radioactive substances in Type B (M)

Packages

that is a Type B package design which fails to meet one or more of the specific additional requirements for Type B (U) packages (see marginal 3603 of Appendix A.6). No limit on the quantity per package except as prescribed in the approval certificate. If fissile substances are present, the requirements of schedule 11 shall be met in addition to the requirements of this schedule.

2. Packaging/Package

Type B (M), in accordance with the design requirements given in marginal 3604 of Appendix A.6 requiring competent authority multilateral approval, see marginal 3673 of Appendix A.6.

3. Package maximum radiation level

200 mrem/h at the surface of the package and 10 mrem/h at 1 metre from that surface. (see Marginals 3653 to 3655 of Appendix A.6).

except in the case of a full load, when the limit is 1000 mrem/h at the surface of the package and may exceed 10 mrem/h at 1 metre from that surface (see marginal 3659 (7) of Appendix A.6).

4. Mixed packing

See Marginal 3650 of Appendix A.6.

5. Contamination on packages

Non – fixed external contamination limits:

Beta/gamma/ low – toxicity alpha emitters $10^{-4} \mu\text{Ci}/\text{cm}^2$

Natural/depleted uranium/natural thorium $10^{-3} \mu\text{Ci}/\text{cm}^2$

Other alpha emitters $10^{-5} \mu\text{Ci}/\text{cm}^2$

For full details, see marginal 3651 or Appendix A.6

6. Marking on packages

Packages shall be plainly and durably marked externally with:

I) «Type B (M)»

II) competent authority identification mark

III) the weight of the package if over 50 kg

IV) the trefoil symbol embossed or stamped on the outermost fire and water – resistant receptacle.

7. Transport Documents

a) For a summary of the approval and notification requirements, see marginal 2704.

b) The transport document shall include the description «Radioactive substances in Type B (M) packages, 7, schedule 10, ADR», with the name underlined in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

c) Multilateral package design approval certificates are required, see marginal 3673 of Appendix A.6.

d) If the package is designed to allow for continuous venting or if the total activity of the contents exceed $3 \times 10^3 \text{ A}_2$ or $3 \times 10^3 \text{ A}_1$ as appropriate, or $3 \times 10^4 \text{ Ci}$ whichever is the lower, multilateral shipment certificates are required unless a competent authority authorizes transport by a specific provision in its package design certificate, see marginal 3675 of Appendix A.6.

e) Where advantage is taken of the increased activity per package permitted if the substance is in special form, see para. (d) above, a unilateral special form design approval certificate is required (see marginal 3671 of Appendix A.6).

f) Prior to each shipment the consignor shall notify the competent authorities of all countries affected by the movement preferably fifteen days in advance as detailed in marginal 3682 (2) to (4) of Appendix A.6.

g) Before the shipment of any package, the consignor shall be in possession of all relevant approval certificates.

8. Storage and despatch

a) Any instructions in the competent authority approval certificates shall be observed.

b) Storage and segregation from other dangerous goods – see marginal 3658 (1) of Appendix A.6.

c) Storage and segregation from package labelled «FOTO» – see marginal 240 001 Appendix B4 for segregation table.

d) Total transport index limitation for storage – 50 per group with 6 metres between groups – see marginal 3658 (2) to (5) of Appendix A.6.

e) The consignor shall have complied with the pre – use and pre – shipment requirements of marginals 3643 and 3644 of Appendix A.6.

f) If the surface temperature of the package exceed 50°C in the shade the package shall be transported as a full load – see marginal 3602 (4) (b) of Appendix A.6.

g) If the average surface heat flux from a package exceeds $15 \text{ W}/\text{m}^2$, then the package shall be transported as a full load.

h) Packages specially designed to allow continuous venting – see marginal 3604 (2) of Appendix A.6. shall only be transported under full load.

9. Carriage of packages in vehicles and containers

a) Segregation from packages labelled «FOTO» – see marginal 240 001 of Appendix B4 for segregation table.

b) Total transport index limitation – 50. This limitation does not apply to a full load, provided that if fissile class II or III packages are present the allowable number is not exceeded – see marginal 3659 (5) of Appendix A.6.

c) Maximum radiation levels for vehicles and large containers in the case of a full load.

200 mrem/h at surface

10 mrem/h at 2m from surface

see marginal 3659 (7) of Appendix A.6. Also, for vehicles 2 mrem/h in any normally occupied position – see marginal 3659 (8) of Appendix A.6.

10. Carriage in bulk in vehicles and containers.

Not applicable.

11. Carriage in tank vehicles and tank containers.

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers

(see Appendix A9 and B4)

Containers - labels to model 6A, 6B or 6C on all four sides.

Vehicles and large containers - placards to model in Appendix B4 marginal 24 010 on each lateral side and on rear wall of vehicle (see marginals 3659(6) and 71 500).

13. Prohibition on mixed loading

See marginal 2700 (3).

14. Decontamination of vehicles, tank vehicles, tank co-

containers and containers.

See marginal 3695(3) of Appendix A.6.

15. Other provisions

(a) Accident provisions - see marginal 3695 (1) of Appendix A.6.

(b) Decontamination in storage - see marginal 3695(2) of Appendix A.6.

Schedule 11

Danger labels on packages (see Appendix A9)

Fissile Class I - labels to models 6A, 6B or 6C.

Fissile Class II - labels models 6B or 6C

Fissile Class III - labels to model 6C only. Labels be affixed externally to two opposite sides, see marginals 3653 to 3655 of Appendix A6 for package category.

1. Substances

Fissile substances that is uranium - 233, uranium - 235, plutonium - 238, plutonium - 239, plutonium - 241, or any substance containing any of the foregoing, except unirradiated natural and depleted uranium.

Fissile substances shall also be consigned in full compliance with the requirements of one of the other schedules, as appropriate to the radioactivity.

2. Packaging/Package

(a) The following substances specified fully in marginal 3610 of Appendix A6 are exempt from the special packaging requirements of this schedule:

(i) Fissile substances in quantity not exceeding 15 g.

(ii) Natural or depleted uranium irradiated in a thermal reactor.

(iii) Dilute hydrogenous solutions in limited concentrations and quantities.

(iv) Enriched uranium with not more than 1 per cent of uranium - 235, which should not form a lattice arrangement if metal or oxide.

(v) Substances distributed at not more than 5 g per 10 litre volume.

(vi) Plutonium where less than 1 kg per package and where not more than 20 per cent by mass consists of plutonium - 239 or 241.

(vii) Enriched uranyl nitrate solution containing uranium with not more than 2 per cent uranium - 235.

(b) Otherwise, packages shall be in accordance with the design requirements of Fissile Class I, II or III given in marginals 3611 to 3624 of Appendix A6 and have competent authority approval, where necessary, as detailed in marginal 3674 of Appendix A6.

3. Package maximum radiation level

See appropriate schedule.

4. Mixed packing

See marginal 3650 of Appendix A6

5. Contamination on packages

See appropriate schedule.

6. Marking on packages

See appropriate schedule.

7. Transport documents

(a) For a summary of the approval and notification requirements - see marginal 2704.

(b) The transport document shall include the details specified in the schedule appropriate to the nature of the contents with the word «Fissile» prefixed to the description and underlined in red.

(c) Unilateral or multilateral package design approval certificates may be required, see marginal 3674 of Appendix A6.

(d) Fissile Class II package designs complying with mar-

ginal 3620 of Appendix A6 shall have multilateral shipment approval certificates. Such a package design requires no prior notification unless specified in the competent authority's shipment approval.

(e) Fissile Class III package designs shall have multilateral shipment approval certificates unless a competent authority authorizes transport by a specific provision in its package design certificate, see marginal 3675 of Appendix A6.

(f) Prior to each shipment of a Fissile Class III package which requires multilateral package design approval, see marginal 3674 of Appendix A6 the consignor shall notify the competent authorities of all countries affected by the movement preferably fifteen days in advance as detailed in marginal 3682 (2) to (4) of Appendix A6.

(g) Before the shipment of any package the consignor shall be in possession of any relevant approval certificates.

8. Storage and despatch

(a) Any instructions in the competent authority approval certificates must be observed.

(b) Total transport index limitation for storage - 50 per group with 6 metres between groups - see marginal 3658 (2) to (5) of Appendix A6.

(c) The consignor shall have complied with the pre - use requirements of marginal 3643 of Appendix A6.

9. Carriage of packages in vehicles and containers

(a) Any instruction in the competent authority approval certificates shall be observed.

(b) Total transport index limitation - 50. This limitation does not apply to a full load, provided that if Fissile Class II or III packages are present the allowable number is not exceeded. See marginal 3659(5) of Appendix A6.

10. Carriage in bulk in vehicles and containers

(a) No restrictions for fissile material up to 15 g total or for solutions within certain concentration and quantity limits, see paragraph 2 (a) (i), (iii) and (vii) and marginal 3610 of Appendix A6.

(b) Not applicable for Fissile Class I or II packages.

(c) Permitted under Fissile Class III only if so specified in the competent authority certificate.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers

(see Appendices A9 and B.4)

Containers - labels to models 6A, 6B or 6C on all four sides.

Vehicles and large containers - placards to model in Appendix B4 marginal 240 010 on each lateral side and on rear wall of vehicle (see marginals 3659 (6) and 71 500).

13. Prohibitions on mixed loading

See marginal 2700 (3)

14. Decontamination of vehicles, tank vehicles, tank containers and containers

See appropriate schedule.

15. Other provisions

Accident provisions - see marginal 3695 (1) of Appendix A6.

Schedule 12

1. Substances

Danger labels on packages (see Appendix A9)

Labels in conformity with model no. 6C shall be affixed externally to two opposite sides unless otherwise prescribed in the competent authority certificate. See marginal 3655(1) of Appendix A6.

Radioactive substances carried under special arrangement

If it is not possible to comply with the package design or shipment requirements, consignments shall be transported under a special arrangement which will ensure that the over - all safety level

is no less than it would have been had all the applicable requirements been met.

See marginal 3676 of Appendix A6.

NOTE For a summary of the approval and notification requirements, see marginal 2704.

Summary of approvals and prior notification requirements

(a) Approval of special form substances, and package designs

| Subject of approval | Competent authority whose approval is required |
|---|---|
| 1 Special form substance excepting those items specified in Schedules 3 and 4. | Country of origin |
| 2 Type A, LSA and LLS. | None unless contents are fissile and not exempted from the fissile requirements under marginal 3610 of Appendix A6: Country of origin |
| 3 Type B (U) | Country of origin |
| 3 Type B (M) | Country of origin and all countries en route |
| 5 Fissile packages Package designs complying with marginal 3620, 3623 or 3624 of Appendix A6 | None |
| Package designs complying with marginal 3616 or 3622 of Appendix A6 | Country of origin |
| All other package designs | Country of origin and all countries en route |
| Note: «Country of origin» refers to the country where the design originated. Packages in the fissile classes also fall into one or other of package design categories 2, 3 or 4 above and the relevant provisions also apply to them. | |

| | | |
|--|--|--|
| 2. Type B (U) | None | Country of origin and all countries en route when contents exceed $3 \times 10^3 A_1$ or $3 \times 10^3 A_2$, as appropriate or $3 \times 10^4 C_1$ whichever is lower. |
| 3. Type B(M) - Continuously venting | Country of origin and all countries en route. | Country of origin and all countries en route. |
| 4. Type B(M) - Not continuously venting | Country of origin and all countries en route when contents exceed $3 \times 10^3 A_1$ or $3 \times 10^3 A_2$, as appropriate or $3 \times 10^4 C_1$ whichever is lower. | Country of origin and all countries en route. |
| 5. Fissile packages | | |
| Fissile Class I | None | None |
| Fissile Class II | Packages complying with marginal 3620 of Appendix A6 only: Country of origin and all countries en route. | None unless specified in the competent authority shipment approval |
| Fissile Class III | Country of origin and all countries en route. | Country of origin and all countries en route. |
| 6. Packages subject to transport under special arrangements | Country of origin and all countries en route. | Country of origin and all countries en route. |
| Note: Before shipping a Type B(U) package the contents of which exceed $3 \times 10^3 A_1$ or $3 \times 10^3 A_2$, as appropriate, or $3 \times 10^4 C_1$ whichever is lower, for the first time, the consignor shall ensure that copies of each applicable competent authority certificate applying to the design have been submitted to the competent authority of those countries in whose territory it is to be transported. Country of origin refers to the country where the shipment originated. | | |
| Packages in the fissile classes also fall into one or other of the other headings of this Table and the relevant provisions also apply to them. | | |

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(b) Approval of shipments and prior notification

| Package | Competent authority whose approval is required for each shipment | Prior notification of each shipment |
|------------------------|--|-------------------------------------|
| 1. Type A, LSA and LIS | None | None |

CLASS 8 CORROSIVE SUBSTANCES

1. List of substances

Among the substances and articles covered by the heading of Class 8 those which are listed in marginal 2801 or are covered by a collective heading of that marginal are subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

A. Acid substances

(a) Inorganic acids

1° Sulphuric acid:

(a) sulphuric acid containing more than 95 per cent pure acid (H_2SO_4), and oleum (fuming sulphuric acid);

(b) sulphuric acid containing more than 75 per cent but not more than 85 per cent pure acid (H_2SO_4);

(c) sulphuric acid containing not more than 75 per cent pure acid (H_2SO_4);

(d) waste sulphuric acid, completely denitrated;

Note: Incompletely denitrated waste sulphuric acid is not to be accepted for carriage.

(e) lead sludge containing sulphuric acid;

Note: Lead sludge containing less than 3 per cent free acid is a substance of Class 6.1 (see marginal 2601, 73°).

(f) storage batteries filled with sulphuric acid.

For (a) to (d), see also marginal 2801a, under (a).

2° Nitric acid:

(a) nitric acid containing more than 70 per cent pure acid (HNO_3);

(b) nitric acid containing more than 55 per cent but not more than 70 per cent pure acid (HNO_3);

(c) nitric acid containing not more than 55 per cent pure acid (HNO_3).

For (a) to (c), see also marginal 2501a, under (a) and (b).

3° Mixed nitrating acids (sulphuric and nitric acids):

(a) mixed nitrating acids containing more than 30 per cent pure nitric acid (HNO_3);

(b) mixed nitrating acids containing not more than 30 per cent pure nitric acid (HNO_3);

Note: For waste mixed nitrating acids, see 1o (d).

For (a) and (b) see also marginal 2801a, under 3a) and (b).

4° Perchloric acid in aqueous solutions containing not more than 50 per cent pure acid (HClO_4). See also marginal 2801a under (a).

Note: Aqueous solutions of perchloric acid containing more than 50 per cent but not more than 72.5 per cent pure acid (HClO_4) are substances of Class 5.1 (see marginal 2501, 3°). Solutions containing more than 72.5 per cent pure acid are not to be accepted for carriage; the same applies to mixtures of perchloric acid with any liquid other than water.

5° Solutions of hydrochloric acid, solutions of hydrobromic acid, solutions of hydriodic acid, and mixtures of sulphuric acid and hydrochloric acid. See also marginal 2801a, under (a).

Notes: 1. Mixtures of nitric acid with hydrochloric acid are not to be accepted for carriage.

2. Liquefied anhydrous hydrobromic acid and liquefied hydrochloric acid are substances of Class 2 (see marginal 2201, 3° (at) and 5° (at)).

6° Hydrogen fluoride (anhydrous hydrofluoric acid) and aqueous solutions of hydrofluoric acid:

(a) hydrogen fluoride (anhydrous hydrofluoric acid);

(b) aqueous solutions of hydrofluoric acid containing more than 85 per cent hydrogen fluoride;

(c) aqueous solutions of hydrofluoric acid containing more than 60 per cent but not more than 85 per cent hydrogen fluoride;

(d) aqueous solutions of hydrofluoric acid containing not more than 60 per cent hydrogen fluoride.

For (c) and (d), see also marginal 2801a under (a).

7° Fluoboric acid [aqueous solutions containing not more than 78 per cent pure acid (HBF_4)]. See also marginal 2801a under (a).

Note: Solutions of fluoboric acid containing more than 78 per cent pure acid (HBF_4) are not to be accepted for carriage.

8° Fluosilicic acid [hydrofluosilicic acid (H_2SiF_6)]. See also marginal 2801a, under (a).

9° Stabilized sulphur trioxide. See also marginal 2801a, under (a) and (c).

Note: Unstabilized sulphur trioxide is not to be accepted for carriage.

(b) Inorganic halides, acid salts and similar halogenated substances.

11° Liquid halides and similar halogenated substances (except compounds of fluorine) which, in contact with moist air or water, give off acid fumes, such as:

(a) antimony pentachloride (SbCl_5), chlorosulphonic acid

$[\text{SO}_2(\text{OH})\text{Cl}]$, disulphur dichloride (stabilized) (S_2Cl_2), chromyl chloride (chromium oxychloride) (CrO_2Cl_2), phosphoryl chloride (phosphorus oxychloride) (POCl_3), phosphorus trichloride (PCl_3), silicon tetrachloride (SiCl_4), sulphuryl chloride (SO_2Cl_2), thionyl chloride (SOCl_2), titanium tetrachloride (TiCl_4) and stannic chloride (SnCl_4);

Note: Unstabilized disulphur dichloride is not to be accepted for carriage.

(b) phosphorus tribromide (PBr_3), pyrosulphuryl chloride ($\text{S}_2\text{O}_5\text{Cl}_2$) and thiophosphoryl chloride (PSCl_3).

For (a) and (b), see also marginal 2801a, under (a).

12° Solid halides and similar halogenated substances (except compounds of fluorine) which, in contact with moist air or water, give off acid fumes, such as:

aluminium chloride (anhydrous) (AlCl_3), antimony trichloride

(technical) (SbCl_3), phosphorus pentachloride (PCl_5) and zinc chloride (ZnCl_2).

See also marginal 2801a, under (a) and (d).

Note: Non-anhydrous aluminium chloride is not to be accepted for carriage.

13° Bisulphates. See also marginal 2801a, under (a).

Note: Bisulphates are not subject to the provisions of ADR if the sender certifies in the transport document that the products are free from free sulphuric acid and are dry.

14° Bromine. See also marginal 2801a, under (a).

15° The following compounds of fluorine:

(a) difluorides;

(b) ammonium fluoride, chromic fluoride, antimony pentafluoride;

(c) boron trifluoride-acetic acid complex, boron trifluoridepropionic acid complex;

(d) bromine trifluoride (BrF_3), bromine pentafluoride (BrF_5).

For (a) to (d), see also marginal 2801a, under (a).

(c) Organic substances:

21° The following acids:

(a) chloroacetic acids:

1. monochloroacetic and trichloroacetic acids (solid);

2. dichloroacetic acid (liquid) and mixtures of chloroacetic acids;

(b) formic acid containing not less than 70 per cent pure acid;

(c) glacial acetic acid and its aqueous solutions containing more than 80 per cent pure acid;

(d) propionic acid containing more than 80 per cent pure acid;

(e) acetic anhydride.

For (a) to (e), see also marginal 2801a, under (a).

22° Liquid acid halides, such as:

acetyl chloride and benzoyl chloride. See also marginal 2801a, under (a).

23° Alkyl and aryl chlorosilanes:

(a) alkyl chlorosilanes and aryl chlorosilanes having a point below 21°C;

(b) alkyl chlorosilanes and aryl chlorosilanes having a point of 21°C or above;

Note: Substances of this item number which give off inflammable gases on contact with water, are not to be accepted for carriage.

For (a) and (b), see also marginal 2801a, under (a).

B. Substances of basic character.

31° (a) Sodium hydroxide and potassium hydroxide (caustic soda, caustic potash), in lumps, in flakes or in powder form: See also marginal 2801a, under (a);

(b) Sodium hydroxide filled in the molten state.

32° Sodium hydroxide and potassium hydroxide in solutions (soda lye, potash lye), also in mixtures (caustic lyes), alkaline solutions of phenol, cresols and xylenols, alkaline residues from oil refineries.

See also marginal 2801a, under (a).

33° Storage batteries filled with alkaline solutions. See also marginal 2801a, under (e).

34° Hydrazine in aqueous solutions containing not more than per cent hydrazine (N_2H_4). See also marginal 2801a, under (a).

Note: Aqueous solutions containing more than 72 per cent hydrazine (N_2H_4) are not to be accepted for carriage.

35° Alkyl and aryl amines and polyamines, such as: 1,2-diaminoethane (ethylenediamine), hexamethylene-diamine, triethylenetetramine.

See also marginal 2801a, under (a).

36° Sodium sulphide containing not more than 70 per cent Na_2S .

Note: Sodium sulphide containing more than 70 per cent Na_2S is not to be accepted for carriage.

37° Hypochlorite solutions:

(a) hypochlorite solutions containing more than 50 g available chlorine per litre;

(b) hypochlorite solutions containing not more than 50 g available chlorine per litre.

For (a) and (b), see also marginal 2801a, under (a).

C. Other corrosive substances.

41° Solutions of hydrogen peroxide:

(a) aqueous solutions of hydrogen peroxide containing more than 40 per cent but not more than 60 per cent hydrogen peroxide;

(b) aqueous solutions of hydrogen peroxide containing more than 6 per cent but not more than 40 per cent hydrogen peroxide.

For (a) and (b), see also marginal 2801a, under (a).

Note: Hydrogen peroxide and its aqueous solutions containing more than 60 per cent hydrogen peroxide are substances of Class 5.1 (see marginal 2501, 1°).

D. Empty receptacles and empty tanks

51° Empty packagings, uncleaned, and empty tanks, uncleaned, except those which have contained substances of 13° and 36°.

Substances handed over for carriage in conformity with the following provisions are not subject to the provisions relating to this Class contained in this Annex or in Annex B:

(a) substances of 1° (a) to (d), 2° (b) and (c), 3° (b), 4°, 5°, 6° (c) and (d), 7° to 9°, 11° to 15°, 21° to 23°, 31° (a), 32°, 34°, 35°, 37° and 41° in quantities not exceeding 1 kg for each substance, on condition that they are packed in leak-proof receptacles incapable of being attacked by the contents and that these receptacles are packed with care in strong, leak-proof wooden packagings with leak-proof closures;

(b) substances of 2° (a) and 3° (a), in quantities not exceeding 200 g for each substance, on condition that they are packed in leak-proof receptacles incapable of being attacked by the contents and that these receptacles are secured, not more than 10 per cent, in wooden cases with inert absorbent cushioning materials;

(c) sulphur trioxide (9°), whether or not mixed with a small quantity of phosphoric acid, on condition that it is packed in strong sheet-metal boxes weighing not more than

15 kg, hermetically closed and fitted with a handle;

(d) phosphorus pentachloride (12°) compressed into blocks weighing not more than 10 kg each, on condition that these blocks are packed in welded and air-tight sheet-metal boxes placed, either singly or in groups, in a crate, a case or a container;

(e) metal-cased storage batteries filled with an alkaline solution (33°), on condition that they are so closed as to prevent leakage of the solution and are protected against short circuits.

2. Provisions

A. Packages

1. General conditions of packing

(1) Packagings shall be so closed and arranged as to prevent any loss of the contents. For the special provision relating to storage batteries [1° (f) and 33°], see marginal 2804 and 2816; for hypochlorite solutions of 37° and hydrogen peroxide of 41°, see marginals 2820 and 2821 respectively.

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents, or cause the contents to decompose, or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular, where substances are in the liquid state or in solution, receptacles and their closures must, unless the section headed «Packing of a single substance or of articles of the same kind» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage. Inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance or of articles of the same kind», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The walls must be not less than 3 mm thick in the case of receptacles weighing, with their contents, more than 35 kg and not less than 2 mm in the case of other receptacles.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage.

(5) When receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, are prescribed or allowed, they must, in the absence of any provision to the contrary, be provided with protective packagings. Receptacles made of glass, porcelain, stoneware or similar materials shall be carefully secured therein by cushioning materials. Cushioning materials shall be suited to the nature of the contents.

2. Packing of a single substance or of articles of the same kind

(1) Substances of 1° (a) to (c) and 2° to 5° shall be packed:

(a) in hermetically closed receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than

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50 kg, other those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed cylindrical receptacles made of glass, porcelain, stoneware or similar material. These receptacles shall be secured by absorbent cushioning materials in a wooden case or other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(c) in hermetically closed glass carboys, which shall be secured by absorbent cushioning materials in a wooden case or other outer packaging of sufficient strength, or firmly fixed in iron or wicker hampers. The carboys shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg.

(2) Substances of 1° (a) to (c), 2° and 3° may also be packed in hermetically closed metal drums having a suitable lining in the case of substance of 1° (b), (c), (d) and (e) and a lining only if necessary in the case of substances of 2° and 3°. The drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg shall be fitted with rolling hoops.

(3) Substances of 1° (a) to (e), 2° and 5° may also be packed in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paper-board or of some material of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg.

(4) Substances of 5° may also be packed in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres, with walls of sufficient thickness, which shall be not less than 4 mm in the case of receptacles of 50 litres, or over; the openings shall be closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles need have no protective packaging if the competent authority of the country of departure so allows. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg.

(5) In the case of substances of 2° (a), 3° (a) and 4°, the absorbent cushioning materials must be incombustible; in the case of substances of 2° (b), they shall be fire-resistant.

Storage batteries filled with sulphuric acid [1°(f)] shall be secured in battery cases. The batteries shall be protected against short circuits and be secured by absorbent cushioning materials in a wooden packing case. Packing cases shall be fitted with means of handling.

Nevertheless, if the storage batteries are made of a shock-resistant material and their upper part is so designed that the acid cannot splash out in dangerous quantities, the batteries need not be packed, but they must be protected against any short circuits sliding, falling or damage, and be fitted with means of handling. No dangerous quantities of acid must appear on the outside of packages.

Similarly, storage batteries forming part of the equipment of vehicles need not have special packaging if the vehicles are loaded upright on their wheels and secured against falling.

(1) Substances of 6° (c) and (d), 7° and 8° shall be packed.

(a) in hermetically closed metal receptacles, with a suitable lining if necessary, of a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 90 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(b) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 90 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(c) in hermetically closed receptacles, made of a suitable

plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paper-board or of some other material of sufficient strength. The receptacles shall not be filled beyond 90 per cent of their capacity. Such a package must not weigh more than 100 kg.

(2) Substances of 6°, (a) and (b), shall be packed in receptacles made of carbon steel of suitable alloy steel. The receptacles must be able to withstand a test pressure of 10 kg/cm². The following kinds of receptacle shall be accepted:

(a) cylinders with a capacity not exceeding 150 litres;

(b) cylindrical receptacles equipped with rolling hoops and having a capacity of not less than 100 litres and not more than 1,000 litres.

At the test pressure, the stress in the metal at the most severely point of the receptacle shall not exceed three-quarters of the yield stress. By "yield stress" is meant the stress at which a permanent elongation of 2% (i.e. 0.2 per cent) of the gauge length on the test-piece has been produced. In addition, the material used for the receptacles must have adequate impact strength down to a temperature of -20°C.

The receptacles must be of seamless construction or welded. For welded receptacles, a steel of fully satisfactory weldability must be used. Welded receptacles are to be accepted only on condition that the manufacturer guarantees the workmanship of the welding and that the competent authority of the country of origin has given its approval.

The wall thickness of the receptacles must not be less than 3 mm.

Openings for filling and discharging receptacles shall be fitted with flap valves or needle-valves. Valves (cocks) of other types may however be accepted if they present equivalent guarantees of safety and have been approved in the country of origin. Nevertheless, whatever the type of valve adopted, its system of attachment shall be strong and such that its satisfactory condition can be verified easily before each filling.

Apart from a manhole, which if provided shall be closed by an effective closure, receptacles shall not be equipped with more than two openings, for filling and discharge.

Valves (cocks) shall be protected by caps having vents. Valves placed inside the neck of the receptacles and protected by a screw-threaded plug, and receptacles carried packed in protective cases, shall not require a cap.

Receptacles shall be subjected, under the supervision of an expert approved by the competent authority, to a hydraulic pressure test at an internal pressure of not less than 10 kg/cm² before being placed in service, and subsequently to the following periodic tests:

The pressure test shall be repeated every eight years and shall be accompanied by an internal inspection of the receptacles and a check of their equipment. In addition, the resistance of the receptacles to corrosion shall be checked by means of suitable instruments (e.g. by ultrasound), and the condition of the equipment verified, every two years.

Receptacles shall bear in clearly legible and durable characters:

(a) the name of the substance in full, the name or mark of the maker and the manufacturer's identification number of the receptacle;

(b) the tare of the receptacle, including fittings other than the protective cap;

(c) the test pressure, the date (month, year) of the most recent test undergone and the stamp of the expert who carried out the test and inspections;

(d) the capacity and permissible maximum load of the receptacle.

The permissible maximum weight shall be 0.84 kg per litre of capacity.

(1) Sulphur trioxide (9°) shall be packed:

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(a) in soldered receptacles made of black sheet-iron or tin-plate, or in hermetically closed bottles made of black sheet-iron, tin-plate or copper; or

(b) in flame-sealed glass receptacles, or in hermetically closed receptacles made of porcelain, stoneware or similar materials; or

(c) in steel drums which have been pressure-tested at 1.5 kg/cm².

(2) The receptacles referred to in (a) and (b) above shall be secured by incombustible and absorbent cushioning materials in packagings made of wood, black sheet-iron or tin-plate.

Substances of 11° shall be packed:

(a) in hermetically closed receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(c) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically closed glass carboys, which shall be secured by absorbent cushioning material in a wooden case or in some other outer packaging of sufficient strength. The carboys shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg.

Substances of 12o shall be packed:

(a) in hermetically closed receptacles made of glass, porcelain, stone-ware or similar material, or of a suitable plastics material, which must not contain more than 5 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically closed metal receptacles, with a suitable lining if necessary, which must not contain more than 15 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed metal drums, with a suitable lining if necessary. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. Such a package must not weigh more than 100 kg; or

(e) in hermetically closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg;

(f) zinc chloride may also be packed in hermetically closed bags, made of a suitable plastics material, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg.

substances of 13° and 15° shall be packed:

(a) in hermetically closed receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, which must not contain more than 5 kg of substance each; however, glass receptacles are not accepted for fluoride of 15o. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically closed metal receptacles, with a lead lining if necessary, which must not contain more than 15 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed metal drums, with a lead lining if necessary. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. Such a package must not weigh more than 100 kg; or

(e) in hermetically closed bags, made of a suitable plastics material, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in hermetically closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg; or

(g) in stout paper bags of four plies, lined with a hermetically closed bag made of a suitable plastics material. Such a package must not weigh more than 55 kg.

(1) Bromine (14o) shall be packed in suitable receptacles containing not more than 7.5 kg of substance per receptacle.

(2) Bromine containing less than 0.005 per cent water, or between 0.005 per cent and 0.2 per cent water provided that in the latter case measures are taken to prevent corrosion of the lining of the receptacles, may also be carried in receptacles satisfying the following conditions:

(a) the receptacles shall be made of steel and be equipped with a leak-proof lining made of lead or of some other material affording equivalent protection, and with hermetic closures; receptacles made of monel metal or nickel, or equipped with a nickel lining, shall also be permitted;

(b) their capacity must not exceed 1250 litres;

(c) the receptacles shall not be filled beyond 92 per cent of their capacity or beyond 2.86 kg per litre of capacity;

(d) the receptacles shall be welded and designed for a pressure of not less than 21 kg/cm².

The materials and workmanship must in other respects meet the requirements of marginals 2211 (1) and (2) (b). The initial test of unlined steel receptacles shall be subject to the provisions of marginals 2215 (1) and 2216 (1), A and B.

(e) the closing devices must project as little as possible from the receptacle and be fitted with a protective cap. The closing devices and the cap shall be fitted with gaskets made of a material not capable of being attacked by bromine. The closing devices must be in the upper part of the receptacles, so that they can in no case be in permanent contact with the liquid;

(f) the lead lining must be leak-proof and be not less than 3 mm thick. If some other material is used, it must provide protection equivalent to that provided by lead;

(g) the receptacles must be provided with fittings enabling them to stand stably upright, and with lifting attachments (rings, flanges, etc.) at the top, which must be tested at twice the working load.

(3) Receptacles in conformity with (2) above shall, before being put into service, be subjected to a tightness test at a pressure of 2 kg/cm². The tightness test shall be

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repeated every two years and shall be accompanied by an internal inspection of the receptacle and a check of its tare. This test and this inspection shall be supervised by an expert approved by the competent authority.

(4) The receptacles must bear, in clearly legible and indelible characters:

(a) the name or mark of the maker and the number of the receptacle;

(b) the word «Bromine»;

(c) the tare of the receptacle and its maximum weight when filled;

(d) the date (month and year) of the last test undergone;

(e) the stamp of the expert who carried out the test and the inspections.

(1) Substances of 21o (a) 1 shall be packed:

(a) in hermetically closed receptacles made of glass, porcelain, stone-ware or similar material, or of a suitable plastics material, which must not contain more than 5 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically closed metal receptacles, with a suitable lining if necessary, which must not contain more than 15 kg of substance each. These receptacles shall be secured with cushioning material in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed metal drums, with a suitable lining if necessary. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paper board or of some other material of sufficient strength. Such a package must not weigh more than 100 kg; or

(e) in hermetically closed bags, made of a suitable plastics material, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in hermetically closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg; or

(g) in stout paper bags of four plies, lined with a hermetically closed bag made of a suitable plastics material. Such a package must not weigh more than 55 kg; or

(h) in jute bags rendered moisture-proof by a lining made of a suitable material, coated with bitumen, or in jute bags lined with a hermetically closed bag made of a suitable plastics material. Such a package must not weigh more than 55 kg.

(2) Substances of 21° (a) 2., (b), (c), (d) and (e) shall be packed:

(a) in hermetically closed receptacles made of glass, porcelain, stone-ware or similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed glass carboys, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The carboys shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(c) in hermetically closed metal receptacles, with a suitable lining if necessary, of a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles

shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically closed canisters made of a suitable metal, welded or hard-soldered, of a capacity not exceeding 60 litres and fitted with means of handling. The canisters shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(e) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

2811 (f) in hermetically closed receptacles made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paper-board or of some other material of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(g) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres, with walls of sufficient thickness, which shall be not less than 4 mm in the case of receptacles of 50 litres or over; the openings shall be closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles need have no protective packaging if the competent authority of the country of departure so allows. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg.

Substances of 22o shall be packed:

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(a) in hermetically closed receptacles made of glass, porcelain, stone-ware or similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(c) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paper-board or of some other material of sufficient strength. Receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically closed glass carboys, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The carboys shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg.

(1) Substances of 23o shall be packed:

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(a) in hermetically closed receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, except those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed metal receptacles, with a

suitable lining if necessary, of a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed metal drums, with a suitable lining if necessary. Drums intended to hold substance of 23° (a) must satisfy the requirements of Appendix A.5. the drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops.

(2) Substances of 23° (b) may also be packed:

(a) in hermetically closed canisters made of a suitable metal, welded or hard-soldered, of a capacity not exceeding 60 litres and fitted with means of handling. The canisters shall not be filled beyond 95 per cent of their capacity. Such package must not weigh more than 75 kg; or

(b) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres, with walls of sufficient thickness, which shall be not less than 4 mm in the case of receptacles of 50 litres or over; the openings shall be closed by two plugs, one placed over the other, one of them being screwthreaded. These receptacles need have no protective packaging if the competent authority of the country of departure so allows. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg.

(1) Substances of 31° (a) shall be packed:

(a) in hermetically closed receptacles made of glass, porcelain, stone-ware or similar material, or of a suitable plastics material, which must not contain more than 5 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically closed metal receptacles, with a suitable lining if necessary, which must not contain more than 15 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed metal drums, with a suitable lining if necessary. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. Such a package must not weigh more than 100 kg; or

(e) in hermetically closed bags, made of a suitable plastics material, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in jute bags rendered moisture-proof by a lining made of a suitable material, coated with bitumen, or in jute bags lined with a hermetically closed bag made of a suitable plastics material. Such a package must not weigh more than 55 kg.

(2) Substances of 31° (a) in flakes or in powdered form may also be packed in stout paper bags of four plies, lined with a hermetically closed bag made of a suitable plastics material. Such a package must not weigh more than 55 kg.

(3) Sodium hydroxide of 31° (b) filled in a molten state shall be contained in steel drums with walls not less than 0.5 mm thick. The drums, with their contents, must not weigh more than 450 kg.

Substances of 32° shall be packed:

(a) in hermetically closed receptacles made of glass,

porcelain, stoneware of similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed metal receptacles, with a suitable lining if necessary, of a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed canisters made of a suitable metal, welded or hard-soldered, of a capacity not exceeding 60 litres, and fitted with means of handling. The canisters shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(d) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(e) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(f) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres and with walls of sufficient thickness, which shall be not less than 4 mm in the case of receptacles of 50 litres or over; the openings shall be closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles need have no protective packaging if the competent authority of the country of departure so allows. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(g) in hermetically closed cylindrical receptacles made of glass, porcelain, stoneware of similar material, of a capacity not exceeding 20 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(h) in hermetically closed glass carboys, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength, or be firmly fixed in iron or wicker hampers. The carboys shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg.

Storage batteries filled with alkaline solutions (33°) shall be made of metal and the upper part shall be so designed that the lye cannot splash out in dangerous quantities. The batteries shall be protected against short-circuits and be packed in a wooden packing case.

(I) Hydrazine (34°) shall be packed:

(a) in hermetically closed glass receptacles, of a capacity not exceeding 5 litres, which shall be secured by suitable cushioning materials in boxes placed in a wooden case; or

(b) in receptacles made of aluminium not less than 99.5 per cent pure or of stainless steel or of lead-lined iron; or

(c) in receptacles, made of a suitable plastics material, fitted with a screw closure and having a capacity not exceeding 65 litres, placed singly in suitable protective packagings or secured in groups by suitable cushioning

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materials in suitable protective packagings; a package must not weigh more than 100 kg, or more than 50 kg if the protective packaging consists of a fibreboard case; or

(d) in drums, made of a suitable plastics material, of a capacity not exceeding 220 litres and with walls not less than 1.5 mm thick, placed singly in drums fitted with rolling hoops.

(2) No receptacle shall be filled beyond 93 per cent of its capacity. The receptacles under (b), (c) and (d) shall be pressure-tested at 1 kg/cm².

;Substances of 350 shall be packed:

(a) in hermetically closed receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed metal receptacles, with a suitable lining if necessary, of a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed canisters made of a suitable metal, welded or hard-soldered, of a capacity not exceeding 60 litres, and fitted with means of handling. The canisters shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(d) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 95 per cent of their capacity. If with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(e) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(f) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres, with walls of sufficient thickness, which shall be not less than 4 mm in the case of receptacles of 50 litres or over; the openings shall be closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles need have no protective packaging if the competent authority of the country of departure so allows. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg.

(1) Sodium sulphide (36°) shall be packed:

(a) in lead-proof iron receptacles; or

(b) in quantities not exceeding 5 kg, also in receptacles, made of glass or of a suitable plastics material, which shall be secured in strong wooden receptacles, glass receptacles being secured therein by cushioning materials.

(2) Sodium sulphide in solid form may also be enclosed in other leak-proof receptacles. If carried as a full load, it may also be packed:

(a) in stout paper bags of five plies, so closed as to be leak-proof and lined with a bag made of a suitable plastics material; or

(b) in bags made of a suitable plastics material equal in strength to the paper bags.

Packages made up of bags must not weigh more than 55 kg.

(1) Hypochlorite solutions (37°) shall be packed:

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(a) in receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, secured in protective packagings; fragile receptacles shall be secured therein by cushioning materials; or

(b) in metal drums, suitably lined.

(2) In the case of hypochlorite solutions of 37° (a), the receptacles or drums shall be so designed as to allow gases to escape, or shall be fitted with pressure-relief valves.

(1) Aqueous solutions of hydrogen peroxide containing more than 40 per cent but not more than 60 per cent hydrogen peroxide [41° (a)] shall be contained:

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(a) in receptacles, which must be able to stand stably upright, made of aluminium not less than 99.5 per cent pure or of a special steel not liable to cause the hydrogen peroxide to decompose. The capacity of these receptacles must not exceed 200 litres; or

(b) in receptacles, made of glass, porcelain, stoneware and suitable plastics material, of a capacity not exceeding 20 litres. Each receptacle shall be secured by absorbent, incombustible and inert cushioning materials in a sheet-steel packaging with complete sides, lined with suitable materials. This packaging shall be placed in a wooden packing case with a sloping protective cover.

For closure and degree of filling, see under (3).

(2) Aqueous solutions of hydrogen peroxide containing more than 6 per cent but not more than 40 per cent hydrogen peroxide [41° (b)] shall be contained in receptacles made of glass, porcelain, stoneware, aluminium not less than 99.5 per cent pure, special steel not liable to cause the hydrogen peroxide to decompose, or a suitable plastics material.

Receptacles of a capacity not exceeding 3 litres shall be secured by cushioning materials in wooden cases; if the receptacles contain aqueous solutions of hydrogen peroxide containing more than 35 per cent hydrogen peroxide, the cushioning materials must be suitable fire-proofed. A package must not weigh more than 35 kg.

If the receptacles have a capacity of more than 3 litres they must satisfy the following conditions:

(a) receptacles made of aluminium or of special steel must be able to stand stably upright. A package must not weigh more than 250 kg;

(b) receptacles made of glass, porcelain, stoneware or a suitable plastics material shall be placed in suitable strong protective packagings which will keep them securely upright; the packagings shall be fitted with means of handling. Inner receptacles other than those made of a plastics material shall be secured in outer packagings by cushioning materials. Where receptacles contain aqueous solutions of hydrogen peroxide containing more than 35 per cent but not more than 40 per cent hydrogen peroxide, the cushioning materials shall be suitably fire-proofed. A package of this kind must not weigh more than 90 kg; however, it may weigh up to 110 kg if the protective packagings are, in addition, packed in a case or crate;

(c) aqueous solutions of hydrogen peroxide containing more than 6 per cent but not more than 40 per cent hydrogen peroxide may also be contained, without protective packagings, in receptacles made of a suitable plastics material, provided that the thickness of the walls (including areas recessed for labelling is not at any point less than 4 mm, the walls are protected by strong ribs, and the ends are reinforced. The receptacles shall be fitted with means of handling. The capacity must not exceed 60 litres.

For closure and degree of filling, see under (3).

(3) Receptacles of a capacity not exceeding 3 litres may have a hermetic closure. In such cases the receptacles shall be filled with a weight of solution which, expressed in grammes, is equal to not more than two-thirds of the figure expressing the capacity of the receptacle in cm³.

Receptacles of a capacity exceeding 3 litres shall be fitted with a special closure preventing excess internal pressure, leakage of the liquid, and the entry of foreign

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matter into the receptacle. Where receptacles are packed separately, the outer packaging shall be fitted with a cover which, while protecting the closure, makes it possible to verify that the closure is directed upwards. These receptacles may not be filled beyond 95 per cent of their capacity.

3. Mixed packing

(1) Substances grouped under the same item number may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question.

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance or of articles of the same kind» and no special conditions are laid down below, substances of this Class, in quantities not exceeding 6 kg in the case of solids or 3 litres in the case of liquids for all of

the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with substances or articles belonging to other Classes (if mixed packing is likewise allowed in the case of such substances or articles), or with other goods, subject to the following special conditions.

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions of marginals 2001 (5) and 2002 (6) and (7) must be observed.

Mixed packing of an acid substance with a basic substance in the same package is not allowed if both substances are contained in fragile receptacles.

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

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| Item-No. | Description of substances | Maximum quantity | | Special provisions |
|-----------------|---|---------------------------|---------------|--|
| | | per receptacle | per package | |
| 1°(a) | Oleum | 3 litres | 12 litres | Must not be packed together with chlorates, permanganates, solutions of hydrogen peroxide, perchlorates, peroxides or hydramine. The limitation of 18 litres applies to sulphuric, nitric and hydrochloric acids, and mixed nitrating acids, for all of these substances. If the package contains an acid subject to a limitation of 12 litres, this limitation must be applied. |
| 1° (a) (b), (c) | Sulphuric acid other than oleum | 3 litres | 16 litres | |
| | 2° (a) Nitric acid containing more than 70% pure acid | 3 litres | 12 litres | Must not be packed together with formic acid, trichloroamine, aniline, xylydine, toluene, chlorates, permanganates, inflammable liquids with a flash-point below 21° C, solutions of hydrogen peroxide, perchlorates, peroxides, hydrozinc, glycerine, glycols. Only inert filling materials must be used. |
| 2° (b) and | Nitric acid containing not more than 70% pure acid | 3 litres | 18 litres | |
| 3° | Mixed nitrating acids | 3 litres | 18 litres | |
| 4° | Perchloric acid | Mixed packing not allowed | | |
| 5° | Hydrochloric acid | 5 litres | 18 litres | Must not be packed together with chlorates, permanganates, perchlorates peroxides (other than solutions of hydrogen peroxide). |
| 6° | Solutions of hydrofluoric acid | 1 litre | 10 litres | |
| 11° (a) | Disulphur dichloride | 500 g | 500 g | |
| 11° (a) | Antimony pentachloride Chlorosulphonic chloride Sulphuryl acid Thionylchloride Titanium tetrachloride Stannic chloride | 2.5 kg | 5 kg | Must not be packed together with substances of 360 of Class 8 or with substances of Class 5.1; must be protected against penetration of moisture |
| 12° | Antimony trichloride | | | |
| 14° | Bromine — in fragile receptacles — in other receptacles | 500 g 1 kg | 500 g 3 kg | |
| 15° (a) | Diffluorides | 5 kg | 15 kg | Must not be packed together with substances of Classes 4.2, 4.3 and 5.1, or with nitric acid or mixed nitrating acids. |

| | | | | |
|---------|---|------------------------------|-------------------------------|---|
| 21° (b) | Nitric acid | 5 litres | 15 litres | Must not be packed together with chlorates, permanganates solutions of hydrogen peroxide, nitric acid, mixed nitrating acids. |
| 21° (c) | Acetic acid | 5 litres | 15 litres | Must not be packed together with chloride or permanganates. |
| 34° | Hydramine | 5.5 kg | 5.5 kg | Must not be packed together with sulphuric acid, chlorosulphonic acid, nitric acid, mixed nitrating acids, chlorates, permanganates, sulphur, solutions of hydrogen peroxide, perchlorates and peroxides. Must be kept separate from caustic alkaline substances and strong oxidizing agents. |
| 36° | Sodium sulphide containing not more than 70% Na ₂ S | 2.5 kg | 15 kg | Must not be packed together with acid substances. |
| 41° (a) | Solutions of hydrogen peroxide containing more than 35% hydrogen peroxide | Mixed packing not allowed | | |
| 41° (b) | Solutions of hydrogen peroxide containing more than 15% but not more than 35% hydrogen peroxide - in fragile receptacles - in other receptacles | 1 litres 3 litres | 3 litres 12 litres | Must not be packed together with sulphuric acid, chlorosulphonic acid, formic acid, nitric acid, mixed nitrating acids, triethanolamine, aniline, xylydine, toluidine, permanganates, inflammable liquids with a flash-point below 21° C, metallic peroxides, hydrazine. |
| | Solutions of hydrogen peroxide containing more than 6% but not more than 15% hydrogen peroxide | 3 litres | 12 litres | Only inorganic filling materials must be used. |

4. Marking and danger labels on packages (see Appendix A.9)

Cases containing storage batteries (1° (f) and 33°) shall be legibly and indelibly marked: «Storage batteries». This inscription shall be in an official language of the country of departure and also, if that language is not English or French, or German, in English, French or German, unless otherwise provided in agreements, if any, concluded between the countries concerned in the transport operation.

(1) Packages containing substances of 1° to 7°, 9°, 11°, 12°, 14°, 15°, 22°, 31°, 35°, or 41° (a) shall bear a label conforming to model No. 5.

However, if liquids of 1° (a) to (e), 2° to 5°, 11°, 22° or 32° are packed in receptacles made of glass, porcelain, stoneware or similar material, of a capacity exceeding 5 litres, the packages shall bear two labels conforming to model No. 5.

(2) Packages containing fragile receptacles not visible from the outside shall bear labels conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(3) Every case containing storage batteries [1° (f) and 33°], and packages weighing not more than 75 kg containing substances of 1° to 7°, 9°, 11°, 21°, 31° to 35° and 37°, shall, in addition, bear on two opposite sides labels conforming to model No. 8.

(4) In the case of consignments carried as a full load, label No. 5, as prescribed under (1), need not be affixed to

the packages if the vehicle bears the marking prescribed in Annex B, marginal 10500.

B. Particulars in the transport document

(1) The description of the goods in the transport document must conform to one of the names underlined in marginal 2801. Where the name of the substance is not indicated in the case of 11°, 12°, 13°, 15°, 22° and 35°, the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g. 8.1 (a), ADR].

(2) In the case of bromine containing 0.005 per cent to 0.2 per cent water, carried in receptacles in conformity with marginal 2810 (2), the following must be certified in the transport document: «Steps have been taken to prevent corrosion of the lining of the receptacles».

C. Empty packagings

(1) Receptacles and tanks of 51o must be closed in the same manner and leak-proof in the same degree as though they were full.

(2) The description of the goods in the transport document must be: «Empty receptacle, 8, 51, ADR (or RID)». This description must be underlined in red.

(3) Uncleaned receptacles which have contained substances of 6° or bromine (14°) shall bear a label conforming to model No. 5 (Appendix A.9). They must have to traces of acid or bromine on the outside.

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FOREWORD

The text below comprises, in addition to the Agreement itself and the Protocol of signature, the annexes in the form in which they entered into force on 29 July 1968 as well as the amendments there to up to 1 October 1978.

Part III
APPENDICES

APPENDIX A.1

A. Stability and safety conditions relating to explosive substances, inflammable solids and organic peroxides

The conditions of stability set out below are the standard minima defining the stability required of substances to be accepted for carriage. These substances may be handed over for carriage only if they fully conform to the following requirements.

Re marginal 2101, 1°, marginal 2171, 4° and marginal 2401, 7° (a): Nitrocellulose heated for half an hour at 132° C must not give off visible yellowish-brown nitrous fumes. The ignition temperature must be above 180° C. Pyroxylin thread must satisfy the same conditions of stability as nitrocellulose. See marginals 3150, 3151(a) and 3153.

Re marginal 2101, 3°, 4° and 5°, and marginal 2401, 7° (b) and (c):

1. Nitrocellulose powders not containing nitroglycerine; plasticized nitrocellulose:

3 g of powder or of plasticized nitrocellulose, heated for one hour at 132° C, must not give off visible yellowish-brown nitrous fumes. The ignition temperature must be above 170° C.

2. Nitrocellulose powders containing nitroglycerine:

1 g of powder heated for one hour at 110° C must not give off visible yellowish-brown nitrous fumes. The ignition temperature must be above 160° C.

with regard to 1. and 2., see marginals 3150, 3151(b) and 3153.

Re marginal 2101, 6°, 7°, 8° (a) and (b) and 9° (a), (b) and (c):

1. Trinitrotoluene (Tolite), mixtures termed liquid trinitrotoluene and trinitroanisole (6°), hexyl (hexanitrodiphenylamine) and picric acid [7°(a)], pentolites (mixtures of pentaerythritol tetranitrate and trinitrotoluene) and hexolites (mixtures of trimethylene-trinitramine and trinitrotoluene) [7°(b)], phlegmatized penthrite and phlegmatized hexogen [7°(c)], trinitroresorcinol [8° (a)], tetryl (trinitrophenylmethylnitramine) [8° (b)], penthrite (pentaerythritol tetranitrate) and hexogen (trimethylene-trinitramine) [9° (a)], pentolites (mixtures of penthrite and trinitrotoluene) and hexolites (mixtures of hexogen and trinitrotoluene) [9° (b)] and mixtures of penthrite or

hexogen with wax, paraffin wax or substances similar to wax or paraffin wax [9° (c)], heated for 3 hours at a temperature of 90° C, must not give off visible yellowish-brown nitrous fumes. See marginals 3150 and 3152 (a).

2. Organic nitro-compounds mentioned under 8° other than trinitroresorcinol and tetryl (trinitrophenylmethylnitramine), heated for 48 hours at a temperature of 75° C, must not give off visible yellowish-brown nitrous fumes. See marginals 3150 and 3152 (b).

3. Organic nitro-compounds mentioned under 8° must not be more sensitive to ignition, shock or friction than: trinitroresorcinol, if they are soluble in water; tetryl (trinitrophenylmethylnitramine), if they are insoluble in water.

See marginals 3150, 3152, 3154, 3155 and 3156.

Re marginal 2101, 11° (a) and (b):

1. Black powder [11° (a)] must not be more sensitive to flame-ignition, impact or friction than the finest sporting powder having the following composition: 75 per cent potassium nitrate, 10 per cent sulphur and 15 per cent black alder charcoal. See marginals 3150, 3154, 3155 and 3156.

2. Slow mining powders similar to black powder [11° (b)] must not be more sensitive to flame-ignition, impact or friction than the standard explosive having the following composition:

75 per cent potassium nitrate, 10 per cent sulphur and 15 per cent lignite. See marginals 3150, 3154, 3155 and 3156.

Re marginal 2101, 12°: Nitrate explosives in powder form [12° (a)], and explosives not containing inorganic nitrates, in powder form [12° (b)]; must be capable of being stored for 48 hours at 75° C without giving off visible yellowish-brown nitrous fumes. Before and after storing they must not be more sensitive to flame-ignition, impact or friction than the standard explosive having the following composition:

80 per cent ammonium nitrate, 12 per cent trinitrotoluene, 6 per cent nitroglycerine and 2 per cent wood flour. See marginals 3150, 3152 (b), 3154 (a) and (b), 3155 and 3156.

A sample of the standard explosive referred to above is held at the disposal of the Contracting States by Laboratoire du Centre d'études et recherches des charbonnages de France (CERCHAR), Boite postale No. 2, 80550 Verneuil-en-Halatte, France.

Re marginal 2101, 13°: Chlorate and perchlorate explosives must not contain any ammonium salt. They must not be more sensitive to flame ignition, impact or friction than a chlorate explosive having the following composition: 80 per cent potassium chlorate, 10 per cent dinitrotoluene, 5 per cent trinitrotoluene, 4 per cent castor oil and 1 per cent wood flour. See marginals 3150, 3154, 3155 and 3156.

Re marginal 2101, 14° (a) and (b): Explosives of 14° (a) and (b) must not be more sensitive to flame-ignition, impact or friction than blasting gelatine containing 93 per cent nitroglycerine or guhr dynamite containing not more than 75 per cent nitroglycerine. They must satisfy the exudation test of marginal 3158. See marginals 3150, 3154 (b), 3155 and 3156.

Re marginal 2101, 14° (c): Explosives of 14° (c) must be capable of being stored for 48 hours at 75° C without giving off visible yellowish-brown nitrous fumes. Before and after storing they must not be more sensitive to flame-ignition, impact or friction than the standard explosive having the following composition: 37.7 per cent nitroglycerol or nitroglycerine or a mixture of the two, 1.8 per cent guncotton, 4 per cent trinitrotoluene, 52.5 per cent ammonium nitrate and 4 per cent wood flour. See marginals 3150, 3152 (b), 3154 (a), (b), (c) and (d), 3155 and 3156.

3104

3105

3106

3107

Re marginal 2131, 1° (b): The explosive substance must not be more sensitive to flame-ignition, impact or friction than tetryl. See marginals 3150, 3154, 3155 and 3156.

Re marginal 2131, 1° (c): The explosive substance must not be more sensitive to flame-ignition, impact or friction than penthrate. See marginals 3150, 3154, 3155 and 3156.

Re marginal 2131, 5° (d): The transmission charge must not be more sensitive to flame-ignition, impact or friction than tetryl. See marginals 3150, 3154, 3155 and 3156.

Re marginal 2170 (2) (d): The explosive charge, after having been stored for four weeks at 50° C, must show no signs of deterioration due to insufficient stability. See marginals 3150 and 3157.

Re marginal 2551, 1° to 50°: The substances shall be subjected to the test described in marginals 3154, 3155 and 3156.

B. Rules for tests

1) The test procedures set out below are to be applied when differences of opinion arise as to the acceptability of substances for carriage by road.

2) If other methods or test procedures are used to verify the conditions of stability prescribed above in this Appendix, those methods must lead to the same findings as could be reached by the methods specified below.

3) In carrying out the stability tests by heating described below, the temperature of the oven containing the sample under test must not deviate by more than 2° C from the prescribed temperature; the prescribed duration of a 30-minute or 60 minute test must be observed to within two minutes, that of a 48-hour test to within one hour, and that of a 4-week test to within 24 hours.

The oven must be such that the required temperature is restored not more than five minutes after insertion of the sample.

4) Before undergoing the tests prescribed in marginals 3151, 3152, 3153, 3154, 3155 and 3156, the samples must be dried for not less than 15 hours at the ambient temperature in a vacuum desiccator containing fused and granulated calcium chloride, the sample substance being spread in a thin layer; for this purpose, substances which are neither in powder form nor fibrous shall be ground, or grated, or cut into small pieces. The pressure in the desiccator must be brought below 50 mm of mercury.

5) (a) Before being dried as prescribed in paragraph 4) above, substances of marginal 2101, 1° (except those containing paraffin wax or a similar substance), 2°, 9° (a) and (b), and those of marginal 2401, 7° (b), shall undergo preliminary drying in a well-ventilated drying oven, with its temperature set at 70° C, until the loss of weight per quarter-hour is less than 0.3 per cent of the original weight.

b) For substances of marginal 2101, 1° (when they contain paraffin wax or a similar substance), 7° (c) and 9° (c), the preliminary drying must be carried out as prescribed in sub-paragraph (a) above, except that the temperature of the oven shall be set at between 40° and 45° C.

6) Nitrocellulose of marginal 2401, 7° (a) shall first undergo preliminary drying as prescribed in paragraph (5) (a) above; drying shall then be completed by keeping the nitrocellulose for at least 15 hours over concentrated sulphuric acid in a desiccator.

Test of chemical stability under heat
Re marginals 3101 and 3102

3108

a) Test of substances listed in marginal 3101.

1) In each of two glass test tubes having the following dimensions:

length 350 mm

internal diameter 16 mm

thickness of wall 1.5mm

3109

is placed 1 g of substance dried over calcium chloride (if necessary the drying must be carried out after reducing the substance to pieces weighing not more than 0.05 g. each). Both test tubes, completely covered with loose-fitting closures, are then so placed in an oven that at least four-fifths of their length is visible, and are kept at a constant temperature of 132° C for 30 minutes. It is observed whether nitrous gases in the form of yellowish-brown fumes clearly visible against a white background are given off during this time.

3110

3111

2) In the absence of such fumes the substance is deemed to be stable.

b) Test of powders listed in marginal 3102.

3112

1) Nitrocellulose powders not containing nitroglycerine, whether gelatinized or not, and plasticized nitrocellulose: 3 g of powder are placed in glass test tubes, similar to those referred to in a), which are then placed in an oven kept at a constant temperature of 132° C.

3113

3149

2) Nitrocellulose powders containing nitroglycerine: 1 g of powder is placed in glass test tubes, similar to those referred to in a), which are then placed in an oven kept at a constant temperature of 110° C.

3150

3) The test tubes containing the powders referred to in (1) and (2) are kept in the oven for one hour. During this time no nitrous gases must be visible. Observation and appraisal as in (a).

Re marginals 3103 and 3105

a) Test of substances listed in marginal 3103, 1.

1) Two samples of explosive each weighing 10 g are placed in cylindrical weighing bottles having an internal diameter of 3 cm and a height of 5 cm to the underside of the cover; the bottles are then firmly closed with their covers and heated for three hours at a constant temperature of 90° C in an oven in which they are clearly visible.

2) During this time no nitrous gases must be visible. Observation and appraisal as under marginal 3151 (a).

b) Test of substances listed in marginals 3103, 2. and 3105.

1) Two samples of explosive each weighing 10 g are placed in cylindrical weighing bottles having an internal diameter of 3 cm and a height of 5 cm to the underside of the cover; the bottles are then firmly closed with their covers and heated for 48 hours at a constant temperature of 75° C in an oven in which they are clearly visible.

2) During this time no nitrous gases must be visible. Observation and appraisal as under marginal 3151 (a). Ignition temperature (see marginals 3101 and 3102)

1) The ignition temperature is determined by heating 0.2 g of substance enclosed in a glass test tube immersed in a Wood's alloy bath. The test tube is placed in the bath when the latter has reached 100° C. The temperature of the bath is then progressively increased by 5° C per minute.

2) The test tubes must have the following dimensions:

length 125 mm

internal diameter 15 mm

thickness of wall 0.5mm

and must be immersed to a depth of 20 mm.

3) The test must be repeated three times, the temperature at which ignition of the substance occurs, i.e., slow or rapid combustion, deflagration or detonation, being noted each time.

4) The lowest temperature recorded in the three tests is the ignition temperature.

3151

3152

3153

3154

Test of sensitivity to red heat and to flame-ignition (see marginals 3103 to 3110).

a) Test in red-hot hemispherical iron crucible (see marginals 3103 to 3106 and 3108 to 3110).

1) Quantities of the explosive to be examined increasing from 0.5 g to 10 g are thrown into a red-hot hemispherical iron crucible 1 mm thick and 120 mm in diameter.

The results of the test are to be classified as follows:

1. Ignition with slow combustion (explosives with an ammonium nitrate base);

2. Ignition with rapid combustion (chlorase explosives);

3. Ignition with violent combustion and deflagration (black powder),

4. detonation (fulminate of mercury).

(2) The effect on the sequence of events of the amount of explosive used should be taken into account.

(3) The explosive to be examined must not show any fundamental difference from the standard explosive.

(4) The iron crucibles must be carefully cleaned before each test and replaced at frequent intervals.

(b) Test of Case of ignition (see marginals 3103 to 3110).

(1) The explosive to be examined is placed in a small heap on an iron plate in quantities increasing - in the light of the results of the test under (a) - from 0.5 g to a maximum of 100 g.

(2) A burning match is applied to the apex of the small heap and note is taken whether the explosive ignites and burns slowly, deflagrates, or detonates, and whether, once ignition has occurred, combustion continues even after the match has been removed. If no ignition takes place a similar test is made by bringing the explosive into contact with a gas flame and noting the same points.

(3) The results of the test are compared with those obtained with the standard explosive.

(c) Combustion test in conditions of enclosure in a sheet-steel box (see marginal 3107).

(1) The combustion test is carried out in a cubical box, made of sheet steel with edges 8 cm long and a wall thickness of 1 mm. The box is made of annealed mild steel sheet and closed in as tight a manner as possible by foldig the edge of the lid over (fig. 1).

(2) In the case of explosives sensitive to friction, the top surface should be covered with a sheet of paper to prevent particles of explosive from finding their way between the edges and remaining trapped there when the edge of the lid is being bent over. The box is completely filled with the explosive so that the latter has as nearly as possible the same density as when in cartridges. The box is placed in the fire with care; it shall first be wrapped in, for example, several layers of packing paper to avoid immediate ignition of the explosive.

A pile of wood 0.8 m high is prepared for the fire by first placing on the ground a thin layer of wood-wool and then on top of it, lying flat, three billets about 0.5 m long and 0.25 m in diameter. Across these are laid three more billets of similar size. On top of all are placed three layers of small sticks cut about 0.2 m long, with wood-wool between the layers. On each side, three or four pieces of wood about 0.5 m long are leant against the pile to prevent it from collapsing while it burns. The pile is set alight with a lighted fuse of wood-wool.

(3) Observations are made to see whether the explosive flares or explodes; how long it burns and what phenomena accompany combustion; and what changes the box has undergone.

(4) The test is carried out four times. A photograph is taken of the steel boxes after they have been used.

(b) Test by heating in a confined space in a steel tube with a calibrated orifice plate (steel tube test) (see marginals 3103 to 3110 and 3112).

(1) The tests in (a) to (c) may be supplemented by the following test.

(2) Description of the steel tube (fig. 2):

The tube is made by pressing from sheet steel suitable for deep drawing¹. The dimensions are: inner diameter 24 mm; wall thickness 0.5 mm; length 75 mm. The open end is fitted with an outer flange. The tube is closed with a pressure-resistant central-orifice plate fixed tightly on the flange by an externally-threaded collar slipped over the tube and by a box nut screwed on to the collar. The plate is made from heat resisting chrome steel² 6 mm thick. To allow the escape of gases of decomposition, plates are used having cylindrical central orifices (a) with the following diameters:

1.0-1.5-2.0-2.5-3-4-5-6-8-10-12-14-16-18-20 mm; a diameter of 24 mm is added when the tube is used without orifice plate and closing device. The threaded collar and nut are made of manganese-chrome steel non-scaling up to 800°C.¹ With orifice plates of from 1 to 8 mm diameter, nuts with a perforation (b) 10 mm in diameter must be used; if the diameter of the orifice is above 8 mm, that of the nut perforation must be 20 mm. Each tube is used for one test only. On the other hand, the orifice plates, threaded collars and nuts may be used again provided they are undamaged. As a check the orifice must be measured after each test.

(3) Heating and protective device (fig. 3):

Heating is provided by town gas with a net calorific value of 4,000 Kcal/Nm³, from 4 burners producing about 2.4 kcal/sec for a consumption of 0.6 l/sec.

As destruction of the tube is possible, heating is undertaken in a splinter-proof welded box, made of steel 10 mm thick, open on one side and at the top. The tube is suspended between two rods 4 mm in diameter inserted through holes drilled in opposite walls of the box, and is then heated by four Teclu burners (external tube diameter 19 mm), the lowest heating the bottom of the tube, those at the right and left the walls, and that at the rear the closure. The burner tubes are inserted and secured in holes 20 mm in diameter drilled in the walls of the splinter-proof box. The burners are lit simultaneously by a pilot jet and regulated to a plentiful supply of air so that the tips of the blue inner cones of the flames are almost touching the tube.

The whole installation is contained in a test stand separated from the observation area by a strong wall in

1 e.g. Material Specification No. 1.0336.505 g, in accordance with DIN 1623, Sheet 1.

2 e.g. Material Specification No. 1.4873, in accordance with Sheet «Stahl-Eisen-Werkstoff» 490-52.

1 e.g. Material Specification No. 1.3817, in accordance with Sheet «Stahl-Eisen-Werkstoff» 490-52.

which sight holes protected by armoured glass and slatted steel plates are arranged. The splinter-proof box is placed with its open side towards the observation area, care being taken that the flames are not affected by draughts. Equipment for extracting gases of decomposition and smoke from the explosion is installed in the test room.

If town gas is not available, propane can be used for heating. In such a case the propane is taken from an industrial cylinder fitted with a pressure regulator (500 mm water gauge), through a meter (bellows-type meter with a capacity of 2 litres at 500 mm water gauge), and distributed by a manifold to the four burners, whose jets have a diameter of 0.8 mm. Each burner consumes not more than about 1.7 litres of propane a minute. The gas cylinders and the meter are placed outside the test stand.

(4) Test procedure:

The tube is filled with the explosive substance to within 15 mm of the top, i.e. to a height of 60 mm. If the substance is in powdered form it is compressed by cautiously and gently tapping the tube and then pressing lightly with a small wooden rod. If the substance is gelatinous it is put into the tube with the aid of a spatula; after each addition the substance is lightly pressed down with a small wooden rod to eliminate occlusions of air. When the quantity of substance inserted has been weighed, the threaded collar is slipped on to the tube, the required orifice plate is put in place, and the nut is tightened by hand. It is essential to make sure that none of the substance is trapped between the flange and the plate, or in the threads. The tube is then put in a rigidly mounted vice with shielding against inadvertent explosion, and the nut is fully tightened with a spanner. The tube, now ready for the test, is suspended between the two rods in the splinter-proof box; the pilot jet is lighted, and when the test stand has been closed the gas supply to the four burners is turned on. At the same time a stop-watch is started to measure the time t_1 elapsing between the lighting of the burners and the ignition of the substance, as shown by the escape of a flame from the orifice in the plate, and the time t_2 between lighting and explosion. On completion of the test the gas supply is shut off and exhaust system in the test stand is started up; no one must enter the stand until a sufficient period of time has elapsed.

To make sure that the heating device is working satisfactorily, the tests must be preceded by a «dummy run».

(5) Interpretation of results:

The relative degree of sensitivity of a substance to heating in the steel tube is expressed by the limiting diameter, this being the orifice with the largest diameter in millimetres with which, in three tests, at least one tube explodes, that is to say breaks up into at least three pieces. The thermal sensitivity increases with increasing limiting diameter and with decreasing times t_1 and t_2 .

Organic peroxides (except those wetted or diluted with volatile substances, e.g. water) for which the limiting diameter is not less than 2.0 mm should be considered as explosive substances of Class Ia (see also note to marginal 2550).

(e) Heating test in a pressure vessel with an orifice plate and bursting disc (pressure vessel test) (see marginal 3112).

(1) For organic peroxides, the tests shown under (a), (b) and (d) may be supplemented by the following test.

(2) Description of the pressure vessel (fig. 4 to 6):

Figures 4 to 6 and the appropriate captions give the details of the apparatus used and the dimensions and materials of the constituent parts.

It should be noted that the use of 24 plates is provided for, the diameters of the orifices being: 1.0-1. 2-1. 5-2. 0-2. 5-3. 0-3. 5-4. 0-4. 5-5. 0-5. 5-6. 0-7. 0-8. 0-9.

0-10. 0-11. 0-12. 0-14. 0-16. 0-18. 0-20. 0-22.0 and 24.0 mm. These plates have a thickness of 2.0 mm \pm 0.2 mm.

The bursting disc is cut by a punch from a sheet of brass 0.05 mm thick with standing a bursting pressure of 5.4 \pm 0.5 Kg/cm² at normal temperature. Unannealed rolled brass containing 67 per cent copper is suitable.

(3) Heating device:

The pressure vessel is heated by technical-grade butane taken from a cylinder fitted with a pressure regulator. The heat output must be about 2,700 kcal/h. With a net calorific value of 27,000 kcal/m³ (at 1 atm and 20°C), the rate of gas supply must be about 100 l/h. A Tecflu butane is used. The amount of gas used is measured by a rotameter or other meter and regulated by the burner valve.

Instead of butane, town gas or propane may be used with a suitable burner, provided that the heat output of the gas is likewise about 2,700 kcal/h (for example, in the case of town gas with a net calorific value of 4,050 kcal/m³ it would be necessary to supply about 670 l/h).

The gas cylinder and the rotameter or other meter must be situated outside the test area.

(4) Test procedure:

For a normal test, 10 grammes of the substance are placed in the vessel. In the case of a substance the sensitivity of which is unknown a start is made with smaller quantities: 1 gramme to begin with, then (if possible) 5 grammes, and finally 10 grammes. The bottom of the vessel must be evenly covered with the substance. The bursting disc, central orifice plate and retaining ring are then put in place. The wing nuts are tightened by hand and the box nut with a spanner. The bursting disc is covered with enough water to keep it at a low temperature.

The pressure vessel is placed on a tripod (with an inside ring diameter of 67 mm) which is inside a protective cylinder. The ring at the bottom of the vessel rests on the tripod.

The burner is lit, the flow of gas set at the required rate, and the flow of air so adjusted that the colour of the flame is blue and the inner cone of the flame light blue. The tripod must be of such a height that the inner cone almost touches the bottom of the vessel. Then the burner is placed under the vessel through a hole in the protective cylinder.

The test area must be well ventilated and admission to it prohibited during the test. The vessel is observed from outside either by mirrors or through a sight hole in the wall, fitted with armoured glass.

The time t_1 between the beginning of heating and the beginning of reaction (flame, production of smoke, hissing) and the time t_2 until the end of the reaction (detonation, end of hissing and production of smoke, or extinction of the flame) are measured. The vessel is then cooled with water and cleaned.

(5) Interpretation of results:

The relative degree of sensitivity of a substance to heating in the pressure vessel is expressed by the limiting diameter, this being the largest orifice diameter in millimeters with which the bursting disc is broken at least once in three tests while having remained intact during three tests with the next larger diameter.

The thermal sensitivity increases with increasing limiting diameter and with decreasing times t_1 and t_2 .

Organic peroxides (except those wetted or diluted with volatile substances, e.g. water) for which the limiting diameter is not less than 9 mm should be considered as explosive substances of Class Ia (see also note to marginal 2550).

Test of sensitivity to impact (see marginal 3103 to 3110 and 3112).

(a) Fall-hammer test I (figs. 7 and 8) against a standard (control) explosive.

(1) The explosive, after drying as described in marginal 3150, is put into the following form:

(a) Compact explosives are rasped fine enough to pass without residue through a sieve of 1 mm mesh; only the

residue remaining on a sieve of 0.5 mm mesh is kept for the following test;

(b) Explosives in powdered form are passed through a sieve of 1 mm mesh; all that passes through this sieve is kept for the impact test;

Appendix A.1

c) Plastic and gelatinous explosives are formed into small, roughly spherical pills weighing between 25 and 35 mg.

(2) The apparatus for carrying out the test consists of a weight which, sliding between two bars, is capable of being set to fall from a prearranged height and of being readily released for the fall.

The weight does not fall directly onto the explosive, but falls onto a striker. Dressing on an anvil E, both in very hard steel and sliding easily in the guide ring F (fig. 7). The sample of explosive is placed between the striker and the anvil. The striker, anvil and guide ring are in a protective cylinder C made of hardened steel and placed on a steel block B embedded in a cement block A (fig. 8). The dimensions of the various parts are given in the figures.

(3) The tests are carried out in turn on the explosive to be tested and, on the standard (control) explosive as follows:

(a) The explosive, in the form of a spherical pill (if it is plastic) or measured with a measuring spoon of 0.05 cm³ capacity (if it is in the form of a powder or of raspings), is arranged with care between the striker and the anvil, whose contact surfaces must not be moist. The ambient temperature must not exceed 30° C nor be less than 15° C. Each sample of the explosive must be subjected to one impact only. After each test the striker, the anvil and the guide ring must be carefully cleaned, any residue of explosive being removed.

(b) The tests must begin at heights of fall likely to cause complete explosion of the explosives under test. The height of fall is reduced gradually until the resulting explosion is incomplete or no explosion results. At this height four impact tests are carried out, and if at least one produces a definite explosion, four further fall tests from a slightly lower height are carried out, and so on.

(c) The lowest height or fall causing a definite explosion in a series of at least four tests at that height is taken as the limit of sensitivity.

(d) The impact test is normally carried out with a drop weight of 2 Kg; however, if the sensitivity to impact with this weight requires a height of fall greater than 60 to 70 cm, the impact test must be carried out with a weight of 5 Kg.

(b) Fall-hammer test II (figs. 9 to 13) with numerical expression of impact sensitivity (impact energy in Kgm)

(1) The test described in (a) may be replaced by the following test.

Appendix A.1

(2) Description of the apparatus:

The essential parts of the apparatus are the impact device (see under (4)), the cast steel block with base, the anvil, the column, the guides and the hammer with release device (fig. 9). A steel anvil (100 mm in diameter, 70 mm high) is screwed on the steel block (230 x 250 x 200 mm) cast integral with the base (450 x 450 x 60 mm).

Bolted to the back of the steel block is the support into which the column formed from a seamless-drawn steel tube (90 mm outside diameter, 75 mm inside diameter) is fixed. The two guides are fixed to the column by means of three cross-members and are fitted with a toothed rack to limit the rebound of the hammer and with a movable graduated scale for setting the height of fall. The hammer holding and releasing device is adjustable between the guides and is clamped to them by the operation of a lever-nut on two jaws. The apparatus is so fixed on a concrete block (600 x 600 x 600 mm) by means of four anchoring screws sealed in the concrete that the base is in contact with the concrete over its whole area and the

guides are exactly vertical. A wooden splinter-proof box which has a lead lining 2 mm thick and opens easily surrounds the apparatus up to the level of the bottom cross-member. An exhaustor enables the explosion gases and dust from the substance to be removed.

(3) Description of the fall-hammer:

Each hammer is provided with two positioning grooves holding it between the guides as it drops and with a suspension spigot, a removable cylindrical striking head and a rebound catch which are screwed on to the hammer (fig. 11). The striking head is of hardened steel (HRC 60 to 63); its minimum diameter is 25 mm; it has a shoulder preventing it from being forced into the hammer by the impact.

There are three hammers of different weights. The 1-Kg hammer is used for highly sensitivity the 5-kg hammer for substances of medium sensitivity and the 10-Kg hammer for substances of low sensitivity. The 5-Kg and 10-kg hammers are of massive and compact steel.* The 1-Kg hammer must have a heavy steel centre carrying the striking head and forming with it the main mass of the hammer.

The 1-Kg hammer is used for drop heights of 10 to 50 cm (impact energy 0.1 to 0.5 Kgm), the 5-Kg hammer for drop heights of 15 to 60 cm (impact energy 0.75 to 3 Kgm), and the 10-Kg hammer for drop heights of 35 to 50 cm (impact energy 3.5 to 5 Kgm).

(4) Descriptions of the impact device:

The sample to be examined is enclosed in an impact device (fig. 11) consisting of two solid steel cylinders coaxially placed one above the other in a cylindrical guide ring likewise made of steel. The cylinders are steel rollers for anti-friction bearings and are 10 mm

in diameter (type with a mean deviation of - 4 microns for a tolerance of - 2 microns, i.e. a diameter of 10.003-0.005 mm+), 10 mm high, with polished surfaces and rounded edges (radius of curvature 0.5 mm) and an HRC hardness between 50 and 65. The guide ring has an outer diameter of 16 mm, a lapped bore of 10 + 0.005 + 0.010 mm and a height of 13 mm.

A cylindrical plug gauge may be used to check that the bore diameter is within the prescribed tolerances. The cylinders and the guide ring shall be degreased with acetone before use.

The impact device is placed on an intermediate anvil 26 mm in diameter and 26 mm high and centred by a locating ring provided with a ring of vent-holes to permit the escape of the gases (figs. 11 and 12).

Each striking surface of the cylinders shall be used only once. If an explosion occurs, the guide ring shall not be used again.

(5) Preparation of the samples

The explosive substances are tested in the dry state. Substances of marginal 2101, 11° to 14°, are tested as delivered provided that their water content agrees with the value indicated by the manufacturer. If the water content is higher, the mixtures must be dried before the test until their moisture content is that indicated.

In addition, in the case of solid substances other than those in paste-like form the following points should be observed:

(a) substances in powdered form are sieved (sieve mesh 0.5 mm); everything that passes through the sieve is used for the test;

(b) substances which have been compressed, cast or otherwise consolidated are broken into small pieces and sieved; the siftings from 0.5 mm to 1.0 mm in diameter are used for the test.

(6) Test procedure:

In the case of substances in powdered form, a sample is taken with a cylindrical measure of 40 mm³ capacity (3.7 mm diameter x 3.7 mm).

* At least St 37-1, in accordance with DIN 17000.

For substances in paste-like form, a cylindrical tube of the same capacity is used, which is plunged into the mass. After levelling off the excess extending beyond the measure, the sample is taken out by means of a wooden rod. For explosive liquids a fine-drawn pipette of 40 mm³ is used.

The sample is placed on the open impact device, which is already in the locating ring on the intermediate anvil, and in the case of substances in powdered or paste-like form the upper steel cylinder is lightly and carefully pressed with the forefinger until it touches the sample without flattening it. In the case of liquid substances the

Upper steel cylinder is pressed down with the aid of the depth scale of a vernier gauge until it is 1 mm from the lower cylinder, and held in this position by a rubber ring previously slipped on to it (fig. 13).

The device is placed centrally on the anvil, the protective wooden box is closed, the hammer suspended at the required height is released, and the exhaustor is then started up. The test is performed six times at each height of fall.

(7) Interpretation of results

In interpreting the results of the test of sensitivity to impact a distinction is made between "no reaction", "decomposition" (without flame or detonation; recognizable by colour-change or odour) and "explosion" (with weak to strong detonation*). The degree of sensitivity to impact of a substance is measured by determining the weight of the hammer in kg and the lowest height of drop in cm with which an explosion occurs in at least one out of six tests, and the resultant impact energy in Kgm. The sensitivity of the substance to impact is greater the lower the impact energy in kgm.

Test of sensitivity to friction (see marginals 3103 to 3110 and 3112)

Friction test in a porcelain mortar

(1) The explosive is dried over calcium chloride. A sample of the explosive is compressed and ground in an unglazed porcelain mortar by means of a pestle, also unglazed. The mortar and pestle must have a temperature about 10 degrees higher than the ambient temperature (15° to 30° C).

(2) The results of the test are compared with those obtained with the standard (control) explosive, and are classified as follows:

1. no effect;
2. faint occasional crackling;
3. frequent crackling or very pronounced occasional crackling.

Appendix A.1

(3) Explosives which, under test, give the result set out in 1. are to be considered as practically insensitive to friction; if they give the result set out in 2. they are to be considered as moderately sensitive to friction; if they give the result set out in 3. they are to be considered as very sensitive to friction.

(b) Test with the friction apparatus (figs. 14 and 15)

(1) The test described in (a) may be replaced by the following test.

(2) Description of the apparatus:

The friction apparatus is made up of the cast-steel base on which the friction device proper, comprising a fixed porcelain peg and movable porcelain plate (fig. 14), is mounted. The porcelain plate is held in a carriage which runs in two guides. On operation of a push-button switch the carriage is moved by an electric motor through a

connecting-rod, an eccentric disc and suitable gearing in such a way that the porcelain plate moves back and forth once only beneath the porcelain peg, the distance of travel being 10 mm. The peg-holder pivots on an axis so that the porcelain peg can be changed; it is extended by a loading arm with six notches for hanging a weight. Balance in the «zero» position (without weights) is achieved by adjusting a counter-weight. When the peg-holder is lowered on to the porcelain plate the longitudinal axis of the porcelain peg is perpendicular to the upper surface of the plate. One of the weights is hung by means of a ring and hook in the appropriate notch; the load on the peg can be varied from 0.5 to 36 Kg.

(3) Description of the porcelain plate and peg:

The flat porcelain plates are made of pure technical white porcelain and have the following dimensions 25 mm × 25 mm × 5 mm.

Before being fired, their two rubbing surfaces are thoroughly roughened by being rubbed with a sponge. The sponge-marks are clearly visible.

The cylindrical porcelain pegs are also made of technical white porcelain; they are 15 mm long and 10 mm in diameter and their roughened ends are rounded, with a radius of curvature of 10 mm.

Samples of porcelain pegs and plates of the quality described above are deposited with the Bundesanstalt für Materialprüfung, Berlin-Dahlem, which can supply the addresses of manufacturers.

As the natural undamaged roughness of the plates and pegs is an essential condition for the reaction of the explosive substance, each part of the surface must be used only once. In consequence, the two end surfaces of each peg are sufficient for two tests, and the two friction surfaces of a plate will each serve for about three to six tests:

(4) Preparation of samples:

The explosive substances are tested in the dry state.

Substances of marginal 2101, 11° to 14° are tested as delivered, provided that their water content agrees with the value indicated by the manufacturer. If the water content is higher, the mixtures must be dried before the test until their moisture content is higher, the mixtures must be dried before the test until their moisture content is that indicated.

In addition, for solid substances, except those in paste-like form, the following points should be observed:

(a) substances in powdered form are sieved (sieve mesh 0.5 mm); everything that passes through the sieve is used for the test;

(b) substances which have been compressed, cast or otherwise consolidated are broken into small pieces and sieved; everything that passes through a sieve mesh of 0.5 mm is used for the test.

(5) Test procedure:

A porcelain plate is fixed on the carriage of the friction apparatus so that the grooves of the sponge-marks on it run transversely to the direction of movement. The quantity to be tested, about 10 mm³, is taken from substances in powdered form by means of a cylindrical measure (2.3 mm diameter × 2.4 mm); in the case of substances in paste-like form the sample is measured by a cylindrical tube which is plunged into the mass. After levelling off the excess extending beyond the measure, the sample is taken out by means of a wooden rod and placed on the porcelain plate. The firmly-clamped porcelain peg is set on the heaped-up quantity as shown in fig. 15; the loading arm is loaded with the required weight and the push-button switch is operated. Care must be taken that the peg rests on the sample and that there is enough of the substance in front of it to come under the peg as the plate moves.

(6) Interpretation of results:

In interpreting the results of the test a distinction is made between «no reaction», «decomposition» (change of colour, smell), «ignition», «crackling» and «explosion».

The relative degree of sensitivity of a substance to friction in the friction apparatus as described is indicated (without taking the coefficient of friction into account) by

* For some substances there is "ignition without detonation". This reaction is, however, regarded as an explosion (and designated by the terms in inverted commas) because it involves the entire sample and an explosion can also occur under identical conditions.

the smallest load on the peg in Kg, with which ignition, crackling or an explosion occurs in at least one out of six tests. In this connection, even ignition and crackling are deemed to be dangerous reactions. The sensitivity of an explosive substance to friction is greater the lower the ascertained load on the peg (loading weight in relation to length of loading peg).

Explosive liquids and substances in paste-like form are not in general sensitive to friction under the conditions of this test, since because of the lubricating effect the slight frictional heat produced is insufficient to induce ignition. With such substances the absence of any reaction is no indication that the substance is not dangerous.

The stability of the products referred to in marginal 3111 is to be checked by ordinary laboratory methods.

Test of dynamite for exudation (see marginal 3107)

(1) The apparatus for testing dynamite for exudation (figs. 16 to 18) consists of a hollow bronze cylinder. This cylinder, which is closed at one end by a plate of the same metal, has an internal diameter of 15.7 mm and a depth of 40 mm. It is pierced by 20 holes 0.5 mm in diameter (4 sets of 5 holes) on the circumference. A bronze piston, cylindrical over 48 mm of its total length of 52 mm, can slide in the vertical cylinder; this piston, whose diameter is 15.6 mm, is loaded with a weight of 2,220 g so as to produce a pressure of 1.2 Kg/cm².

(2) A small plug of dynamite weighing 5 to 8 g, 30 mm long and 15 mm in diameter, is wrapped in very fine gauze and placed in the cylinder; the piston and its loading weight are then placed on it so that the dynamite is subjected to a pressure of 1.2 Kg/cm².

The time taken for the appearance of the first signs of oily droplets (nitroglycerine) at the outer orifices of the cylinder holes is noted.

(3) The dynamite is considered satisfactory if the time elapsing before the appearance of the liquid exudations is more than 5 minutes, the test having been carried out at a temperature of 15° to 25° C.

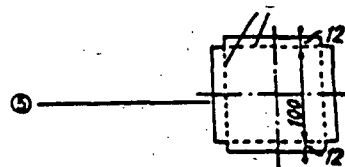


Fig. 1: Steel box
thickness of wall 1 mm
dimensions in mm

- (1) general view
- (2) vertical section
- (3) section A-B
- (4) fabrication of wall
- (5) fabrication of base and cover
- (6) edges to be folded in

Appendix A.1

Test by heating in a steel tube
with a calibrated orifice plate
He marginal 3154 (d)

Fig. 2: Steel tube and accessories

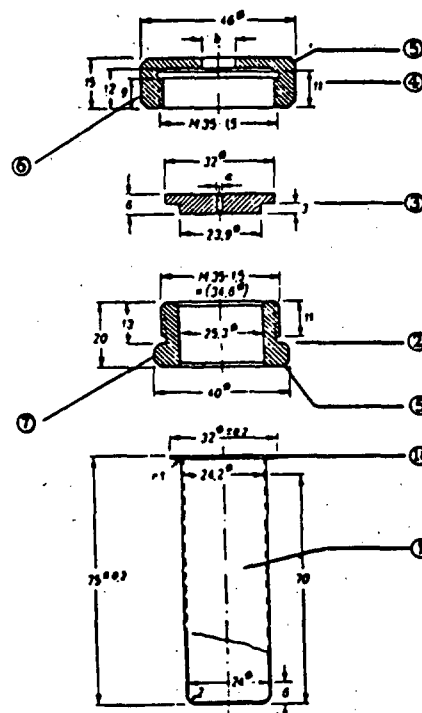
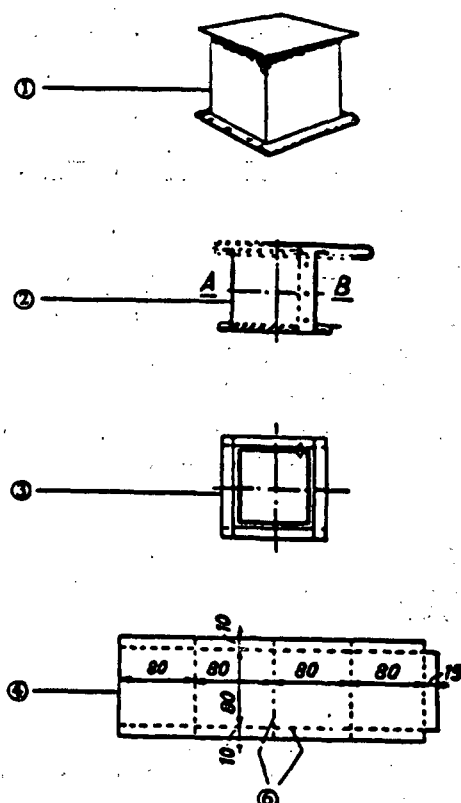
Fig. 3: Heating and protective device
dimensions in mm; for construction materials
see marginal 3154 (d) (2) and (3)

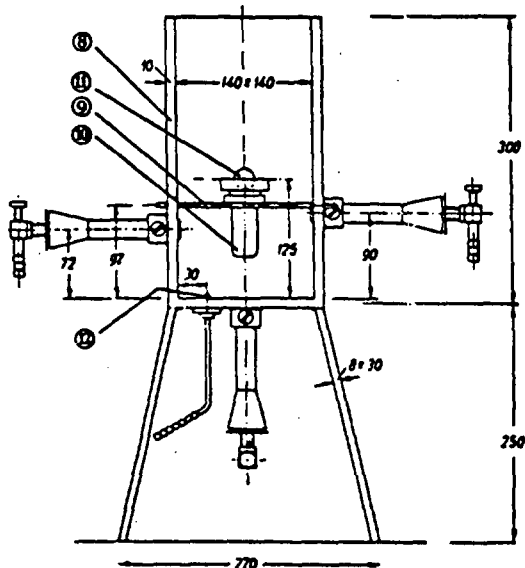
- (1) tube
- (1a) outer flange
- (2) threaded collar; low-friction thread
- (3) orifice plate $a = 1.0 \dots 20.0$ diameter.
- (4) nut $b = 10$ or 20 diameter
- (5) chamfered surface
- (6) 2 flats for spanner size 41
- (7) 2 flats for spanner size 36
- (8) splinter-proof box
- (9) 2 supporting rods for the tube
- (10) assembled tube
- (11) position of rear burner; the other burners are visible
- (12) pilot jet

Appendix A.1

Combustion test

Re marginal 3154 (c)





Appendix A.1
Heating test in a pressure vessel
with an orifice plate and bursting disc
Re marginal 3154 (e)

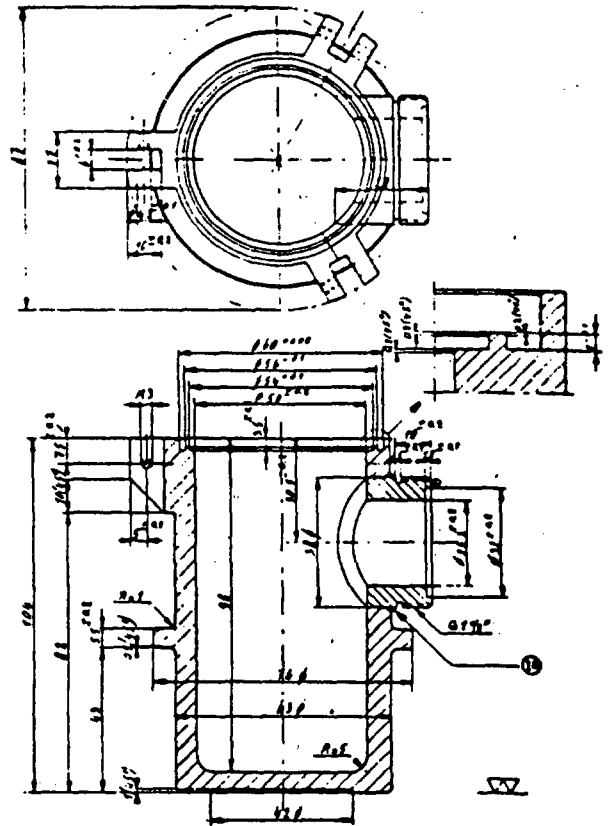


Fig. 5: Pressure vessel dimensions in mm

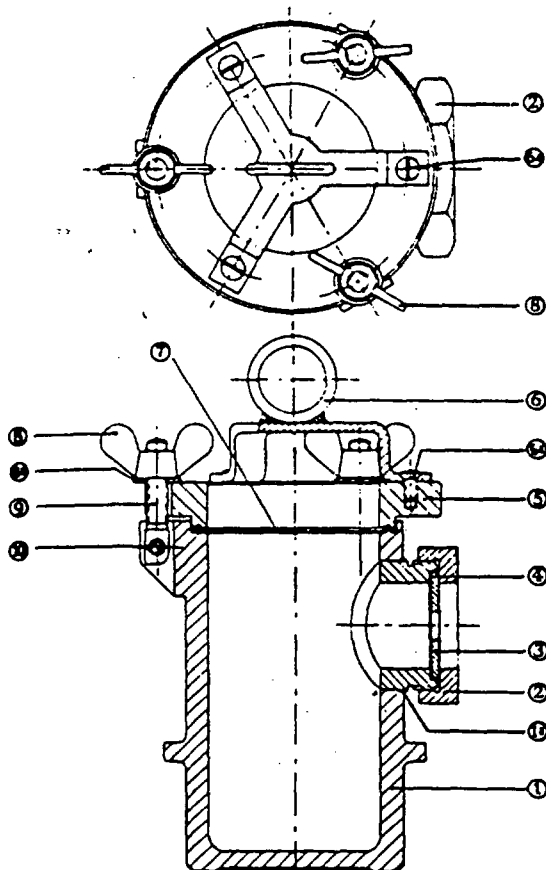


Fig. 4: Assembled pressure vessel; vertical section and plan

- (1) Pressure vessel (stainless steel)
- (1a) welded joint
- (2) box nut (fully-killed weldable steel)
- (3) central-orifice plate (stainless steel)
- (4) inert retaining ring, 0.5 thick
- (5) pressure ring (stainless steel)
- (6) brass handle
- (6a) brass screw (metetial M4 x 8 DIN 88)
- (7) bursting disc [for material see marginal 3154 (e) (2)]
- (8) wing nuts (brass M6 DIN 315)
- (8a) washer (brass 6 DIN 125)
- (9) eye-bolt (stainless steel)
- (10) pivot for wing nuts (stainless steel)

Note: Stainless steel having the following average composition is considered suitable: Cr 18%, Ni 9% Mn ≤ 2%, Si ≤ 1%, C ≤ 0.12%.

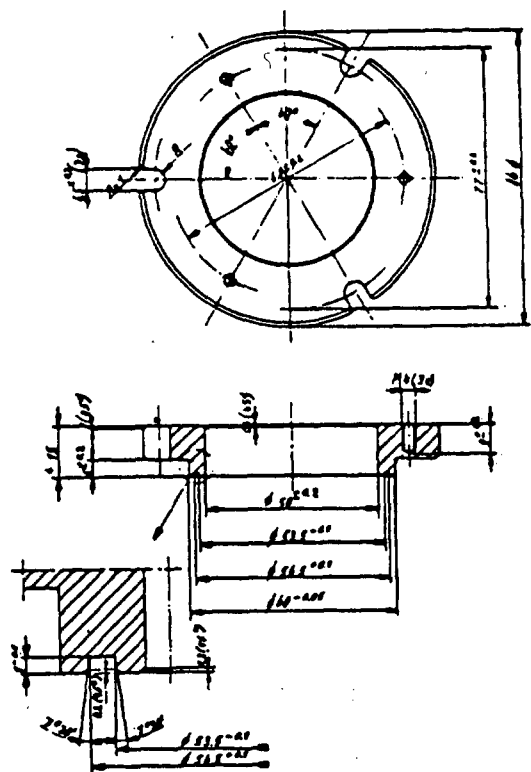


Fig. 6: Pressure ring of the vessel; details in vertical section and plan view dimensions in mm

Appendix A.1
Fall-hammer test I
Re marginal 3155 (a)

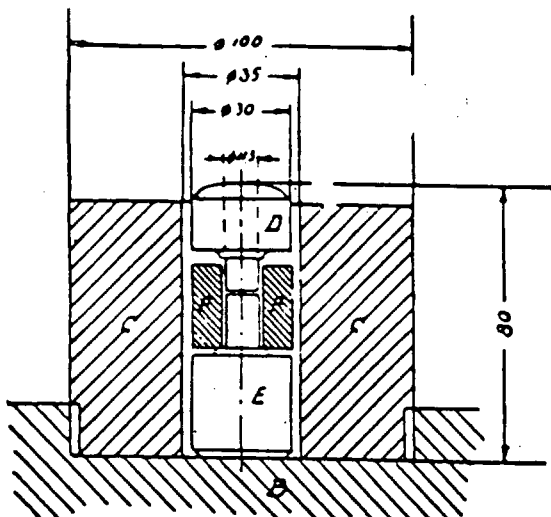


Fig. 7: Impact device, vertical section dimensions in mm

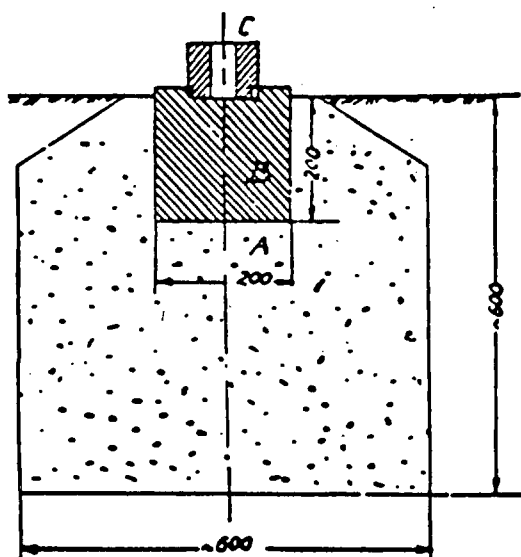


Fig. 8: Base for impact device, vertical section dimensions in mm

- A. cement concrete block
- B. steel block
- C. protective cylinder
- D. striker
- E. anvil
- F. guide ring

Appendix A.1

Fall-hammer test II
Re marginal 3155 (b)

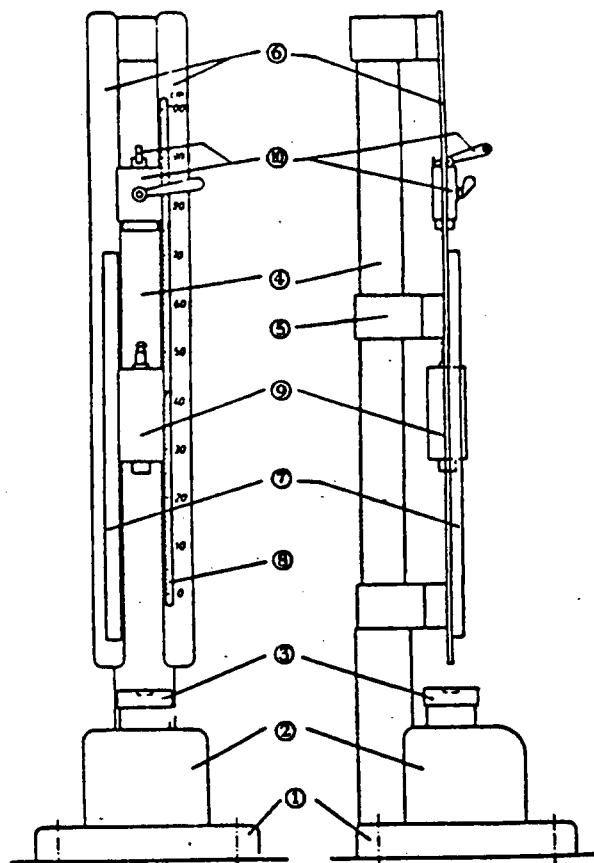


Fig. 9: Fall-hammer II, front and side, general view dimensions in mm

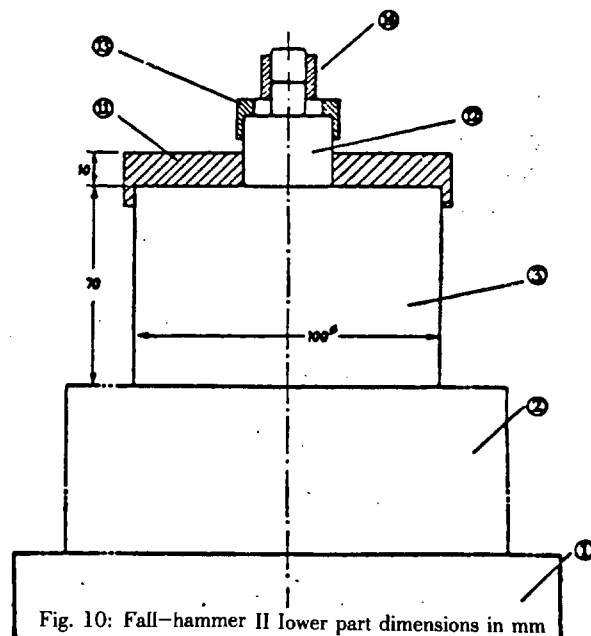


Fig. 10: Fall-hammer II lower part dimensions in mm

- (1) base, 450×450×60
- (2) steel block, 230×250×200
- (3) anvil, 100 diameter ×70
- (4) column
- (5) median cross-member
- (6) 2 guides
- (7) toothed rack
- (8) graduated scale
- (9) fall-hammer (drop weight)
- (10) holding and releasing device
- (11) locating plate
- (12) intermediate anvil (interchangeable), 26 diameter ×26
- (13) locating ring with orifices
- (14) impact device

Appendix A.1
Fall-hammer test II
Re marginal 3155 (b)

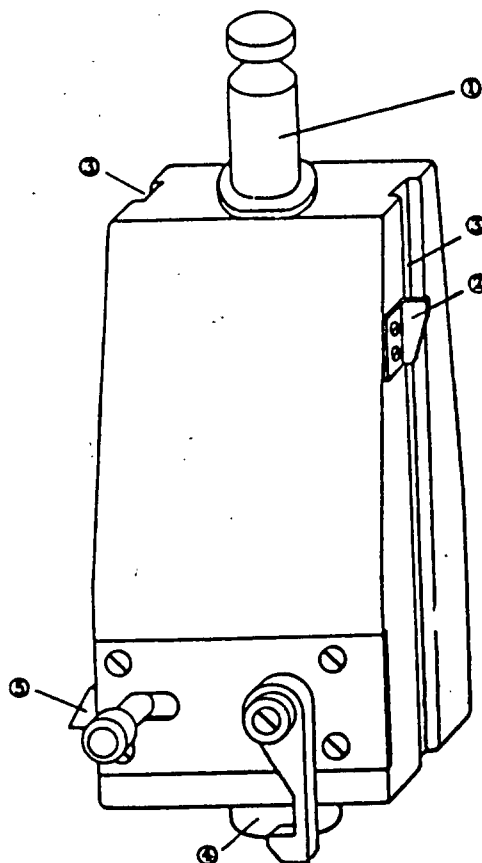


Fig. 11: Hammer (drop weight) of 5 kg
(1) suspension spigot
(2) height marker
(3) positioning groove
(4) cylindrical striking head
(5) rebound catch

Appendix A.1
Fall-hammer test II
Re marginal 3155 (b)

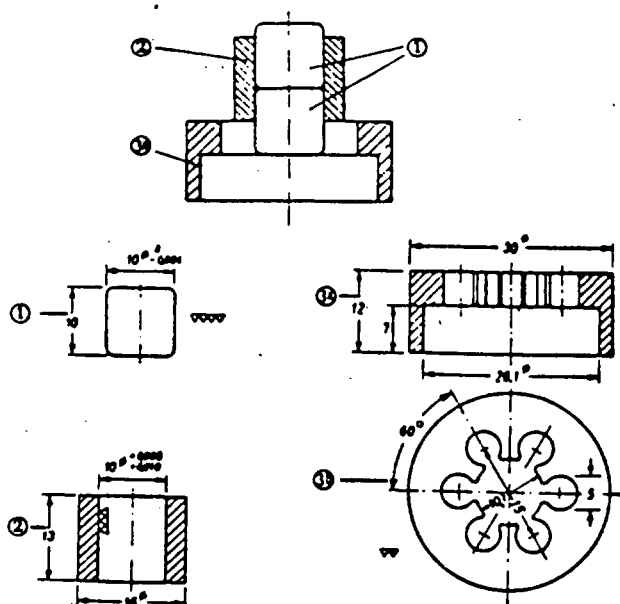


Fig. 12: Impact device for substances in powdered or paste-like form
dimensions in mm

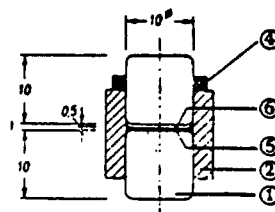


Fig. 13: Impact device for liquid substances
dimensions in mm

- (1) steel cylinders*
- (2) guide ring for steel cylinders*
- (3) locating ring with orifices
- (a) vertical section
- (b) plan
- (4) rubber ring
- (5) liquid substance (40 mm³)
- (6) space free from liquid
- * Steel can have the following composition:
Cr $\pm 1.55\%$, C $\pm 1\%$, Si max 0.25%
Mn $\pm 0.35\%$ HRC 58...65 (heat-treated steel)

Appendix A.1
Test with friction apparatus
Re marginal 3156 (b)

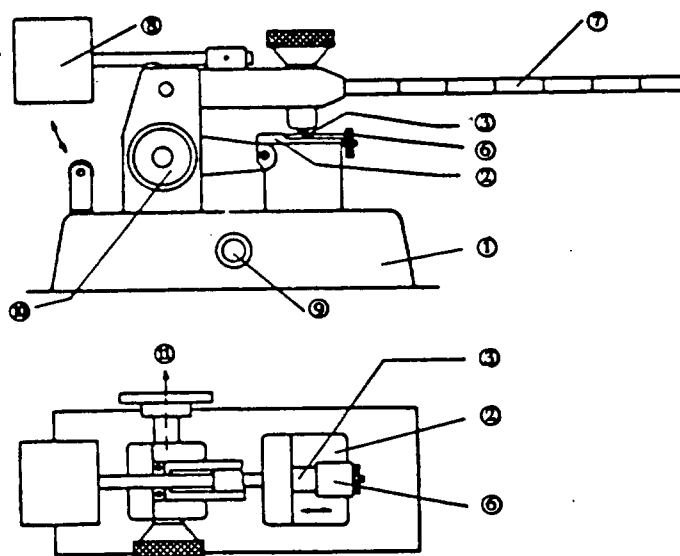


Fig. 14: Friction apparatus; elevation and plan view

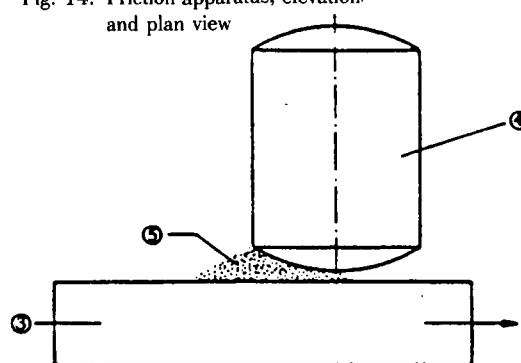


Fig. 15: Starting position of peg on sample
(1) steel base
(2) movable carriage
(3) porcelain plate, 25×25×5 mm, held on the carriage
(4) fixed porcelain peg, 10 diameter ×15 mm
(5) sample under test, approximately 10 mm³
(6) peg-holder
(7) loading arm
(8) counterweight
(9) switch
(10) wheel for setting carriage at starting position
(11) direction to electric drive motor

Appendix A.1
Test of dynamite for exudation
Re marginal 3158

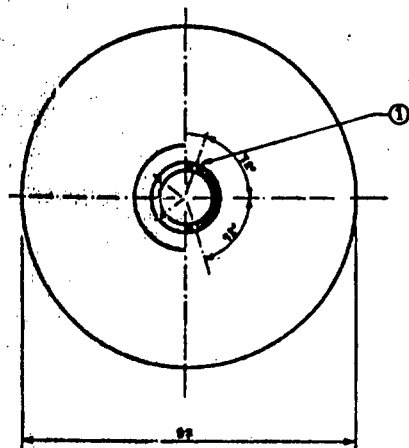


Fig. 16: Hollow bronze cylinder, closed at one end; plan and vertical section dimensions in mm

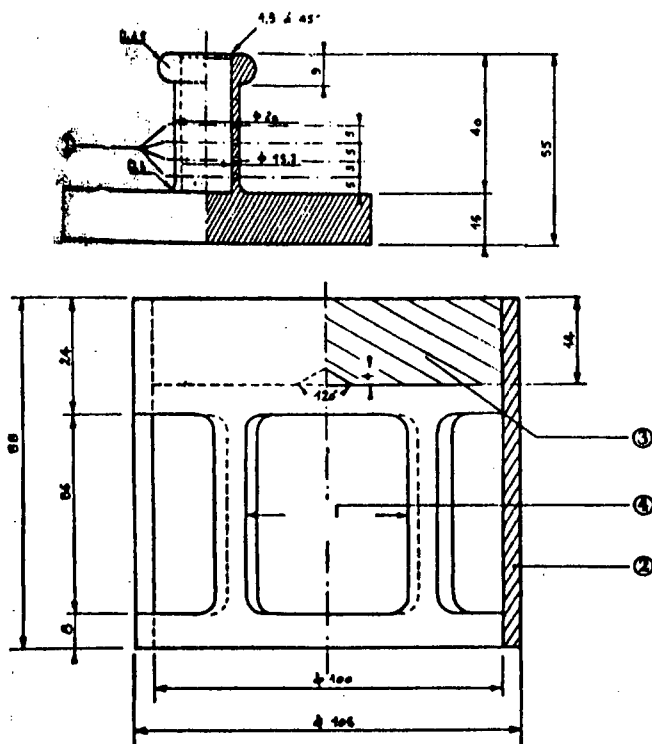


Fig. 17: Bell-shaped weight of 2220 g, capable of being suspended on the bronze piston

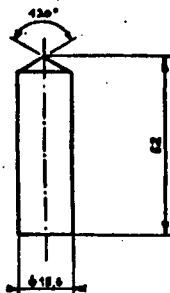


Fig. 18: Cylindrical bronze piston dimensions in mm

- (1) 4 sets of 5 holes of 0.5 diameter
- (2) copper
- (3) lead plate with central tapered recess on underside
- (4) 4 openings, about 46 × 56, evenly spaced round periphery

APPENDIX A.2

A. Provisions relating to the nature of aluminium - alloy receptacles for certain gases of Class 2

I. Quality of the material

3200

(1) The materials of aluminium - alloy receptacles which are to be accepted for the gases referred to in marginal 2203 (2) (b) shall satisfy the following requirements:

| | A | B | C | D |
|---|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Tensile strength, Rm, in kg/mm ² | 5 to 19 | 20 to 38 | 20 to 38 | 35 to 50 |
| Yield stress, Re, in kg/mm ² (permanent set 0.2%) | 1 to 17 | 6 to 32 | 14 to 34 | 21 to 42 |
| Permanent elongation at fracture (l = 5d) in per cent | 12 to 40 | 12 to 30 | 12 to 30 | 11 to 16 |
| Bend test (diameter of former d = n.e, where e is the thickness of the test - piece) | n = 5(Rm ≤ 10) n = 6(Rm > 10) | n = 6(Rm ≤ 33) n = 7(Rm > 33) | n = 6(Rm ≤ 33) n = 7(Rm > 33) | n = 7(Rm ≤ 40) n = 8(Rm > 40) |
| Aluminium Association Series Number* | 1000 | 5000 | 6000 | 2000 |

The actual properties will depend on the composition of the alloy concerned and on the final treatment of the receptacle, but whatever alloy is used the thickness of the receptacle shall be calculated by the following formula:

$$e = \frac{P \times D}{\frac{200Re}{1.30} + P}$$

Where e = minimum thickness of receptacle wall, in mm;

P = test pressure, in kg/cm²;

D = nominal external diameter of the receptacle, in mm; and

Re = guaranteed minimum 0.2 - per cent proof stress, in kg/mm².

In addition, the value of the minimum guaranteed proof stress (Re) introduced into the formula is in no case to be greater than 0.85 times the guaranteed minimum tensile strength (Rm), whatever the type of alloy used.

Notes: 1. The above characteristics are based on previous experience with the following materials used for receptacles:

Column A: Aluminium, unalloyed, 99.5 per cent pure;

Column B: Alloys of aluminium and magnesium;

Column C: Alloys of aluminium, silicon and magnesium, such as ISO/R209-Al-Si-Mg (Aluminum Association 6351).

Column D: Alloys of aluminium, copper and magnesium.

2. The permanent elongation at fracture (l = 5d) is measured by means of test-pieces of circular section in which the gauge length l is equal to five times the diameter d; if test-pieces of rectangular section are used, the gauge length must be calculated by the formula $l = 5.65 \sqrt{F_0}$, where F_0 is the initial cross - sectional area of the test-piece.

3. (a) The bend test (see diagram) shall be carried out on specimens obtained by cutting into two equal parts of width 3e, but in no case less than 25 mm, an annular section of a cylinder. The specimens shall not be machined elsewhere than on the edges.

(b) The bend test shall be carried out between a mandrell of diameter (d) and two circular supports separated by a distance of (d + 3e). During the test the inner faces shall be separated by a distance not greater than the diameter of the mandrell.

(c) The specimen shall not exhibit cracks when it has been bent inwards around the mandrel until the inner faces are separated by a distance not greater than the diameter of the mandrel.

* See «Aluminium Standards and Data», fifth edition, January 1976, published by the Aluminium Association, 750 Third Avenue, New York.

(d) The ratio (n) between the diameter of the mandrel and the thickness of the specimen shall conform to the values given in the table.

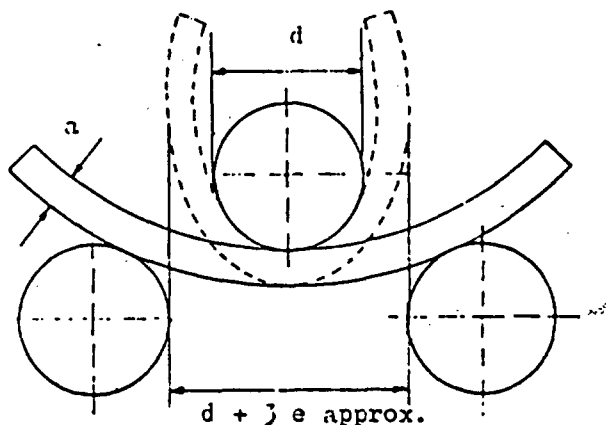


Diagram of bend test

A lower minimum elongation value is acceptable on condition that in additional test approved by the competent authority of the country in which the receptacles are made proves that safety of carriage is ensured to the same extent as in the case of receptacles constructed to comply with the characteristics given in the table in paragraph (1).

(3) The wall thickness of the receptacles at the thinnest point shall be the following:

where the diameter of the receptacle is less than 50 mm: not less than 1.5 mm;

where the diameter of the receptacle is from 50 to 150 mm: not less than 2 mm; and

where the diameter of the receptacle is more than 150 mm: not less than 3 mm.

(4) The ends of the receptacles shall have a semicircular, elliptical or «basket - handle» section; they shall afford the same degree of safety as the body of the receptacle.

II. Additional official test for aluminium alloys.

(1) In addition to the tests required by marginals 2215, 2216 and 2217, it is necessary to test for possible intercrystalline corrosion of the inside wall of the receptacle where use is made of an aluminium alloy containing copper, or where use is made of an aluminium alloy containing magnesium and manganese and the magnesium content is greater than 3.5 per cent or the manganese content lower than 0.5 per cent.

(2) In the case of an aluminium / copper alloy the test shall be carried out by the manufacturer at the time of approval of a new alloy by the competent authority; it shall thereafter be repeated, in the course of production, for each pour of the alloy.

(3) In the case of an aluminium /magnesium alloy the test shall be carried out by the manufacturer at the time of approval of a new alloy and of the manufacturing process by the competent authority. The test shall be repeated whenever a change is made in the composition of the alloy or in the manufacturing process.

(4) (a) Preparation of aluminium/copper alloys

Before the aluminium/copper alloy is subjected to the corrosion test, the samples shall be cleansed of grease by means of a suitable solvent, and dried.

(b) Preparation of aluminium/magnesium alloys

Before the aluminium/magnesium alloy is subjected to the corrosion test, the samples shall be heated for seven days at 100° C; they shall then be cleansed of grease by means of a suitable solvent, and dried.

(c) Performance of test

The inner side of a specimen measuring 1,000 mm² (33,3 × 30 mm) of the material containing copper shall be treated at ambient temperature, for 24 hours, with 1,000 ml of an aqueous solution containing 3 per cent NaCl and 0,5 per cent HCl.

(d) Examination

After being washed and dried, a section of the specimen 20 mm long shall be examined micrographically at a magnification of 100 to 500 ×, preferably after electropolishing.

The depth of attack shall not go beyond the second layer of grains from the surface subjected to the corrosion test; in principle, if the entire first layer of grains is attacked, only part of the second row should be.

In the case of sections, examination shall be performed at right angles to the surface.

Where after electropolishing it is found necessary to render the grain boundaries particularly visible for subsequent examination, this shall be done by a method acceptable to the competent authority.

III. Protection of the inner surface

The inner surface of aluminium - alloy receptacles shall be provided with a suitable anti-corrosion coating if the competent testing stations so consider necessary.

B. Requirements concerning the materials and construction of receptacles intended for the carriage of deeply - refrigerated liquefied gases of Class 2

(1) Receptacles, tanks and shells shall be made of steel, aluminium, aluminium alloy, copper, or copper alloy, e.g. brass. However, receptacles, tanks and shells made of copper or copper alloy shall be accepted only for gases containing no acetylene; ethylene may however contain not more than 0.005 per cent acetylene.

(2) Only materials appropriate to the lowest working temperature of the receptacles, tanks and shells, and of their fittings and accessories, may be used.

The following materials shall be accepted for the manufacture of receptacles, tanks and shells:

(a) steels not subject to brittle fracture at the lowest working temperature (see marginal 3265).

The following may be used:

1. fine - grained unalloyed steels, down to a temperature of -60° C;

2. nickel steels (with a nickel content of 0.5 to 9 per cent), down to a temperature of -196° C, depending on the nickel content;

3. austenitic chrome - nickel steels, down to a temperature of -270° C

(b) aluminium not less than 99.5 per cent pure, or aluminium alloys (see marginal 3266);

(c) deoxidized copper not less than 99.9 per cent pure, or copper alloys having a copper content of over 56 per cent (see marginal 3267).

(1) Receptacles, tanks and shells shall be either seamless or welded.

(2) Receptacles under marginal 2207 made of austenitic steel, of copper or of copper alloy may alternatively be hard - soldered.

The fittings and accessories may either be screwed to the receptacles, tanks and shells or be affixed there to as follows:

(a) receptacles, tanks and shells made of steel, of aluminium or of aluminium alloy: by welding;

(b) receptacles, tanks and shells made of austenitic steel, of copper or of copper alloy: by welding or hard - soldering.

The construction of receptacles, tanks and shells and their mode of affixing to the vehicle, to the underframe or in the container frame shall be such as to preclude with certainty any such reduction in the temperature of the load - bearing components as would be likely to render them brittle. The fastenings of the receptacles, tanks and shells shall themselves be so designed that even when the receptacle, tank or shell is at its lowest working temperature the still possess the necessary mechanical properties.

1. Materials, receptacles, tanks and shells

(a) Steel receptacles, tanks and shells

The materials used for the manufacture of receptacles, tanks and shells, and the weld beads, shall at their lowest working temperature meet at least the following requirements as to impact strength.

The tests may be conducted with test - pieces having either a U-shaped or a V-shaped notch.

| Material | Impact strength ^{1 2} of sheet metal and weld beads at lowest working temperature | |
|-------------------------------|--|----------------------------------|
| | kgm/cm ² ³ | kgm/cm ² ⁴ |
| Unalloyed killed steel | 3.5 | 2.8 |
| Ferritic alloy steel Ni<5% | 3.5 | 2.2 |
| Ferritic alloy steel 5%≤Ni≤9% | 4.5 | 3.5 |
| Austenitic Cr-Ni steel | 4.0 | 3.2 |

- 1 Impact strengths determined with different test - pieces are not mutually comparable.
 2 See marginals 3275 to 3277.
 3 The values relate to test - pieces with a U-shaped notch as illustrated below.
 4 The values relate to test-pieces with a V-shaped notch conforming to ISO R 148.

2. Tests

(a) Impact-strength tests

3275

The impact strength shown in marginal 3265 relate to test-pieces measuring 10×10 mm and having a U-shaped or a V-shaped notch.

Notes: 1. With regard to the shape of the test-piece, see marginal 3265 (table), footnotes³ and ⁴.

2. For sheets less than 10 mm but not less than 5 mm thick, test-pieces having a cross-section of 10 × e mm, where «e» represents the thickness of the sheet, shall be used. Such impact-strength tests generally yield higher values than do such tests on standard test-pieces.

3. No impact-strength test shall be carried out on sheets less than 5 mm thick, or on their seams.

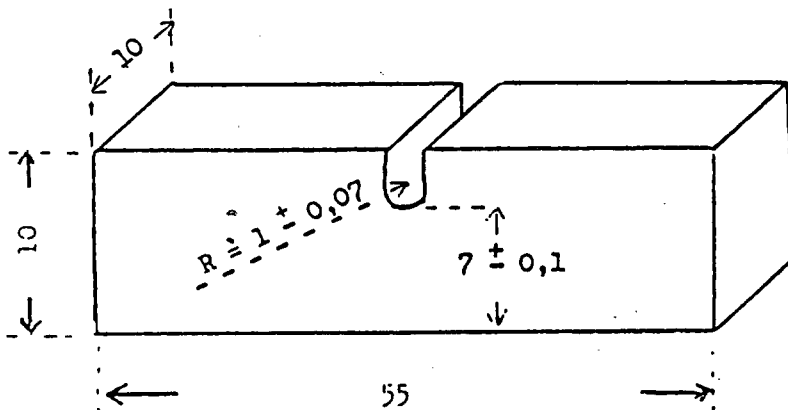
3276

(1) For testing sheet metal the impact strength shall be determined on three test-pieces. The test-pieces shall be removed at right angles to the direction of rolling in the case of test-pieces with a U-shaped notch and in the direction of rolling in the case of test-pieces with a 7-shaped notch.

(2) For testing seams the test-pieces shall be taken as follows:

$$e \leq 10$$

Three test-pieces from the centre of the weld;
 three test-pieces from the zone of deformation created by the weld (the notch shall be completely outside the melted area but as near to it as possible);



In the case of austenitic steels, only the weld bead need be subjected to an impact - strength test.

For working temperatures below -196°C, the impact - strength test is not performed at the lowest working temperature, but at -196°C.

(b) Receptacles, tanks and shells made of aluminium or aluminium alloy

The seams of receptacles, tanks and shells shall at ambient temperature meet the following requirements as to bending coefficient:

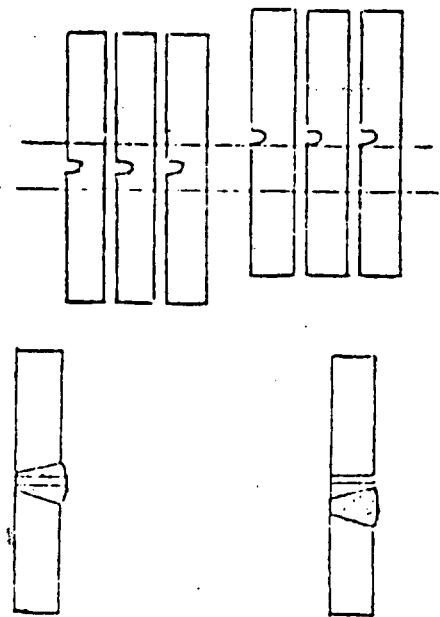
| Thickness of sheet e in mm | Bending coefficient K ¹ for the seam | |
|----------------------------------|---|----------------------|
| | Root in compression zone | Root in tension zone |
| ≤ 12 | ≥ 15 | ≥ 12 |
| > 12 to 20 | ≥ 12 | ≥ 10 |
| > 20 | ≥ 9 | ≥ 8 |

1 See marginal 3285.

(c) Receptacles, tanks and shells made of copper or copper alloy

It is not necessary to carry out tests to determine whether the impact strength is adequate.

3266



Centre of
weld

Zone of
deformation

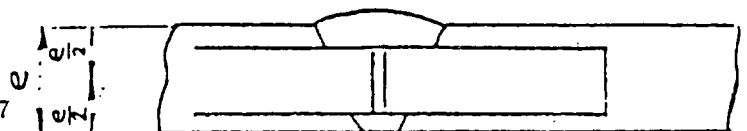
i.e. six test-pieces in all.

The test-pieces shall be so machined as to have the maximum possible thickness.

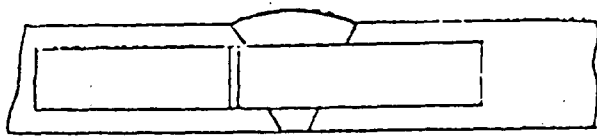
$$10 < e \leq 20$$

Three test-pieces from the centre of the weld;
 three test-pieces from the zone of deformation;

3267
 3268
 - 3274



Centre of weld

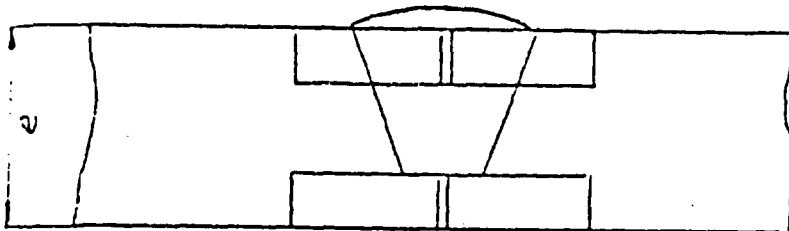


Zone of deformation

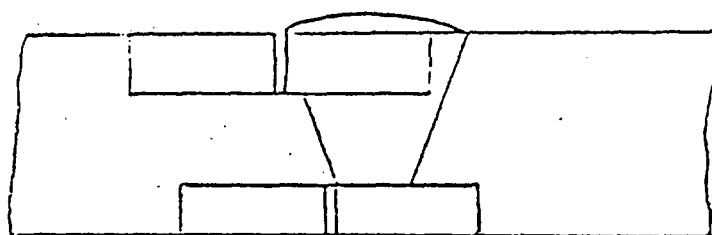
i.e. six test-pieces in all.

$e > 20$

Two sets of three test-pieces (one set on the upper face, one set on the lower face) at each of the points indicated below:



Centre of weld



Zone of deformation

i.e. twelve test-pieces in all.

3277

(1) For sheet metal the average of three tests shall meet the minimum values given in marginal 3265; none of the values may be more than 30 per cent below the minimum specified.

(2) For welds the average values obtained from three the test-pieces taken at the different points, centre of weld and zone of deformation, shall correspond to the minimum values shown. None of the values may be more than 30 per cent below the minimum specified.

3278
- 3284

(b) Determination of bending coefficient

(1) The bending coefficient k referred to in marginal 3266 is defined as follows:

$$k = 50 \frac{e}{r}$$

where e = thickness of sheet in mm; and
 r = mean radius of curvature in mm of the test-piece when the first crack appears in the tension zone.

(2) The bending coefficient k shall be determined for the seam.

The width of the test piece shall be equal to 3 e .

(3) Four tests shall be performed on the seam, two with the root in the compression zone (fig. 1) and two with the root in the tension zone (fig. 2); all values obtained shall meet the minimum value requirements of marginal 3266.

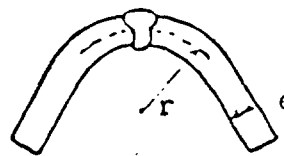


Fig. 1

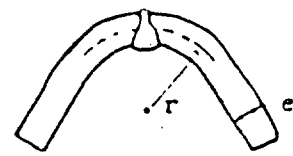


Fig. 2

3286
- 3290

C. Provisions relating to tests on aerosol dispensers and non-refillable containers for gases under pressure of Class 2, 10° and 11°

1. Pressure and bursting tests on receptacle model

3291

Hydraulic pressure tests shall be carried out on at least five empty receptacles of each model:

(a) until the prescribed test pressure is reached, by which time no leakage or visible permanent deformation shall have occurred; and

(b) until leakage or bursting occurs; the dished end, if any, should yield first and the receptacle should not leak or burst until a pressure 1.2 times the test pressure has been reached or passed.

2. Tightness (leakproofness) tests on all receptacles

3292

(1) For the test on aerosol dispensers (10°) and non-refillable containers for gas under pressure (11°) in a hot-water bath, the temperature of the bath and the duration of the test shall be such that the internal pressure of each receptacle reaches at least 90 per cent of the internal pressure that would be reached at 55°C.

However, if the contents are sensitive to heat or if the receptacles are made of a plastics material which softens at this test temperature, the temperature of the bath shall be from 20° to 30°C; in addition, one dispenser out of every 2,000 shall be tested at the temperature prescribed in the foregoing paragraph.

(2) No leakage or permanent deformation of receptacles shall occur. The provision concerning permanent deformation is not applicable to receptacles which, being made of a plastics material, soften.

3293
3299

APPENDIX A.3

Tests relating to inflammable liquids of Classes 3 and 6.1

3278
- 3284

3300

3285

(1) The flash-point is determined by means of one of the following types of apparatus:

(a) for use at temperatures not exceeding 50°C: Abel, Abel-Pensky, Luchaire-Finances, Tag;

(b) for use at temperatures above 50°C: Pensky-Martens, Luchaire-Finances;

(c) failing these, any other closed-cup apparatus capable of giving results within 2°C of these which an apparatus listed above would give at the same place.

(2) To determine the flash-point of paints, gums and similar viscous products containing solvents, only apparatus and test methods suitable for determining the flash-point of viscous liquids may be used, such as

method A of IP standard 170/59 or more recent IP standards,

German standards DIN 53 213 and TGL 14 301, leaflet 2.

The test procedure shall be:

(a) for the Abel apparatus, that of IP* standard 33/44; this standard may also be used for the Abel-Pensky apparatus;

(b) for the Pensky-Martens apparatus, that of IP* standard 34/47, or that of ASTM* standard D.93/46;

(c) for the Tag apparatus, that of ASTM** standard D.53/46;

(d) for the Luchaire apparatus, that of the Instruction annexed to the ministerial order (arrêté ministériel) (France) of 26 October 1925 issued by the Ministère du Commerce et de l'Industrie and published in the Journal Officiel of 29 October 1925.

If any other apparatus is used, the following precautions must be taken:

1. The test must be performed in a place free from draughts.

2. The rate of temperature increase of the liquid being tested must never exceed 5°C per minute.

3. The pilot-flame must be 5 mm (\pm 0.5 mm) long.

4. The pilot-flame must be applied to the opening of the receptacle after each rise of 1°C in the temperature of the liquid.

In the event of a dispute as to the classification of an inflammable liquid, the item number proposed by the sender shall be accepted if a check-test of the flash-point, carried out on the liquid in question, yields a result not differing by more than 2° from the limits (21°, 55° and 100°C respectively) stated in marginal 2301. If a check-test yields a result differing by more than 2°C from these limits, a second check-test must be carried out, and the highest figure obtained shall be adopted.

The peroxide content of a liquid shall be determined as follows:

A quantity p (about 5 g, weighed to the nearest cg) of the liquid to be titrated is placed in an Erlenmeyer flask; 20 cm³ of acetic anhydride and about 1 g of powdered solid potassium iodide are added; the flask is shaken and, after ten minutes, heated for 3 minutes to about 60°C; it is then allowed to cool for 5 minutes, after which 25 cm³ of water are added. After being left standing for half an hour, the iodine liberated is titrated with a decinormal solution of sodium thiosulphate, no indicator being added. Complete decolorization indicates the end of the reaction. If n is the number of cm³ of thiosulphate solution required, the percentage of peroxide (calculated as H₂O₂) present

in the sample is obtained by the formula $\frac{17 n}{100 p}$.

APPENDIX A.4

Reserved

APPENDIX A.5

Provisions relating to tests on the metal drums referred to in marginals 2303 (6) and 2813 (1) (c)

I. Hydraulic pressure test

This test shall be performed by an approved body.

Number of samples

Three drums per design type and per manufacturer.

3301

Test procedure and test pressure

The drums shall be subjected to a hydraulic-gauge pressure of not less than 0.75 kg/cm² for five minutes, during which time the pressure must remain constant. The drums shall not be mechanically supported during the test.

Criteria determining passing of test

The drums must remain leak-proof.

II. Drop test

This test shall be performed by an approved body.

Number of samples

Six drums per design type and per manufacturer.

Preparation of packages for testing

The drums shall be filled to 98 per cent of their capacity.

Target

The target shall be a rigid, even, flat and horizontal surface.

Height of drop

If the test is carried out with water:

(a) where the liquids to be carried have a specific gravity not exceeding 1.2 : 1.20 m;

(b) where the liquids to be carried have a specific gravity exceeding 1.2 a height expressed in metres by a number equal to the number expressing the specific gravity of the liquid to be carried rounded upwards to one decimal place.

If the test is carried out with the liquid to be carried or with a liquid whose specific gravity is at least equal to that of the liquid to be carried : 1.20 m.

3302

Point of impact

The test shall comprise drops of two kinds:

3303

First drop (using three drums):

The drum shall strike the target diagonally on the chime or, if it has no chime, on a circumferential seam. When dropped, the drum shall be so suspended that its centre of gravity is vertically above the point of impact.

Second drop (using the other three drums):

The drum shall strike the target horizontally on the welded longitudinal seam of the drum body.

Criteria determining passing of test

After the drop, all drums must be leak-proof when equilibrium between the external pressure and the internal pressure has been restored. If a drum is not leak-proof, twelve further drums shall be tested. None of these drums must show any leakage after the tests. If more than one in the first batch of six drums is not leak-proof, the type of drum in question shall be rejected.

3304

III. Leakage test

3399

Every drum shall be tested:

(a) before being used in transport for the first time; and

(b) after reconditioning, before being used again in transport.

3400

-3499

Test procedure

The drum shall be immersed in water; the manner of maintaining the drum under water shall be such as not to falsify the result of the test. Alternatively the drum may be covered with a soap solution, heavy oil or other suitable liquid on the seams and any other place where leakage could occur. Other methods at least as effective, such as the air pressure differential test («air-pocket tester»), may also be used.

3500

Air pressure to be applied

The pressure shall not be less than 0.2 kg/cm².

Criteria determining passing of test

There must be no air leakage.

IV. Marking

3501

3502

* The Institute of Petroleum, 61, New Cavendish Street, London, W.1.

** American Society for Testing and Materials, 1916 Race Street, Philadelphia 3, (pa.).

Drums of tested types of construction shall be durably marked with the impressed or printed sign of the State* in which the test was carried out, with the mark «ADR» or «RID» and with a registration number assigned by the body which carried out the tests.

V. Test report

A test report must be drawn up, which shall include:

1. particular identifying the manufacturer of the drum;
2. a description (e.g. material used, thickness of walls and ends, joints, seams) and a drawing;
3. the result of the tests;
4. the mark of the drum.

A copy of the test report shall be sent to a body designated by the competent authority of the State in which the test is carried out.

APPENDIX A.6.

REGULATIONS RELATING TO RADIOACTIVE SUBSTANCES OF CLASS 7

CHAPTER I - PACKAGING AND PACKAGE DESIGN REQUIREMENTS

A. GENERAL DESIGN REQUIREMENTS FOR PACKAGING AND PACKAGES

(1) The packaging shall be so designed that the package can be easily handled and can be properly secured during transport.

(2) A package of gross weight 10 kg or more and up to 50 kg shall be provided with means for manual handling.

(3) A package of gross weight in excess of 50 kg shall be so designed as to enable safe handling to be done by mechanical means.

(4) The design shall be such that any lifting attachments on the package, when used in the intended manner, do not impose unsafe stresses on the structure of the package; assessment shall take account of appropriate safety factors to cover "snatch" lifting.

(5) Attachments and any other features on the outer surface of the packaging which could be used to lift the packages shall be removable or otherwise rendered inoperable for transport or shall be designed to support the weight of the package in accordance with the requirements of paragraph (4) above.

(6) The outer layer of packaging shall be so designed as to avoid, as far as practicable, the collection and the retention of water.

(7) The external surfaces of packaging shall, as far as practicable, be so designed and finished that they may be easily decontaminated.

(8) Any features added to the package at the time of transport which are not part of the package shall not reduce the safety of the package.

(9) The smallest overall external dimension of the packaging shall not be less than 10 cm.

(10) Substances which have a critical temperature below 50°C or, at this temperature, a vapour pressure above 3 kg/cm² shall be contained in receptacles which also comply with the regulations of marginals 2202 and 2211 to 2218.

3503

B. ADDITIONAL REQUIREMENTS FOR TYPE A PACKAGES

3601

(1) The outside of every package shall incorporate a feature such as a seal, which is not readily breakable and which, while intact, will be evidence that the package has not been opened.

3504

(2) As far as practicable, packaging shall be designed so that the external surfaces are free from protruding features.

(3) The design of the packaging shall take into account the variations in temperature to which the packaging may be subjected during transport and storage. In this respect, -40°C and 70°C shall be considered as satisfactory limits to be used in the selection of the materials; special attention, however, shall be given to brittle fracture over this temperature range.

3505

- 3599

(4) The design, fabrication and manufacturing techniques for welded, brazed, or other fusion joints shall be in accordance with national or international standards or with standards acceptable to the competent authority.

(5) The package shall be capable of withstanding the effects of any acceleration, vibration or vibration resonance which may arise during normal transport without any deterioration in the effectiveness of the closing devices on the various receptacles or in the integrity of the package as a whole. In particular, nuts, bolts and other securing devices shall be so designed as to prevent them from becoming loose or being released unintentionally, even after repeated use.

(6) Special form radioactive substances may be considered as a component of the containment system.

(7) The design shall include a containment system closed by a positive fastening device, that is a device which cannot open by itself, can only be opened intentionally and will resist the effect of a possible increase in pressure inside the vessel.

3600

(8) If a containment system forms a separate unit of the packaging, it shall be capable of being securely closed by a positive fastening device which is independent of any other part or the packaging.

(9) The materials of the packaging and any components or structures shall be physically and chemically compatible with each other and with the package contents; account shall be taken of their behaviour under irradiation.

(10) The design of any component of the containment system shall take into account, where applicable, the radiolytic decomposition of liquids and other vulnerable materials and the generation of gas by chemical reaction and radiolysis.

(11) The containment system shall retain its radioactive contents under the reduction of ambient pressure to 0.25 kg/cm².

(12) All valves, other than pressure relief valves, through which the radioactive contents could otherwise escape shall be protected against unauthorized operation and shall be provided with an enclosure to retain any leakage from the valve.

(13) A radiation shield which encloses a component of the packaging specified as a part of the containment system shall be so designed as to prevent the unintentional release of that component from the shield. Where the radiation shield and such component within it form a separate unit, the radiation shield shall be capable of being securely closed by a positive fastening device which is independent of any other packaging structure.

(14) Any tie-down attachments on the package shall be so designed that, under both normal and accident conditions, the forces in those attachments shall not impair the ability of the package to meet the requirements of this Appendix.

(15) Type A packaging shall be so designed that, if it were subjected to the tests specified in marginal 3635 it would prevent:

- (a) loss or dispersal of the radioactive contents, and

* The signs referred to are the national distinguishing signs for motor vehicles in international traffic.

(b) any increase of the maximum radiation level recorded or calculated at the external surface for the condition before the test.

(16) Type A packaging designed for liquids shall, in addition, be adequate to meet the conditions prescribed in marginal (15) above if the package is subjected to the tests specified in marginal 3636.

However, these tests are not required when enough absorbent material to absorb twice the volume of the liquid contents is within the containment system and:

(a) the absorbent material is within the radiation shield; or

(b) the absorbent material is outside the radiation shield, provided that it can be shown that if the liquid contents were taken up by the absorbent material the resultant radiation level at the surface of the package would not exceed 200 mrem/h.

(17) Type A packaging designed for compressed or uncompressed gases shall, in addition, prevent loss or dispersal of the radioactive contents if the package is subjected to the tests specified in marginal 3636.

Packaging designed for tritium and argon-37, in gaseous form and in activities up to 200 Ci, shall be exempted from this requirement.

C. BASIC ADDITIONAL REQUIREMENTS FOR TYPE B(U) AND TYPE B(M) PACKAGES

(1) Except as provided in marginal 3603(1) (a) and 3604(2) respectively, Type B(U) and Type B(M) packages shall be designed to meet the additional requirements specified for Type A packages in marginal 3601(1) to (15) inclusive.

(2) The packaging shall be so designed that if it were subjected to the tests in marginal 3637 it would retain sufficient radiation shielding to ensure that the radiation level at 1 m from the surface of the package would not exceed 1 rem/h had the package contained sufficient iridium-192 to produce a radiation level of 10 mrem/h at 1 m from the surface before the tests.

Where the use of the packaging is to be restricted to particular radionuclides, those radionuclides may be used as the reference source in place of iridium-192. In addition, if the packaging is to be used for neutron emitters, an appropriate neutron reference source should also be used. It is not required that a measurement necessarily be made with a test radiation source but only that calculations be made with respect to the particular reference radiation source considered.

(3) Type B(U) and Type B(M) packages shall be so designed, constructed and prepared for shipment that, under the ambient conditions specified in paragraph (4), they shall satisfy the conditions in (a) and (b) below:

(a) Heat generated within the package by the radioactive contents will not, under normal conditions of transport (as demonstrated by the tests in marginal 3635) adversely affect the package in such a way that it will fail to meet the applicable requirements for containment and shielding if left unattended for a period of one week. Particular attention shall be paid to the effects of heat which may:

(i) alter the arrangement, the geometrical form or the physical state of the radioactive contents or, if the material is enclosed in a can or receptacle (for example, clad fuel elements), cause the can, receptacle or material to melt;

(ii) lessen the efficiency of the packaging through differential thermal expansion or cracking or melting of the radiation shielding material;

(iii) in combination with moisture, accelerate corrosion.

(b) The temperature of the accessible surfaces of a Type B(U) or Type B(M) package shall not exceed 50°C in the shade unless the package is transported as a full load.

(4) In applying paragraph (3)(a), the following conditions shall be assumed:

(a) Ambient temperature 38°C.

(b) Insolation data according to Table I below.

In applying paragraph (3)(b), the following condition shall be assumed:

Ambient temperature 38°C.

In the case of Type B(M) packages to be transported exclusively between specified countries, alternative conditions may be assumed with the agreement of the competent authorities of these countries.

TABLE I. INSOLATION DATA

| Form and location of surface | Insolation in Gcal/cm ² for 12 hours per day |
|---|---|
| Flat surfaces transported horizontally: | |
| – base | none |
| – other surfaces | 800 |
| Flat surfaces not transported horizontally: | |
| – each surface | 200 ^a |
| Curved surfaces | 400 ^a |

3602

^a Alternatively, a sine function may be used, adopting an absorption coefficient and neglecting the effects of possible reflection from neighbouring objects.

(5) Packaging which includes thermal protection for the purpose of satisfying the requirements of the thermal test specified in marginal 3637(3) shall be so designed that such protection will remain effective if the packaging is subjected to the tests specified in marginal 3635 and marginal 3637(2). Any such protection on the exterior of the package shall not be rendered ineffective by conditions commonly encountered in normal handling or in accidents and not simulated in the tests referred to above, e.g. by ripping, cutting, skidding, abrasion or rough handling.

D. SPECIFIC ADDITIONAL REQUIREMENTS FOR TYPE B(U) PACKAGES

3603

(1) The package shall be so designed that, if it were subjected to the 3603 tests referred to below, it would:

(a) with regard to the tests specified in marginal 3635 restrict the loss of radioactive contents to not more than $A_2 \times 10^{-6}$ per hour.

(b) with regard to the tests in marginal 3637, restrict the accumulated loss of radioactive contents to not more than $A_2 \times 10^{-3}$ in a period of one week.

Where mixtures of different radionuclides are present, the provisions of marginal 3691 shall apply.

For (a) above, the evaluation shall take into account the external contamination limitations of marginal 3651. For both (a) and (b) above, the A_2 values for noble gases shall be those for the uncompressed state.

(2) Compliance with the permitted activity release limits shall depend neither upon filters nor upon a mechanical cooling system.

(3) A package shall not incorporate a feature which is intended to allow continuous venting during transport.

(4) The package shall not include a pressure relief system from the containment system which would allow the release of radioactive substances to the environment under the conditions of the tests specified in marginals 3635 and 3637.

(5) Where the maximum normal operating pressure (see marginal 2700(2)) of the containment system added to any differential pressure below mean sea-level atmospheric pressure to which any component of the packaging specified as part of the containment system may be subjected exceed 0.35 kg/cm², that component shall be capable of withstanding a pressure of not less

than one and a half times the sum of those pressures; the stress at this latter pressure shall not be more than 75 per cent of the minimum yield strength and not more than 40 per cent of the ultimate strength of that component at the maximum expected operating temperature.

(6) With the package at the maximum normal operating pressure (see marginal 2700(2)) subjected to the thermal test specified in marginal 3637(3), the pressure in any component of the packaging specified as a part of the containment system shall be demonstrated not to exceed the pressure which corresponds to the minimum yield strength of that component at the maximum temperature which it would be expected to reach in the test.

(7) The package shall not have a maximum normal operating pressure (see marginal 2700(2)) in excess of 7 kg/cm² (gauge).

(8) The maximum temperature of any surface readily accessible during transport of the package shall not exceed 82°C in the shade under normal conditions of transport (see also marginal 3602(3) (b) above.).

(9) The containment system of a package containing liquid shall not be impaired if the package is subjected to a temperature of -40°C under normal conditions of transport.

E. ADDITIONAL REQUIREMENTS FOR TYPE B(M) PACKAGES

(1) In addition to the requirements of marginal 3602, Type B(M) packages shall, as far as practicable, meet the additional specific requirements for Type B(U) packages given in marginal 3603.

(2) A type B(M) package shall be so designed that, if it were subjected to the tests referred to in Table II it would restrict the loss of radioactive contents to not more than the activity limits specified in Table II. The evaluation with respect to the tests specified in marginal 3635 shall take into account the external contamination limitations of marginal 3651.

TABLE II. ACTIVITY LIMITS FOR LOSS OF RADIOACTIVE CONTENTS FROM TYPE B(M) PACKAGES

| Conditions | Type B(M) packages not designed for continuous venting | Type B(M) packages specially designed to allow continuous venting |
|----------------------------------|---|---|
| After the tests in marginal 3635 | $A_2 \times 10^{-6}$ per hour | $A_2 \times 5 \times 10^{-5}$ per hour |
| After the tests in marginal 3637 | Krypton-85: 10 000 Ci in 1 week Other radionuclides: A_2 in 1 week | Krypton-85: 10 000 Ci in 1 week Other radionuclides: A_2 in 1 week |

The A_2 values used for noble gases shall be for the uncompressed state. Where mixtures of radionuclides are present the provisions of marginal 3691 shall apply.

(3) If the pressure in the containment system of a Type B(M) package could result in a stress exceeding, under the conditions of the tests in marginals 3635 and 3637, the minimum yield strength of any structural material of the containment system at the temperature which it would be expected to reach in the tests, the packaging shall be equipped with a pressure relief system to ensure that that minimum yield strength is not exceeded.

CHAPTER II - FISSILE SUBSTANCES

A. EXEMPTIONS OF FISSILE SUBSTANCES FROM FISSILE CLASS PACKAGE PRESCRIPTIONS

3610

Packages containing radioactive substances which are also fissile substances except for the cases specified in (a) to (g) below, shall be designed to comply with the requirements of this chapter.

(a) Packages containing individually not more than 15 g of uranium-233, uranium-235, plutonium-238, plutonium-239, plutonium-241, or 15 g of any combination of these radionuclides, provided that the smallest external dimension of the package is not less than 10 cm. When material is transported in bulk, the quantity limitations shall apply to the vehicle.

(b) Packages containing only natural or depleted uranium which has been irradiated in thermal reactors only.

(c) Packages containing homogeneous hydrogenous solutions or mixtures satisfying the conditions listed in Table III. When material is transported in bulk, the quantity limitations shall apply to the vehicle.

TABLE III. LIMITATIONS ON HOMOGENEOUS HYDROGENOUS SOLUTIONS OR MIXTURES

| Parameters | Any other fissile substances (including mixtures) | ²³⁵ U only |
|---|---|-----------------------|
| Minimum H/X ^a | 5200 | 5200 |
| Maximum concentration of fissile nuclide in g/l | 5 | 5 |
| Maximum mass of fissile nuclide in g/package | 500 | 800 ^b |

a Where H/X is the ratio of the number of hydrogen atoms to the number of atoms of fissile nuclide.

b With a tolerance for Pu and ²³³U of not more than 1 per cent of the mass of ²³⁵U.

(d) Packages containing uranium enriched in uranium-235 to a maximum of 1 per cent by weight, and with a total plutonium and uranium-233 content of up to 1 per cent of the mass uranium-235, provided, that the fissile substances are distributed homogeneously throughout the material. In addition, if uranium-235 is present in metallic or oxide forms, it shall not form a lattice arrangement within the package.

(e) Packages containing any fissile substances provided that they do not contain more than 5 g of fissile substances in any 10-litre volume. The substances shall be packed in packages which will maintain the limitations on fissile substances distribution during normal transport.

(f) Packages containing individually not more than 1 kg of total plutonium of which not more than 20 per cent by mass may consist of plutonium-239, plutonium-241, or any combination of those radionuclides.

(g) Packages containing liquid solutions of uranyl nitrate enriched in uranium-235 to a maximum of 2 per cent by weight, with a tolerance for plutonium and uranium-233 of up to 0.1 per cent of the mass of uranium-235.

The packages shall also comply with the other relevant parts of this Appendix.

3604

3605
- 3609

B. GENERAL PROVISIONS FOR NUCLEAR SAFETY

(1) All fissile substances shall be packed and shipped in such a manner that criticality¹ cannot be reached under any foreseeable circumstances of transport. In particular, the following contingencies shall be considered:

- (a) water leaking into or out of packages
- (b) the loss of efficiency of built-in neutron absorbers or moderators;
- (c) possible rearrangement of contents into more reactive arrays, either within the package or as a result of loss from the package;
- (d) reduction of spaces between packages or contents;
- (e) packages becoming immersed in water or buried in snow;
- (f) possible increase of reactivity due to temperature changes;

(2) In addition, for irradiated nuclear fuel or unspecified fissile substances the following assumptions shall be made:

(a) Irradiated nuclear fuel for which the degree of irradiation is not known and whose reactivity decreases with burn-up shall be regarded as unirradiated for criticality control. If its reactivity increases with burn-up, it shall be regarded as irradiated to the point of maximum reactivity. The reactivity of nuclear fuel for which the degree of irradiation is known be assessed accordingly.

(b) For unspecified fissile substances such as residues or scrap whose enrichment, mass, concentration, moderation ratio or density is not known or cannot be identified, the assumption shall be that each parameter that is not known has the value which gives the maximum reactivity under credible conditions.

(3) Packages of fissile substances, except as provided in marginal 3610, shall be classified as follows:

(a) Fissile Class I: packages which are nuclearly safe in any number and in any arrangement under all foreseeable circumstances of transport;

(b) Fissile Class II: packages which, in limited number, are nuclearly safe in any arrangement under all foreseeable circumstances of transport;

(c) Fissile Class III: packages which are nuclearly safe under all foreseeable circumstances of transport by reason of special precautions, or special administrative or operational controls imposed upon the transport of the consignment.

C. PROVISIONS SPECIFIC TO FISSILE CLASS I PACKAGES

(1) Each Fissile Class I package shall be so designed that, if it were subjected to the tests specified in marginal 3635:

(a) water would not leak into or out of any part of the package unless water leakage to, or outleakage from, that part, to the optimum foreseeable extent, has been assumed for the purposes of marginal 3614(1); and

(b) the configuration of the contents and the geometry of the containment system would not be altered so as to increase the reactivity significantly.

(2) Fissile Class I packages shall satisfy the nuclear safety criteria specified in marginals 3613 and 3614.

1. For the individual package considered in isolation

(1) The following conditions shall be assumed:

(a) the package is «damaged» (for this purpose

1. In applying criticality data, obtained by either calculation or experiment, to the criticality clearance of transport packages, allowance shall be made separately for any inaccuracy in the data or uncertainty concerning their validity.

3611

«damage» shall mean the evaluated or demonstrated condition of the package if it had been subjected either to the tests specified in marginals 3635 and 3637(1) to (3), followed by that in marginal 3638 or to the tests specified in marginals 3635 and 3637(4), whichever combination is the more limiting); and

(b) water can leak into or out of all void spaces of the package including those within the containment system, except that, where the package design incorporates special features to prevent the leakage of water into or out of certain void spaces even as a result of human error, absence of leakage may be assumed in respect of those void spaces. Such special features may include either:

(i) multiple high standard water barriers, each of which would remain leaktight if the package were subjected to the combinations of tests specified in paragraph (1)(a); or

(ii) high degree of quality control in the production and maintenance of packaging, coupled with special tests to demonstrate closure of each package before shipment.

(2) The package shall be sub-critical by an adequate margin² under the conditions specified in paragraph (1), the physical and chemical characteristics being taken into account, including any change in those characteristics which could occur under the conditions of paragraph (1), and with the conditions of moderation and reflection as specified below:

(a) with the substances within the containment system:

(i) the most reactive configuration and moderation foreseeable under the conditions of paragraph (1);

(ii) close full water reflection of the containment system or such greater reflection of the containment system as may additionally be provided by the surrounding material of the packaging, and, in addition,

(b) if any part of the substances escapes from the containment system under the conditions of paragraph (1):

(i) the most reactive configuration and moderation considered credible;

(ii) close full water reflection of the substances.

2. For consignments of one or more packages.

3614

(1) Any number of undamaged packages of one design in any arrangement shall be sub-critical; for this purpose «undamaged» shall mean the condition in which the packages are designed to be presented for transport.

(2) 250 such packages when «damaged» shall be sub-critical if stacked together in any arrangement and closely reflected on all sides of the stack by the equivalent of water (for this purpose «damaged» shall mean the evaluated or demonstrated condition of the package if it had been subjected either to the tests specified in marginals 3635 and 3637 (1) to (3), followed by that in marginal 3638, or to the tests specified in marginals 3635 and 3637 (4), whichever combination is the more limiting). Hydrogenous moderation³ between packages, and water leakage into or out of the packages consistent with the test results shall be assumed to the extent which results in the greatest reactivity.

3. Examples of package designs requiring multilateral approval.

Example 1.

The calculation shall be based on the following requirements:

3615

3612

3613

2. For example, if mass of fissile substance is an appropriate parameter for control, an adequate margin would be represented by limiting the mass to 80 per cent of that mass which would be critical in a similar system.

3. The hydrogenous moderation may be considered to consist of either a uniform layer of full density water surrounding each package or water at an appropriate density homogeneously interspersed between packages.

(a) Each individual package shall comply with the criteria under marginals 3612 and 3613.

(b) The package, whether damaged or undamaged, shall be such as to shield the fissile contents from thermal neutrons.

(c) When a parallel beam of neutrons having an energy spectrum as specified in Table IV is incident at any angle on an undamaged package, the surface multiplication factor for epithermal neutrons, i.e. the ratio of the number of epithermal neutrons leaving the package to the number of epithermal neutrons entering the package, shall be less than one, and the energy spectrum of the neutrons that are emitted by the package in an infinite array shall be no harder than that of the incident neutron.

(d) The package design shall comply with the criteria in marginal 3614 (2).

4. Examples of package designs requiring unilateral approval.

Example 1.

3616

(1) The packaging shall be constructed so that the fissile contents are surrounded by a layer of material capable of absorbing all thermal neutrons incident on it⁴ and this neutron absorbent layer is then surrounded by a thickness of at least 10.2 cm of wood having a minimum hydrogen content of 6.5 per cent by weight, so that the minimum external dimension over the wood is 30.5 cm.

(2) The packaging shall be so constructed that when damaged» (for this purpose «damaged» shall have the meaning assigned in marginal 3613 (1)) the fissile contents will remain surrounded by the neutron absorbent layer, the neutron absorbent layer will remain surrounded by the wood, and wood will not be lost to an extent which would reduce the thickness of the remaining wood to less than 9.2 cm or reduce the minimum external dimension over the remaining wood to less than 28.5 cm.

(3) The contents shall not exceed that permissible mass of fissile substances shown in Tables V to XIII which is consistent with: (a) the nature of the substances; (b) the maximum moderation; and (c) the maximum diameter (or volume) which could occur if the package were «damaged» (for this purpose «damaged» shall have the meaning assigned in marginal 3613 (1)).

TABLE IV - NEUTRON ENERGY SPECTRUM^a

| Neutron energy E | Fractions of neutrons with energy less than E |
|---------------------|--|
| 11.0 MeV | 1.000 |
| 2.4 MeV | 0.802 |
| 1.1 MeV | 0.590 |
| 0.55 MeV | 0.460 |
| 0.26 MeV | 0.373 |
| 0.13 MeV | 0.319 |
| 43 keV | 0.263 |
| 10 keV | 0.210 |
| 1.6 keV | 0.156 |
| 0.26 keV | 0.111 |
| 42 eV | 0.072 |
| 5.5 eV | 0.036 |
| 0.4 eV | 0 |

Note: A detailed calculation for a given package design in accordance with the method set out in marginal 3615 can give less restrictive values than those in Tables V to XIII.

4. This layer may consist of cadmium at least 0.38 mm thick equivalent to 0.325 g cadmium per cm².

a. The spectrum is the epithermal portion of the equilibrium spectrum emergent from packages incorporating 5 cm thickness of wood in a critical array of such packages.

Appendix A.6

TABLE V

AQUEOUS SOLUTIONS OF URANYL^a/ FLUORIDE OR URANYL^a/ NITRATE
Permissible mass of uranium per package as a function of the packaging wood density

| 1. Limited by maximum internal diameter of inner receptacle | | | | | | | | | | | | | | |
|---|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Inner receptacle diameter not exceeding (cm) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.15 | 1.2 | 1.25 |
| kg uranium per package | | | | | | | | | | | | | | |
| 10.16 | ← No limit → | | | | | | | | | | | | | |
| No limit | 0.084 | 0.120 | 0.157 | 0.193 | 0.231 | 0.267 | 0.301 | 0.335 | 0.370 | 0.400 | 0.429 | 0.456 | 0.478 | 0.498 |
| 2. Limited by maximum internal volume of inner receptacle | | | | | | | | | | | | | | |
| Inner receptacle volume not exceeding (l) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.15 | 1.2 | 1.25 |
| kg uranium per package | | | | | | | | | | | | | | |
| 2 | 0.152 | 0.380 | 0.66 | 1.01 | 1.47 | 2.00 | 2.66 | 3.50 | 4.64 | 6.13 | 7.62 | 9.39 | 11.3 | 13.3 |
| 3 | 0.084 | 0.223 | 0.416 | 0.65 | 0.93 | 1.25 | 1.58 | 1.96 | 2.34 | 2.74 | 3.16 | 3.57 | 3.99 | 4.42 |
| 4 | 0.084 | 0.120 | 0.157 | 0.193 | 0.231 | 0.274 | 0.356 | 0.498 | 0.73 | 1.15 | 1.47 | 2.02 | 2.70 | 3.55 |
| 5 | 0.084 | 0.120 | 0.157 | 0.193 | 0.231 | 0.267 | 0.301 | 0.495 | 0.57 | 0.66 | 0.74 | 0.84 | 0.92 | 1.02 |
| 7 | 0.084 | 0.120 | 0.157 | 0.193 | 0.231 | 0.267 | 0.301 | 0.347 | 0.406 | 0.467 | 0.53 | 0.60 | 0.66 | 0.73 |
| No limit | 0.084 | 0.120 | 0.157 | 0.193 | 0.231 | 0.267 | 0.301 | 0.335 | 0.370 | 0.400 | 0.429 | 0.456 | 0.478 | 0.498 |

^a/ Uranium which includes no U²³³ and no more than 93% U²³⁵ by weight

Appendix A.6

TABLE VI

NON-INTROGENOUS URANIUM (a) COMPOUNDS OR MIXTURES IN WHICH THE URANIUM-235 CONCENTRATION DOES NOT EXCEED 4.9 g/cm³ (b)

(Including unmoderated uranium metal of uranium-235 enrichment not exceeding 2% per unit by weight)

Permissible mass of uranium per package as a function of the packaging wood density

| 1. Limited by maximum internal diameter of inner receptacle | |
|---|---|
| Inner receptacle diameter not exceeding (cm) | Wood density not exceeding 1.25 g/cm ³ and not less than 0.6 g/cm ³ |
| kg uranium per package | |
| 10.16 | No limit |
| No limit | 0.69 |
| 2. Limited by maximum internal volume of inner receptacle | |
| Inner receptacle volume not exceeding (l) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) |
| | 0.7 0.75 0.8 0.85 0.9 |
| kg uranium per package | |
| 3 | 7.0 10.0 12.2 14.5 16.8 |
| 4 | 4.6 7.8 9.3 11.3 13.4 |
| 5 | 3.63 6.3 7.63 9.63 11.63 |
| 6 | 1.41 2.41 2.91 3.61 4.31 |
| No limit | 0.69 0.69 0.69 0.69 0.69 |

(a) Uranium which includes no U²³³ and no more than 93% per cent U²³⁵ by weight.

(b) Mixture containing beryllium or deuterium are excluded and the mass of carbon shall not exceed five times the allowed mass of uranium.

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TABLE VII

NON-HYDROGENOUS URANIUM^{a/} COMPOUNDS OR MIXTURES IN WHICH THE URANIUM-235 CONCENTRATION DOES NOT EXCEED 9.6 g/cm³ b/
(Including unmoderated uranium metal of uranium-235 enrichment not exceeding 50% by weight)
Permissible mass of uranium per package as a function of the packaging wood density

| 1. Limited by maximum internal diameter of inner receptacle | | | | | | | | | | | | |
|---|--|------|-----|------|-----|------|-----|------|-----|------|-----|-----|
| Inner receptacle diameter not exceeding (cm) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.2 |
| kg uranium per package | | | | | | | | | | | | |
| 7.5 | No limit | | | | | | | | | | | |
| 8 | No limit | | | | | | | | | | | |
| 8.5 | No limit | | | | | | | | | | | |
| 9 | No limit | | | | | | | | | | | |
| 9.5 | No limit | | | | | | | | | | | |
| 10 | No limit | | | | | | | | | | | |
| No limit | No limit | | | | | | | | | | | |

| 2. Limited by maximum internal volume of inner receptacle | | | | | | | | | | | | |
|---|--|------|------|------|------|------|------|------|------|------|------|------|
| Inner receptacle volume not exceeding (l) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | |
| | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.2 | 1.25 |
| 3 | 7 | 8 | 9.2 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 17 | 19 |
| 4 | 4.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 |
| 5 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 |
| 7 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 |
| No limit | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 |

a/ Uranium which includes no U²³⁵ and no more than 93% U²³⁵ by weight

b/ Mixtures containing beryllium or deuterium are excluded and the mass of carbon shall not exceed five times the allowed mass of uranium.

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TABLE VIII

UNMODERATED URANIUM ²³⁵ FETAL

Permissible mass of uranium per package as a function of the packaging wood density

| 1. Limited by maximum internal diameter of inner receptacle | | | | | | | | | | | | |
|---|--|------|------|------|------|------|------|------|------|------|------|------|
| Inner receptacle diameter not exceeding (cm) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.15 |
| kg uranium per package | | | | | | | | | | | | |
| 6 | 6 | 7 | 8 | 9.2 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 17 |
| 6.5 | 6 | 7 | 8 | 9.2 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 17 |
| 7 | 6 | 7 | 8 | 9.2 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 17 |
| 7.5 | 6 | 7 | 8 | 9.2 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 17 |
| 10 | 6 | 7 | 8 | 9.2 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 17 |
| No limit | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 |
| No limit ^{b/} | 6 | 7 | 8 | 9.2 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 17 |
| 2. Limited by maximum internal volume of inner receptacle | | | | | | | | | | | | |
| Inner receptacle volume not exceeding (l) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.15 |
| kg uranium per package | | | | | | | | | | | | |
| 2 | 6 | 7 | 8 | 9.2 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 17 |
| 3 | 6 | 7 | 8 | 9.2 | 10 | 11 | 12 | 14 | 14.5 | 14.5 | 14.5 | 14.5 |
| 4 | 6 | 7 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 |
| 5 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 | 3.63 |
| 7 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 | 1.41 |
| No limit | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 | 0.69 |
| No limit ^{b/} | 6 | 7 | 8 | 9.2 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 17 |

a/ Uranium which includes no ²³³ and no more than 93% ²³⁵ by weight

b/ These enhanced masses apply where the fissile substances are in the form of massive metal pieces weighing not less than 2 kg each and free from re-entrant surfaces.

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TABLE IX

URANIUM²³⁵ COMPOUNDS OR MIXTURES IN WHICH THE URANIUM CONCENTRATION DOES NOT EXCEED $\frac{26.44}{170 + 1.41} \text{ g/cm}^3$

Permissible mass of uranium per package as a function of the packaging wood density

| 1. Limited by maximum internal diameter of inner receptacle | | | | | | | | | | | | | | |
|---|--|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Inner receptacle diameter not exceeding (cm) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.15 | 1.2 | 1.25 |
| kg uranium per package | | | | | | | | | | | | | | |
| 6 | ← No limit → | | | | | | | | | | | | | |
| 6.5 | 2.80 | 6.0 | ← | No limit | | | | | | | | | → | → |
| 7 | 2.80 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 14 | 15 | 15.2 | 15.2 | 15.2 | 15.2 | 15.2 |
| 7.5 | 2.80 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 7.1 | 7.7 | 9.6 | 11.6 | 13.8 | 16.1 | 18.3 |
| 10 | 0.330 | 0.87 | 1.10 | 1.80 | 2.50 | 3.50 | 4.6 | 0.301 | 0.335 | 0.400 | 0.429 | 0.456 | 0.478 | 0.498 |
| No limit | 0.084 | 0.120 | 0.157 | 0.193 | 0.231 | 0.267 | 0.301 | 0.335 | 0.370 | 0.400 | 0.429 | 0.456 | 0.478 | 0.498 |
| 2. Limited by maximum internal volume of inner receptacle | | | | | | | | | | | | | | |
| Inner receptacle volume not exceeding (l) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.15 | 1.2 | 1.25 |
| kg uranium per package | | | | | | | | | | | | | | |
| 2 | 0.152 | 0.380 | 0.66 | 1.01 | 1.47 | 2.00 | 2.66 | 3.50 | 4.64 | 6.04 | 7.62 | 9.39 | 11.3 | 13.3 |
| 3 | 0.084 | 0.223 | 0.416 | 0.65 | 0.93 | 1.25 | 1.58 | 1.96 | 2.34 | 2.74 | 3.16 | 3.57 | 3.99 | 4.42 |
| 4 | 0.084 | 0.120 | 0.157 | 0.193 | 0.231 | 0.274 | 0.356 | 0.498 | 0.73 | 1.05 | 1.47 | 2.02 | 2.70 | 3.53 |
| 5 | 0.084 | 0.120 | 0.157 | 0.193 | 0.231 | 0.267 | 0.301 | 0.495 | 0.57 | 0.66 | 0.74 | 0.84 | 0.92 | 1.02 |
| 7 | 0.084 | 0.120 | 0.157 | 0.193 | 0.231 | 0.267 | 0.301 | 0.347 | 0.406 | 0.467 | 0.53 | 0.60 | 0.68 | 0.73 |
| No limit | 0.084 | 0.120 | 0.157 | 0.193 | 0.231 | 0.267 | 0.301 | 0.335 | 0.370 | 0.400 | 0.429 | 0.456 | 0.478 | 0.498 |

a/ Uranium which includes no ²³³ and no more than 93% per cent ²³⁵ by weight.

Appendix A.6

TABLE X

NON-HYDROGENOUS PLUTONIUM COMPOUNDS OR MIXTURES IN WHICH THE
PLUTONIUM-239 CONCENTRATION DOES NOT EXCEED 10 g/cm³ a/

Permissible mass of plutonium per package as a function of the packaging wood density

| 1. Limited by maximum internal diameter of inner receptacle | | | | | | | | | | |
|---|--|-------|-------|-------|-------|----------|----------|----------|-------|-------|
| Inner receptacle diameter not exceeding (cm) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.95 | 1.05 | 1.1 | 1.15 | 1.25 |
| | kg plutonium per package | | | | | | | | | |
| 6 | ← | ← | ← | ← | ← | No limit | ← | ← | ← | ← |
| 6.5 | 3.60 | 4.2 | ← | ← | ← | No limit | ← | ← | ← | ← |
| 7 | 3.60 | 4.2 | 4.7 | 5.3 | ← | ← | No limit | ← | ← | ← |
| 7.5 | 3.60 | 4.2 | 4.7 | 5.3 | 5.9 | 7.1 | ← | No limit | ← | ← |
| 10 | 3.60 | 4.2 | 4.7 | 5.3 | 5.9 | 7.1 | 8.1 | 8.3 | 8.6 | 8.9 |
| No limit | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 |
| 2. Limited by maximum internal volume of inner receptacle | | | | | | | | | | |
| Inner receptacle volume not exceeding (l) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.95 | 1.05 | 1.1 | 1.15 | 1.25 |
| | kg plutonium per package | | | | | | | | | |
| 3 | 3.60 | 4.2 | 4.7 | 5.3 | 5.9 | 7.1 | 8.1 | 8.3 | 8.6 | 8.9 |
| 4 | 3.60 | 3.84 | 3.84 | 3.84 | 3.84 | 3.84 | 3.84 | 3.84 | 3.84 | 3.84 |
| 5 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 |
| 7 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 |
| No limit | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 |

a/ Mixtures containing beryllium and deuterium are excluded and the mass of carbon shall not exceed 1/10 of the allowed mass of plutonium.

Appendix A.6

TABLE X1

UNMODERATED PLUTONIUM METAL

Permissible mass of plutonium per package as a function of the packaging wood density

| 1. Limited by maximum internal diameter of inner receptacle | | | | |
|---|--|----------|----------|-------------|
| Inner receptacle diameter not exceeding (cm) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | |
| | 0.6 | 0.65 0.7 | 0.75 | 0.8 0.85 |
| kg plutonium per package | | | | |
| 4 | 3.20 | ← | No limit | → |
| 30 | 3.20 | 3.60 | 3.90 | 4.2 4.4 4.5 |
| No limit | 0.405 | 0.405 | 0.405 | 0.405 |
| No limit ^{a/} | 3.20 | 3.60 | 3.90 | 4.2 4.4 4.5 |
| 2. Limited by maximum internal volume of inner receptacle | | | | |
| Inner receptacle volume not exceeding (l) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | |
| | 0.6 | 0.65 0.7 | 0.75 | 0.8 0.85 |
| kg plutonium per package | | | | |
| 3 | 3.20 | 3.60 | 3.90 | 4.2 4.4 4.5 |
| 4 | 3.20 | 3.60 | 3.84 | 3.84 |
| 5 | 2.44 | 2.44 | 2.44 | 2.44 |
| 7 | 1.20 | 1.20 | 1.20 | 1.20 |
| No limit | 0.405 | 0.405 | 0.405 | 0.405 |
| No limit ^{a/} | 3.20 | 3.60 | 3.90 | 4.2 4.4 4.5 |

^{a/} These enhanced masses apply where the fissile substances are in the form of massive metal pieces weighing not less than 2 kg each and free from re-entrant surfaces

Appendix A.6

TABLE XII

PLUTONIUM COMPOUNDS OR MIXTURES IN WHICH THE PLUTONIUM CONCENTRATION

DOES NOT EXCEED $\frac{26.4}{H/P \pm 1.35} \text{ g/cm}^3$

Permissible mass of plutonium per package as a function of the packaging word density

| 1. Limited by maximum internal diameter of inner receptacle | | | | | | | | | | | | | | |
|---|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Inner receptacle diameter not exceeding (cm) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.15 | 1.2 | 1.25 |
| kg plutonium per package | | | | | | | | | | | | | | |
| 4 | No limit | | | | | | | | | | | | | |
| 5 | 3.2 | 3.60 | 3.90 | 4.2 | 4.4 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| 6 | 2.80 | 3.60 | 3.90 | 4.2 | 4.4 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| 6.5 | 2.50 | 3.40 | 3.80 | 4.2 | 4.4 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| 7 | 2.20 | 3.10 | 3.70 | 4.2 | 4.4 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| 7.5 | 1.90 | 2.70 | 3.40 | 4.1 | 4.4 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| 8 | 1.60 | 2.30 | 3.0 | 3.80 | 4.4 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| 8.5 | 1.30 | 1.80 | 2.40 | 3.20 | 3.80 | 4.3 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| 9 | 0.97 | 1.30 | 1.80 | 2.40 | 3.00 | 3.40 | 3.60 | 3.80 | 4.0 | 4.2 | 4.4 | 4.4 | 4.4 | 4.4 |
| 9.5 | 0.65 | 0.88 | 1.20 | 1.50 | 1.90 | 2.20 | 2.40 | 2.60 | 2.80 | 3.10 | 3.60 | 4.4 | 4.4 | 4.4 |
| 10 | 0.330 | 0.42 | 0.50 | 0.58 | 0.70 | 0.83 | 0.99 | 1.20 | 1.50 | 1.90 | 2.70 | 3.50 | 4.4 | 4.5 |
| No limit | 0.022 | 0.053 | 0.084 | 0.114 | 0.143 | 0.171 | 0.199 | 0.226 | 0.250 | 0.274 | 0.294 | 0.311 | 0.327 | 0.339 |

| 2. Limited by maximum internal volume of inner receptacle | | | | | | | | | | | | | | |
|---|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Inner receptacle volume not exceeding (l) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.15 | 1.2 | 1.25 |
| kg plutonium per package | | | | | | | | | | | | | | |
| 2 | 0.152 | 0.309 | 0.52 | 0.80 | 1.16 | 1.59 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| 3 | 0.047 | 0.133 | 0.247 | 0.380 | 0.700 | 0.76 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| 4 | 0.022 | 0.076 | 0.095 | 0.133 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 1.19 | 1.51 | 1.55 | 1.57 |
| 5 | 0.022 | 0.053 | 0.085 | 0.118 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 |
| 7 | 0.02 | 0.053 | 0.094 | 0.114 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 | 0.700 |
| No limit | 0.022 | 0.053 | 0.084 | 0.114 | 0.143 | 0.171 | 0.199 | 0.226 | 0.250 | 0.274 | 0.294 | 0.311 | 0.327 | 0.339 |

Appendix A.6

TABLE XIII

AQUEOUS SOLUTIONS OF URANIUM-233 NITRATE OR URANIUM-233 FLUORIDE

Permissible mass of uranium per package as a function of the packaging wood density

| 1. Limited by maximum internal diameter of inner receptacle | | | | | | | | | | | | | | |
|---|--|-------|-------|------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Inner receptacle diameter not exceeding (cm) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.15 | 1.2 | 1.25 |
| kg uranium per package | | | | | | | | | | | | | | |
| 9 | ← No limit → | | | | | | | | | | | | | |
| 9.5 | 0.035 | 0.067 | ← | No limit → | | | | | | | | | | |
| 10 | 0.035 | 0.067 | 0.100 | ← | No limit → | | | | | | | | | |
| No limit | 0.035 | 0.067 | 0.100 | 0.134 | 0.169 | 0.200 | 0.231 | 0.261 | 0.289 | 0.316 | 0.340 | 0.361 | 0.371 | 0.391 |
| 2. Limited by maximum internal volume of inner receptacle | | | | | | | | | | | | | | |
| Inner receptacle volume not exceeding (l) | Wood density not exceeding 1.25 g/cm ³ and not less than (g/cm ³) | | | | | | | | | | | | | |
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 | 0.9 | 0.95 | 1.0 | 1.05 | 1.1 | 1.15 | 1.2 | 1.25 |
| kg uranium per package | | | | | | | | | | | | | | |
| 2 | 0.152 | 0.309 | 0.475 | 0.71 | 0.99 | 1.33 | 1.71 | 2.11 | 2.54 | 2.99 | 3.44 | 3.94 | 4.41 | 4.8 |
| 3 | 0.085 | 0.133 | 0.180 | 0.228 | 0.285 | 0.332 | 0.389 | 0.446 | 0.50 | 0.56 | 0.60 | 0.67 | 0.73 | 0.78 |
| 4 | 0.085 | 0.109 | 0.133 | 0.175 | 0.213 | 0.256 | 0.304 | 0.356 | 0.408 | 0.460 | 0.51 | 0.57 | 0.63 | 0.69 |
| 5 | 0.035 | 0.076 | 0.114 | 0.152 | 0.190 | 0.223 | 0.256 | 0.292 | 0.323 | 0.356 | 0.389 | 0.422 | 0.451 | 0.484 |
| 7 | 0.035 | 0.073 | 0.109 | 0.142 | 0.175 | 0.204 | 0.235 | 0.263 | 0.289 | 0.318 | 0.342 | 0.368 | 0.394 | 0.42 |
| No limit | 0.035 | 0.067 | 0.100 | 0.134 | 0.169 | 0.200 | 0.231 | 0.261 | 0.289 | 0.316 | 0.340 | 0.361 | 0.377 | 0.391 |

D. PROVISIONS SPECIFIC TO FISSILE CLASS II PACKAGES

(1) Each Fissile Class II package shall be designed so that if it were subjected to the tests specified in marginal 3635:

(a) Neither the volume nor any spacing on the basis of which nuclear safety for the purpose of marginal 3619(a) has been assessed would suffer more than 5 per cent reduction, and the construction of the package would not permit the entry of a 100 cm cube.

(b) Water would not leak into or out of any part of the package unless water inleakage to, or outleakage from, that part, to the optimum foreseeable extent had been assumed in assessing the allowable number for the purpose of marginal 3619(a).

(c) The configuration of the contents and the geometry of the containment system would not be altered so as to increase the reactivity significantly.

(2) Fissile Class II packages shall satisfy the nuclear safety criteria described in marginals 3618 and 3619.

1. The individual package considered in isolation.

(1) The following conditions shall be assumed:

(a) the package is damaged (for this purpose «damaged» shall mean the evaluated or demonstrated condition of the package if it has been subjected either to the tests specified in marginals 3635 and 3637 (1) to (3), followed by that in marginal 3638 or to tests specified in marginals 3635 and 3637 (4), whichever combination is the more limiting); and

(b) water can leak into or out of all void spaces of the package, including those within the containment system, except that, where the package design incorporates special features to prevent the leakage of water into or out of certain void spaces even as a result of human error, absence of leakage may be assumed in respect of those void spaces. Such special features may include either:

(i) multiple high-standard water barriers, each of which would remain leaktight if the package were subjected to the combinations of tests specified in paragraph (1)(a); or

(ii) a high degree of quality control in the production and maintenance of packaging, coupled with special tests to demonstrate closure of each package before shipment.

(2) The package shall be sub-critical by an adequate margin (see footnote 2) under the conditions specified in paragraph (1), the physical and chemical characteristics being taken into account, including any change in those characteristics which could occur under the conditions of paragraph (1), and with the conditions of moderation and reflection as specified below:

(a) with the substances within the containment system:

(i) the most reactive configuration and moderation foreseeable under the conditions of paragraph (1);

(ii) close full water reflection of the containment system or such greater reflection of the containment system as may additionally be provided by the surrounding material of the packaging and, in addition,

(b) if any part of the substances escapes from the containment system under the conditions of paragraph (1);

(i) the most reactive configuration and moderation considered credible;

(ii) close full water reflection of the substances.

2. Consignments of one or more packages

An «allowable number» shall be devised for each Fissile Class II package design, such that:

(a) five times the allowable number of undamaged packages shall be sub-critical if stacked together in any arrangement without anything between the packages, close reflection on all sides of the stack by the equivalent or water being assumed; for this purpose «undamaged» shall mean the condition in which the packages are designed to be presented for transport; and

(b) twice the allowable number of such packages when damaged shall be sub-critical if stacked together in any

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arrangement and closely reflected on all sides of the stack by the equivalent of water (for this purpose «damaged» shall mean the evaluated or demonstrated condition of each package if it had been subjected either to the tests specified in marginals 3635 and 3637 (1) to (3) followed by that in marginal 3638, or to the tests specified in marginals 3635 and 3637 (4), whichever combination is the more limiting); hydrogenous moderations³ between packages and water leakage into or out of the packages consistent with test results shall be assumed to the extent which results in the greatest reactivity.

3. Examples of package designs requiring no competent authority approval

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Example I (requiring multilateral approval of shipment) Packages for Fissile Class II require no competent authority approval of package design provided that the following conditions are met;

(a) Packaging: the criticality safety of these consignments does not depend upon the integrity of the packaging. Any packaging which complies with the other relevant requirements of Class IVb with respect to the non-fissile radioactive characteristics may, therefore, be used.

(b) Contents - uranium metal, compounds and/or mixtures;

the contents of any consignment consisting of the «allowable number» of packages shall not exceed the permissible mass of uranium-235 given in Table XIV per consignment as a function of enrichment for substances satisfying the following conditions:

(i) Uranium-233 shall not be present.

(ii) Beryllium and hydrogenous material enriched in deuterium shall not be present.

(iii) The total mass of graphite present shall not exceed 150 times the total mass of uranium-235.

(iv) Mixtures of fissile substances with substances having a higher hydrogen density than water, e.g., some hydrocarbon oils, shall not be present. This does not preclude the use of polyethylene for packing or wrapping.

TABLE XIV. PERMISSIBLE MASS OF URANIUM 235 PER CONSIGNMENT

| Uranium enrichment in weight per cent of uranium-235 not exceeding | Permissible mass per consignment grams of uranium-235 |
|--|---|
| 93 | 160 |
| 75 | 168 |
| 80 | 176 |
| 40 | 184 |
| 30 | 192 |
| 20 | 203 |
| 15 | 224 |
| 11 | 240 |
| 10 | 256 |
| 9.5 | 262 |
| 9 | 270 |
| 8.5 | 276 |
| 8 | 284 |
| 7.5 | 294 |
| 7 | 300 |
| 6.5 | 312 |
| 6 | 324 |
| 5.5 | 340 |
| 5 | 360 |
| 4.5 | 380 |
| 4 | 400 |
| 3.5 | 440 |
| 3 | 500 |
| 2.5 | 600 |
| 2 | 820 |
| 1.5 | 1360 |
| 1.35 | 1600 |
| 1 | 3400 |
| 0.92 | 6000 |

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(c) Contents - uranium metal, compounds and/or mixtures not forming a lattice; the contents of any consignment consisting of the allowable number of packages shall not exceed the permissible mass of uranium-235 given in Table XV per consignment as a function of enrichment for substances satisfying the following conditions:

- (i) Uranium-233 shall not be present.
- (ii) Beryllium and hydrogenous material enriched in deuterium shall not be present.

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(iii) The total mass of graphite present shall not exceed 150 times the total mass of uranium-235.

(iv) Mixtures of fissile substances with substances having a higher hydrogen density than water, e. g. some hydrocarbon oils, shall not be present.

This does not preclude the use of polyethylene for packing or wrapping.

(v) The fissile substances shall be distributed homogeneously throughout the contents. In addition, the substances shall not form a lattice arrangement within the package.

TABLE XV. PERMISSIBLE MASS OF URANIUM-235 PER CONSIGNMENT

| Uranium enrichment in weight per cent of uranium-235 not exceeding | permissible mass per consignment grams of uranium-235 |
|--|---|
| 4 | 420 |
| 3.5 | 460 |
| 3 | 560 |
| 2.5 | 740 |
| 2 | 1200 |
| 1.5 | 2800 |
| 1.35 | 4000 |

(d) Contents - uranium and/or plutonium metal, compounds and/or mixtures: the substances shall satisfy the following conditions:

(i) Beryllium and hydrogenous material enriched in deuterium shall not be present.

(ii) The total mass of graphite present shall not exceed 150 times the total mass of uranium and plutonium.

(iii) Mixtures of fissile substances with substances having a higher hydrogen density than water, e.g., some hydrocarbon oils, etc., shall not be present. This does not preclude the use of polyethylene for packing or wrapping.

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The total mass of fissile substances per consignment shall be such that:

$$\frac{^{235}\text{U}(\text{grams})}{160} + \frac{\text{Pu}(\text{grams})}{90} + \frac{^{233}\text{U}(\text{grams})}{100} \text{ is not greater than I.}$$

(e) Allowable number: the allowable number for a particular package to this specification will depend on the actual contents and is equal to the fissile mass limit per consignment divided by the actual fissile mass present in the package. In the case of the mixed nuclides in (d) above the allowable number is:

$$\frac{160}{^{235}\text{U} + 1.6 \times ^{233}\text{U} + 1.778 \times \text{Pu}}$$

where ^{235}U , ^{233}U and Pu are the numbers of grams of ^{235}U , ^{233}U and Pu present in the package. Where the package forms part of a mixed consignment the requirements of footnote 1 to marginal 2700 (2) be met.

(f) Shipment shall be subject to multilateral approval.
E. PROVISIONS SPECIFIC TO FISSION CLASS III PACKAGES

Fission Class III packages shall meet the general requirements of marginal 3611 and shall be approved in accordance with marginals 3674 and 3675.

1. Examples of package designs requiring unilateral approval

Example 1 (requiring multilateral approval of shipment)

Packages to the following specification require only unilateral approval of the package design provided that the following conditions are fulfilled:

(a) The number of packages in any one consignment shall be so limited that:

(i) twice this number of undamaged packages shall be sub-critical if stacked together in any arrangement without anything between the packages, assuming close reflection on all sides of the stack by the equivalent of water; for this purpose "undamaged" shall mean the condition in which the packages are designed to be presented for transport; and

(ii) this number of packages when "damaged" shall be sub-critical if stacked together in any arrangement and closely reflected on all sides of the stack by the equivalent of water (for this purpose "damaged" shall mean the evaluated or demonstrated condition of each package if it had been subjected either to the tests specified in marginals 3635 and 3637 (1) to (3) followed by that in marginals 3638 or the tests specified in marginals 3635 and 3637 (4), whichever combination is the more limiting).

Hydrogenous moderation 3/between the packages and water leakage into or out of the packages consistent with test results shall be assumed to the extent which results in the greatest reactivity.

(b) Shipment of these packages shall be made only under arrangements approved by the competent authorities in conformity with marginal 3675, so as to prevent loading, transport or storage of these packages with other labelled packages of radioactive material.

2. Examples of fissile package design requiring no competent authority approval

Example 1 (requiring multilateral approval of shipment).

Packages to the following specification for Fission Class III require no competent authority approval of package design provided the following conditions are met:

(a) The package is currently approved as a Fission Class II package and the number in any one consignment does not exceed twice the allowable number associated with the Fission Class II approval.

(b) Shipment of these packages shall be made only under arrangements approved by the competent authorities in conformity with marginal 3675, so as to prevent loading, transport or storage of these packages with other Fission Class II or Class III packages. Examples of such arrangements are:

(i) no other labelled packages of radioactive substances may be carried with the consignment in the same vehicle, and

(ii) either transport shall be direct to the consignee without any intermediate transit storage; or controls shall be imposed, by the provision of an escort, to prevent the packages of the consignment from being stacked with or alongside any other packages of radioactive substances after an accident, or at any other time.

The escort shall travel in a separate vehicle.

Example II (requiring multilateral approval of shipment)

Packages for Fission Class III require no competent authority approval of package design provided that the following conditions are met

(a) Packaging: the criticality safety of these consignments does not depend upon the integrity of the packaging. Any packaging which complies with the other relevant requirements of this Appendix may therefore be used, provided it does not incorporate lead exceeding 5 cm in thickness, tungsten or uranium shielding.

(b) Contents - uranium metal, compounds and/or mixtures: the contents of any consignment shall not exceed the permissible mass of uranium-235 given in Table XVI per consignment as a function of enrichment for substances satisfying the following conditions:

(i) Uranium-233 shall not be present.

(ii) Beryllium and hydrogenous material enriched in deuterium shall not be present.

(iii) The total mass of graphite present shall not exceed 150 times the total mass of uranium-235.

(iv) Mixtures of fissile substances with substances having a higher hydrogen density than water e.g., some hydrocarbon oils, shall not be present. This does not preclude the use of polyethylene for packing or wrapping.

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TABLE XVI. PERMISSIBLE MASS OF URANIUM-235 PER CONSIGNMENT

| Uranium enrichment in weight per cent of uranium-235 not exceeding | Permissible mass per consignment grams of uranium-235 |
|--|---|
| 93 | 400 |
| 75 | 420 |
| 60 | 440 |
| 40 | 460 |
| 30 | 480 |
| 20 | 520 |
| 15 | 560 |
| 11 | 600 |
| 10 | 640 |
| 9.5 | 655 |
| 9 | 675 |
| 8.5 | 690 |
| 8 | 710 |
| 7.5 | 730 |
| 7 | 750 |
| 6.5 | 780 |
| 6 | 810 |
| 5.5 | 850 |
| 5 | 900 |
| 4.5 | 950 |
| 4 | 1.000 |
| 3.5 | 1.100 |
| 3 | 1.250 |
| 2.5 | 1.500 |
| 2 | 2.050 |
| 1.5 | 3.400 |
| 1.35 | 4.000 |
| 1 | 8.500 |
| 0.92 | 15.000 |

(c) Contents - uranium metal, compounds and/or mixtures not forming a lattice: Table XVII gives the permissible mass of uranium-235 per consignment as a function of enrichment, for substances satisfying the following conditions:

(i) Uranium-233 shall not be present.

(ii) Beryllium and hydrogenous material enriched in deuterium shall not be present.

(iii) The total mass of graphite present shall not exceed 150 times the total mass of uranium-235.

(iv) Mixtures of fissile substances with substances having a higher hydrogen density than water, e.g., some hydrocarbon oils, shall not be present. This does not preclude the use of polyethylene for packing or wrapping.

(v) The fissile substances shall be distributed homogeneously throughout the contents. In addition, the substances shall not form a lattice arrangement within the package.

TABLE XVII. PERMISSIBLE MASS OF URANIUM-235 PER CONSIGNMENT

| Uranium enrichment in weight per cent of uranium-235 not exceeding | Permissible mass per consignment kilograms of uranium-235 |
|--|---|
| 4 | 1.05 |
| 3.5 | 1.15 |
| 3 | 1.4 |
| 2.5 | 1.8 |
| 2 | 3 |
| 1.5 | 7 |
| 1.35 | 10 |

(d) Contents - uranium and/or plutonium metal, compounds and/or mixtures: the substances shall satisfy the following conditions:

(i) Beryllium and hydrogenous material enriched in deuterium shall not be present.

(ii) The total mass of graphite present shall not exceed 150 times the total mass of uranium and plutonium.

(iii) Mixtures of fissile substances with substances having a higher hydrogen density than water, e.g., some hydrocarbon oils, shall not be present. This does not preclude the use of polyethylene for packing or wrapping.

The total mass of fissile substances per consignment shall be such that:

$$\frac{{}^{235}\text{U}(\text{grams})}{400} + \frac{\text{Pu}(\text{grams})}{225} + \frac{{}^{233}\text{U}(\text{grams})}{250} \text{ is not greater than } 1.$$

(e) Conditions of transport: the following administrative controls shall be applied throughout the transport of the consignment:

(i) the quantity of substances in a consignment shall not exceed that defined in (b), (c) or (d) above;

(ii) transport shall be direct to the consignee, without any intermediate transit storage.

(f) Shipment shall be subject to multilateral approval.

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CHAPTER III - TEST AND INSPECTION PROCEDURES

A. DEMONSTRATION OF COMPLIANCE WITH THE TEST REQUIREMENTS

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(1) Demonstration of compliance with the test requirements of this chapter may be accomplished by any of the methods listed below or by a combination thereof.

(a) Performance of tests with prototypes or samples of the packaging as normally presented for transport, in which case the contents of the packaging for the test shall simulate as closely as practicable the expected normal radioactive contents.

(b) Reference to previous satisfactory demonstrations of sufficiently similar nature.

(c) Performance of tests with models of appropriate scale incorporating those features which are significant with respect to the item under investigation, when engineering experience has shown results of such tests to be suitable for design purposes. When a scale model is used, the need for adjusting certain test parameters, such as the penetrator diameter or the compressive load, shall be taken into account.

(d) Calculation, or reasoned argument, when the calculative procedures and parameters are generally agreed to be reliable or conservative.

(2) With respect to the initial conditions for the tests of this chapter except those in marginals 3637 (4) to 3639, the demonstration of compliance shall be based on the assumption that the package is in equilibrium at an ambient temperature of 38°C. With respect to the thermal test the effects of solar radiation can be neglected prior to and during that test but shall be taken into account in the subsequent evaluation of the test results.

B. TESTS FOR PACKAGING

1. Number of specimens to be tested

The number of specimens actually subjected, to the tests should be related to the number of packagings of that type which are to be produced, the frequency of use and the cost. The results of the tests may necessitate an increase in the number of specimens to meet the requirements of the test procedures in respect of maximum damage.

2. Preparation of a specimen for testing

(1) All specimens shall be examined before testing to identify and record faults or damage including the following:

- (a) divergence from the specifications or the drawings;
- (b) defects in construction;
- (c) corrosion or other deterioration; and
- (d) distortion of features.

(2) The containment system of the packaging shall be clearly specified.

(3) The external features of the specimen shall be clearly identified so that reference may be made simply and clearly to any part of such specimen.

3. Testing the integrity of containment and shielding

After any of the applicable tests specified in marginals 3635 to 3637, it shall be further demonstrated that the integrity of the containment, or of the containment and shielding, has been retained to the extent required in marginals 3601 (15) to (17), 3602 (2), 3603 (1) and 3604 (2) for the packaging under test.

4. Target for the drop tests specified in marginals 3635 (4), 3636 (2), 3637 (2) and 3641 (1)

The target shall be a flat, horizontal surface of such a character that any increase in its resistance to displacement or deformation upon impact by the specimen would not significantly increase the damage to the specimen.

5. Tests for demonstrating ability to withstand normal conditions of transport

(1) The tests are: the water spray test, the free drop test, the compression test and the penetration test. Prototypes of the package shall be subjected to the free drop test, the compression test and the penetration test, preceded in each case by the water spray test. One prototype may be used for all the tests, provided that the requirements of paragraph (2) are complied with.

(2) The time interval between the conclusion of the water spray test and the succeeding test shall be such that the water has soaked in to the maximum extent, without appreciable drying of the exterior of the specimen. In the absence of any evidence to the contrary, this interval shall be taken to be about two hours if the water spray is applied from four directions simultaneously. No time interval should elapse, however, if the water spray is applied from each of the four directions consecutively.

(3) Water spray test: Any water spray test shall be considered as satisfactory provided that:

(a) the amount of water per unit of ground area is approximately equivalent to a rainfall rate of 5 cm per hour;

(b) the water impinges upon the specimen at an angle of approximately 45° from the horizontal;

(c) the water is approximately uniformly distributed, as in a rainfall, over the entire surface of the specimen in the direction of the spray;

(d) the duration of the spray is at least one hour;

(e) the orientation of the packaging is such that the effects are expected to be the most severe for the features under investigation, and the specimen is supported so that it does not sit in a pool of water.

(4) Free drop test: The specimen shall fall onto the target so as to suffer maximum damage in respect of the safety features to be tested.

(a) The height of fall measured from the lowest point of the package to the upper surface of the target shall be as specified in Table XVIII.

TABLE XVIII. FREE-FALL DISTANCE FOR PACKAGES

| Package weight (Kg) | Free fall distance (m) |
|---------------------|------------------------|
| less than 5,000 | 1.2 |
| 5,000 to < 10,000 | 0.9 |
| 10,000 to < 15,000 | 0.6 |
| 15,000 and greater | 0.3 |

(b) For Fissile Class II packages, the free drop specified above shall be preceded by a free drop from a height of 0.3 m on each corner or, in the case of a cylindrical package, onto each of the quarters of each rim.

(c) For fibreboard or wood rectangular packages not exceeding 50 kg in weight, a separate specimen shall be subjected to a free drop onto each corner from a height of 0.3 m.

(d) For fibreboard cylindrical packages not exceeding 100 kg in weight, a separate specimen shall be subjected to a free drop onto each of the quarters of each rim from a height of 0.3 m.

(5) Compression test: the specimen shall be subjected, for a period of 24 hours, to a compressive load equal to the greater of the following:

(a) the equivalent of 5 times the weight of the actual package;

(b) the equivalent of 1300 kg/m² multiplied by the vertically projected area of the package.

The load shall be applied uniformly to two opposite sides of the specimen, one of which shall be the base on which the package would normally stand.

(6) Penetration test: the specimen shall be placed on a rigid, flat, horizontal surface which will not move significantly while the test is being carried out.

(a) A bar of 3.2 cm diameter with a hemispherical end and weighing 6 kg shall be dropped and directed to fall, with its longitudinal axis vertical, onto the centre of the weakest part of the specimen, so that, if it penetrates sufficiently far, it will hit the containment vessel. The bar shall not be significantly deformed by the test performance.

(b) The height of fall of the bar measured from its lower end to the upper surface of the specimen shall be 1 m.

6. Additional tests for Type A packaging designed for liquids and gases

(1) Separate specimens shall be subjected to each of the following tests unless it can be demonstrated that one test is more severe for the specimen in question than the other, in which case one specimen shall be subjected to the more severe test.

(2) Free drop test: the specimen shall fall onto the target so as to suffer the maximum damage in respect of containment. The height of the fall measured from the lowest part of the specimen to the upper surface of the target shall be 9 m.

(3) Penetration test: the specimen shall be subjected to the test specified in marginal 3635 (6) except that the height of fall shall be increased to 1.7 m from the 1 m specified in marginal 3635 (6) (b).

7. Tests for demonstrating ability to withstand accident conditions in transport

(1) The specimen shall be subjected to the cumulative effects of the mechanical tests specified in paragraph (2) and the thermal test specified in paragraph (3) in that order. A separate specimen shall be subjected to the effect of the water immersion test in paragraph (4).

(2) Mechanical test: the test shall consist of two drops onto a target. The order in which the specimen is subjected to the two drops shall be such that, on completion of the mechanical test, the specimen will have suffered such damage as will lead to the maximum damage in the thermal test which follows.

(a) For drop I, the specimen shall fall onto the target so as to suffer the maximum damage, and the height of fall measured from the lowest point of the specimen to the upper surface of the target shall be 9 m.

(b) For drop II, the specimen shall fall onto the target so as to suffer the maximum damage, and the height of fall measured from the intended point of impact of the specimen to the upper surface of the target shall be 1 m. The target in this case shall be the upper end of a solid mild steel bar of circular section, 15 cm \pm 0.5 cm in diameter. The target surface shall be flat and horizontal with its edges rounded off to a radius of not more than 6 mm. The bar shall be rigidly mounted perpendicularly on the foundation target described in marginal 3634 and shall be 20 cm long unless a longer bar would cause greater damage; in that case, a bar of sufficient length to cause maximum damage shall be used.

(3) Thermal test: any thermal test shall be considered as satisfactory provided that the heat flux incident on the specimen is not less than that which would result from exposure for 30 minutes of the whole specimen to a radiation environment of 800°C with an emissivity coefficient of at least 0.9. For purposes of calculation, the surface absorptivity shall be either that value which the package may be expected to possess if exposed to a fire or 0.8, whichever is greater. In addition, when significant, convective heat input shall be included on the basis of still ambient air at 800°C during the thirty-minute period. After cessation of the external heat input to the specimen:

(a) the specimen shall not be cooled artificially until another three hours have elapsed or until it has been demonstrated that all internal temperatures have begun to fall, whichever is the earlier; and

(b) any combustion of materials of the specimen shall be allowed to proceed for three hours after the cessation of external heating to the specimen unless it terminates earlier naturally.

(4) Water immersion test: the specimen shall be immersed under a head of water of at least 15 m for a period of not less than eight hours. For test purposes, an external pressure of water of 1.5 kg/cm² (gauge) will be considered to meet these conditions.

8. Water in-leakage test for packages containing fissile substances

(1) Packages other than Fissile Class I or Fissile Class II packages and any packages for which water in-leakage or out-leakage to the extent which results in greatest reactivity has been assumed for purpose of assessment under marginals 3614 (2) and 3619 (b) shall be exempted from the test.

(2) Before the specimen is subjected to the water in-leakage test specified below, it shall be subjected to the tests in marginals 3637 (2) and (3).

(3) The specimen shall be immersed under a head of water of at least 0.9 m for a period of not less than eight hours and in the attitude for which maximum leakage is

expected. For this test an ambient temperature of 38°C is not required.

9. Tests for integrity of containment and shielding

Any test or inspection method may be employed to determine whether the requirements of this Chapter have been met after the specimen has been subjected to the tests in marginals 3635 to 3637, provided that the method can be demonstrated to meet the relevant requirements of marginals 3601 to 3604.

C. TESTS FOR SPECIAL FORM RADIOACTIVE SUBSTANCES

1. General

(1) The tests are: the impact test, the percussion test, the bending test and the heat test.

(2) Specimens (solid radioactive substances or capsules) to be tested shall be prepared as normally presented for transport. The radioactive substances shall be duplicated as closely as practicable.

(3) A different specimen may be used for each of the tests.

(4) The specimen shall not break or shatter when subjected to the impact, percussion or bending tests.

(5) The specimen shall not melt or disperse when subjected to the heat test.

(6) After each test, a leaching assessment shall be performed on the specimen by a method no less sensitive than the methods given in marginal 3642.

2. Test methods

(1) Impact test: the specimen shall fall onto the target from a height of 9 m. The target shall be as defined in marginal 3634.

(2) Percussion test: the specimen shall be placed on a sheet of lead which is supported by a smooth solid surface and struck by the flat face of a steel billet so as to produce an impact equivalent to that resulting from a free fall of 1.4 kg through 1 m. The flat face of the billet shall be 25 mm in diameter with the edges rounded off to a radius of 3 mm \pm 0.3 mm. The lead, of hardness number 3.5 to 4.5 on the Vickers scale and not more than 25 mm thick, shall cover an area greater than that covered by the specimen. A fresh surface of lead shall be used for each impact. The billet shall strike the specimen so as to cause maximum damage.

(3) Bending test: the test is applicable only to long, slender sources with both a minimum length of 10 cm and a length to minimum width ratio of not less than 10. The specimen shall be rigidly clamped in a horizontal position so that one half of its length protrudes from the face of the clamp. The orientation of the specimen shall be such that the specimen will suffer maximum damage when its free end is struck by the flat face of a steel billet. The billet shall strike the specimen so as to produce an impact equivalent to that resulting from a free vertical fall of 1.4 kg through 1 m. The flat face of the billet shall be 25 mm in diameter with the edges rounded off to a radius of 3 mm to \pm 0.3 mm.

(4) Heat test: the specimen shall be heated in air to a temperature of 800°C and held at that temperature for a period of 10 min and shall then be allowed to cool.

3. Leaching assessment methods

(1) For indispersible solid substances:

(a) The specimen shall be immersed for seven days in water at ambient temperature. The water shall have a pH of 6 to 8 and a maximum conductivity of 10 μ S/cm at 20°C.

(b) The water with specimen shall then be heated to a temperature of 50° \pm 5°C and maintained at this temperature for four hours.

(c) The activity of the water shall then be determined.

(d) The specimen shall then be stored for at least seven days in still air of humidity not less than 90 per cent at 30°C.

(e) The specimen shall then be immersed in water of the same specification as in (a) above and the water with specimen heated to 50°C \pm 5°C and maintained at this temperature for four hours.

(f) The activity of the water shall then be determined.

The activities determined in (c) and (f) above shall not exceed 0.05 μ Ci.

(2) For encapsulated substances:

(a) The specimen shall be immersed in water at ambient temperature. The water shall have a pH of 6-8 with a maximum conductivity of 10 μ S/cm. The water and specimen shall be heated to a temperature of 50°C \pm and maintained at this temperature for four hours.

(b) The activity of the water shall then be determined.

(c) The specimen shall then be stored for at least seven days in still air at a temperature not less than 30°C.

(d) Repeat (a).

(e) The activity of the water shall then be determined.

The activities determined in (b) and (e) above shall not exceed 0.05 μ Ci.

D. INSPECTION REQUIREMENTS TO BE FULFILLED BEFORE FIRST USE AND BEFORE EACH SHIPMENT OF CERTAIN TYPES OF PACKAGES

1. Before first use

Before first use of any package, the following requirements shall be complied with by the consignor:

(a) For each Type B(U) and Type B(M) package, it shall be ensured that the effectiveness of its shielding and containment, and, where necessary, the heat transfer characteristics, are within the limits applicable to or specified for the approved design.

(b) If the design pressure of the containment system exceeds 0.35 kg/cm² (gauge), it shall be ensured that the containment system of each package conforms with the approved design requirements relating to the capability of that system to maintain its integrity under pressure.

(c) Where, in order to comply with the nuclear safety criteria, neutron poisons are specifically included as components of the packaging primarily for this purpose, tests shall be performed to confirm the presence and distribution of that poisoning.

2. Before each shipment

Before each shipment of any package, the following requirements shall be complied with by the consignor:

(a) Type B(U) and Type B(M) packages shall be held until equilibrium conditions have been closely enough approached to demonstrate compliance with the shipment requirements for temperature and pressure unless an exemption from these requirements has received unilateral approval.

(b) It shall be ensured that all the requirements specified in the approval certificates have been satisfied.

(c) It shall be ensured by examination and/or appropriate tests that all closures, valves and other openings of the containment system through which the radioactive contents might escape are properly closed and, where appropriate, sealed in the manner for which the demonstrations of marginals 3603 (1) and 3604 (2) were made.

(d) It shall be ensured that the provisions of marginal 3600 (5), with regard to lifting attachments have been complied with.

CHAPTER IV. – CONTROLS FOR TRANSPORT AND STORAGE IN TRANSIT

A. MIXED PACKING

3650

A package containing radioactive substances shall not contain any other items except such articles and documents as are necessary for the use of the radioactive substances. Such items may be included, provided that there is no interaction between them and the packaging or contents that would reduce the safety of the package.

B. NON-FIXED RADIOACTIVE CONTAMINATION

3651

The non-fixed radioactive contamination on any external surface of the package shall be kept as low as practicable and shall at no time during normal transport exceed the levels laid down in Table XIX. The level of non-fixed radioactive contamination may be determined by wiping an area of 300 cm² of the surface concerned by hand with a filter paper, or a wad of cotton wool or any other material of this nature.

Packages used for the transport of radioactive substances such as irradiated fuel, shall be assessed to determine whether activity is likely to be leached to the surface e.g. by rain. The frequency of such assessment shall be related to the likelihood of radioactive contamination having been absorbed into the surface coating, particularly paint. When activity is likely to be leached to the surface of the package, the continued use of such a package shall be conditional upon a radiation safety assessment by a qualified person.

3643

TABLE XIX. MAXIMUM PERMISSIBLE LEVELS OF NON-FIXED RADIOACTIVE CONTAMINATION

| Contaminant | Maximum permissible level (see Note ^a) (μ Ci/cm ²) |
|--|--|
| Natural and depleted uranium and natural thorium only | 10 ⁻³ |
| Beta and gamma emitters and the low-toxicity alpha emitters specified in Note ^b below | 10 ⁻⁴ |
| All other alpha emitters | 10 ⁻⁵ |

Notes: ^aThe above levels are permissible when averages over any area of 300 cm² of any part of the surface.

^bLow toxicity alpha emitters:

Uranium-235 or uranium-238; thorium-232; thorium-228 and thorium-230 when diluted to a specific activity of the same order as that of natural uranium and natural thorium; radionuclides with a half-life of less than 10 days.

3644

C. CATEGORIES

3652

Packages and containers (both large and small) shall be in one of the following three categories:

1. Category I-WHITE

3653

(1) Packages: When the radiation level originating from the package at any time during normal transport does not exceed 0.5 mrem/h at any location on the external surface of the package, and the package does not belong to Fissile Class II or III.

(2) Containers: When the container contains packages of radioactive substances none of which is in a category higher than Category I-WHITE.

2. Category II-YELLOW

3654

(1) Packages: When the radiation level limit in marginal 3653(1) is exceeded, or the package belongs to Fissile Class II, provided that:

3645

3649

(a) the radiation level originating from the package at any time during normal transport does not exceed 50 mrem/h at any location on the external surface of the package; and

(b) the transport index at any time during normal transport does not exceed 1.0.

(2) Containers: When the transport index of the container at any time during normal transport does not exceed 1.0, and when it contains no packages of Fissile Class III.

3. Category III-YELLOW

(1) Packages: When either of the two limits in marginal 3654(1) is exceeded, or when the package belongs to Fissile Class II or Class III, or when the package is being transported under special arrangement, provided that:

(a) the radiation level originating from the package at any time during normal transport does not exceed 200 mrem/h at any location on the external surface of the package, except that, for full load shipments under the conditions specified in marginal 3659(7), the maximum allowable level shall be 1000 mrem/h; and

(b) the transport index at any time during normal transport does not exceed 10 unless the package is being transported as full load.

(c) Containers: when the transport index of the container, at any time during normal transport, exceeds 1.0, or when the container carries packages belonging to Fissile Class III, or when it is being transported under special arrangement.

D. LABELLING AND MARKING (see Appendix A.9)

(1) Each package and container (both large and small) shall bear at least two labels which conform to the models 6A, 6B or 6C in Appendix A.9 according to the category (see marginals 3652 to 3655) of that package or container.

(2) The labels shall be affixed to two opposite sides of the outside of the package, or on the outside of all four sides of the container.

(3) The labels shall be completed as follows in a clear and indelible manner:

(a) next to the word «contents» shall be indicated the radionuclide or the substance whose presence constitutes the principal danger in the event of damage to the package (for example: strontium -90, irradiated uranium, radioactive LSA);

(b) next to the word «activity» shall be written the activity in curies;

Note. This activity may also be expressed in micro, milli or kilocuries on condition that the prefixed micro, milli and kilo are written in full;

(c) on the label to model Nos. 6B and 6C shall be written, in addition, the transport index in the largest possible figures in the frame intended for that purpose.

(4) Each package of gross weight exceeding 50 kg shall have its gross weight plainly and durably marked on the outside of the package.

(5) Each package which conforms to a Type A packaging design shall be plainly and durably marked on the outside of the package with «Type A».

(6) Each package which conforms to a design approved under marginals 3672 to 3674 shall be plainly and durably marked on the outside of the package with the identification mark allocated to that design by the competent authority and, in the case of a Type B(U) or Type B(M) package design, with «Type B(U)» or «Type B(M)».

(7) Each package which conforms to a Type B(U) or Type B(M) package design shall have the outside of the outermost receptacle which is resistant to the effects of fire and water plainly marked by embossing, stamping or other means resistant to the effects of fire and water with the trefoil symbol shown in the labels to models 6A to 6C.

E. SEGREGATION OF RADIOACTIVE SUBSTANCES

3657

Packages of Category II-YELLOW or III-YELLOW shall be separated in carriage and in storage from packages which bear a label with the word «FOTO» by the safety distances given in the table in marginal 240 001 of Appendix B.4.

F. STORAGE IN TRANSIT

3658

(1) Packages of radioactive substances shall not be stored near dangerous goods with which mixed loading is prohibited (see marginal 2700(3)).

(2) The number of Category II-YELLOW and Category III-YELLOW packages and containers stored in any one storage area, such as a transit area, terminal building, store - room or assembly yard, shall be so limited that the total sum of the transport indices in any individual group of such packages or containers does not exceed 50. Groups of such packages and containers shall be stored so as to maintain a spacing of at least 6 metres from other groups of such packages or containers.

(3) Where control of package accumulations is effected by reference to the red bands marked on the labels there shall not be more than 50 Category II-YELLOW or 5 Category III-YELLOW packages in any one group of packages.

Where packages of both categories are present, one Category III-YELLOW package shall be taken as equivalent to ten Category II-YELLOW packages.

(4) Except in the case of Fissile Class II or Class III packages, the limitations in marginal 3658(2) do not apply to packages marked «RADIOACTIVE LSA» and containing low specific activity substance or those marked «RADIOACTIVE LLS» and containing low level solid radioactive substance when they are maintained in a compact stack or in containers.

(5) Mixing of different kinds of packages, including Fissile Class I packages with Fissile Class II packages, is permitted.

G. TRANSPORT

1. Packages

3659

(1) Packages shall be so loaded in vehicles that they cannot shift dangerously, upset or fall.

(2) Provided that its average surface heat flux does not exceed 15W/m², and that the surrounding cargo is not in sacks or bags, a package may be carried among packaged general cargo without any special stowage provisions except as may be specially required by the competent authority in an appropriate certificate. If the heat flux exceeds 15W/m² the package shall be carried as full load.

(3) Categories I-WHITE, II- or III-YELLOW packages shall not be carried in compartments occupied by passengers, except those exclusively reserved for couriers specially authorized to accompany such packages.

(4) Mixing of different kinds of packages, including Fissile Class I packages with Fissile Class II packages, is permitted.

(5) Accumulation of packages and containers shall be controlled as follows:

(a) For both packages and containers, the number of packages and containers shall be so limited that the total sum of the transport indices in any vehicle does not exceed 50. Where this control of packages is effected by reference to the red bands marked on the packages see marginal 3658 (3).

(b) In the case of full loads the limits under paragraph (5)(a) shall not apply, provided that the radiation level under normal conditions of transport does not exceed 200 mrem/h. at any point on, and 10 mrem/h at 2m from the outside surface of a freight container or vehicle. For Fissile Class II or III consignments, or mixtures thereof, the full load shall not include more than the allowable

number of packages (see footnote to marginal 2700).

(6) Vehicles and large containers carrying packages or containers labelled with any of the labels to Models 6A, 6B or 6C, or carrying full load consignments of any radioactive substances shall display the placard in marginal 240 010 of Appendix B.4 on the outside of each of the two lateral sides and the rear wall in the case of a vehicle.

(7) In the case of full loads the radiation level shall not exceed:

(a) 1000 mrem/h at any point on the external surface of any package, provided that:

(i) the vehicle is equipped with an enclosure which, during normal transport, prevents the access of unauthorized persons to the interior of the enclosure;

(ii) provisions are made to secure the packages so that their position within the vehicle remains fixed during normal transport;

(iii) there are no loading or unloading operations between the beginning and end of the transport.

Under other conditions, the radiation level at any point on the external surface of the package shall not exceed 200 mrem/h.

(b) 200 mrem/h at any point on the outer surface of the vehicle or large container, including the upper and lower surfaces, and, in the case of an open vehicle at any point on the vertical planes projected from the outer edges of the vehicle, on the upper surface of the load, and on the lower external of the vehicle and

(c) 10mrem/h at any point 2m from the vertical planes represented by the outer lateral surfaces of the vehicle or large container, and, if the load is transported in an open vehicle at any point 2m from the vertical planes projected from the outer edges of the vehicle.

(8) (a) The radiation level in any normally occupied position of a vehicle shall not exceed 2 mrem/h during transport. Under such circumstances the carrier shall ensure that the driver or any accompanying personnel, shall not receive more radiation than 0.5 rem. in any 12 month period.

Maintaining the minimum distances listed in the table in marginal 240 000 of Appendix B.4, even in the absence of a protective shield, shall be considered as keeping within the 2 mrem/h limit.

(b) As an alternative to (a) above, the carrier may operate to a scheme of work approved by the competent authority whereby records must be kept by him of the times spent by persons travelling in his vehicles and the radiation levels those persons and subjected to, in order that no person receives a greater dose than 375 mrem in any calendar quarter.

2. Tank Vehicles

Low - specific - activity substances, LSA (I), of marginal 2703, schedule 5, other than uranium hexafluoride and substances liable to spontaneous ignition, may be carried in tank - vehicles in accordance with the requirements of Appendix B.1a.

3. Tank - Containers

Low specific - activity substances, LSA (I), of marginal 2703, schedule 5, including natural or depleted uranium hexafluoride, may be carried in tank - containers in accordance with the requirements of Appendix B.1b.

CHAPTER V. - ADMINISTRATIVE REQUIREMENTS

Approval by competent authorities is not required for package designs for substances consigned under Schedules 1 to 4 and, provided the contents are not fissile substances requiring approval under marginal 3674, for package designs for substances consigned under schedules 5 to 8.

A. APPROVAL OF SPECIAL FORM RADIOACTIVE SUBSTANCES

3671

(1) Any design for special form radioactive substances, with the exception of the substances specified in Schedules 3 and 4, shall require unilateral approval.

An application for approval shall include:

(a) a detailed description of the substances or, if a capsule, the contents; particular reference shall be made to both physical and chemical states;

(b) a detailed statement of the design of any capsule to be used, including complete engineering drawings and schedules of materials and methods of construction to be used;

(c) a statement of the tests which have been done and their results, or evidence based on calculative methods to show that the substances are capable of meeting the tests, or other evidence that the special form radioactive substances meet the requirements of this Appendix.

(2) The competent authority shall establish a certificate stating that the approved design meets the definition of special form radioactive substances as defined in marginal 2700 (2) and shall attribute to that design an identification mark. The certificate shall specify the details, of the radioactive substances.

B. APPROVAL OF PACKAGE DESIGNS

1. Approval of Type B(U) package designs (including those for Fissile Class I, Class II and Class III packages which are also subject to marginal 3674).

3672

(1) Any design of Type B(U) package originating in a country party to ADR shall be approved by the competent authority of this country; if the country where the package has been designed is not party to ADR, carriage is possible on condition that:

(a) a certificate has been supplied by this country, proving that the package satisfies the technical regulations of ADR, and that this certificate is counter - signed by the competent authority of the first ADR country reached by the consignment;

(b) if no certificate has been supplied, the package design is approved by the competent authority of the first ADR country reached by the consignment;

(2) An application for approval shall include:

3672

(a) a detailed description of the proposed contents with particular reference to their physical and chemical states and the nature of the radiation emitted;

(b) a detailed statement of the design, including complete engineering drawings and schedules of materials and methods of construction to be used;

(c) a statement of the tests which have been done and their results, or evidence based on calculative methods or other evidence that the package design is adequate to meet the requirements of marginals 3602 and 3603;

(d) the proposed operating and maintenance instructions for the use of the package, in particular, in the case of packages likely to be immersed in contaminated ponds, the provisions incorporated to ensure that the surface of the package is not contaminated above the permitted levels;

(e) if the package is designed to have a maximum normal operating pressure in excess of 1.0 Kg/cm² (gauge), the application for approval shall, in particular, state, in respect of the materials of construction of the containment system, the specifications, the samples to be taken and the tests to be made;

(f) where the proposed contents are irradiated fuel, the applicant shall state and justify any assumption in the safety analysis relating to the characteristics of the fuel;

(g) any special stowage provisions necessary to ensure the safe dissipation of heat from the package; consideration shall be given to the type of vehicle or

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container (see marginal 3681 (1) (a));

(h) a reproducible illustration not larger than 21 cm x 30 cm, showing the make-up of the package.

(3) The competent authority shall establish a certificate stating that the approved design meets the requirements for Type B(U) packages (see marginals 3677 and 3678).

2. Approval of Type B(M) package design (including those for Fissile Class I, Class II and Class III packages which are also subject to marginal 3674)

(1) Each type B(M) package design shall require multilateral approval

(2) An application for approval of a Type B(M) package design shall include, in addition to the information required in marginal 3672 (2) for Type B(U) packages:

(a) a list of those specific additional requirements for Type B(U) packages specified in marginal 3603 with the package does not conform;

(b) any proposed supplementary operational controls⁵ to compensate for the deficiencies listed in (a) above; and

(c) a statement relative to any special loading, carriage, unloading, or handling procedures;

(d) the maximum and minimum ambient conditions (temperature, solar radiation) expected to be encountered during transport and which have been taken into account in the design.

(3) The competent authority shall establish a certificate stating that the approved package design meets the requirements for Type B(M) packages (see marginals 3677 to 3679).

3. Approval of Fissile Class I, Class II and Class III package design

(1) Package designs complying with the examples in marginal 3620, 3623 or 3624 shall require no further competent authority approvals.

(2) Package designs complying with the examples in marginals 3616 and 3622 shall require unilateral approval.

(3) All other package designs shall require multilateral approval.

(4) An application for approval shall include all information necessary to satisfy the competent authority that the design meets the requirements of marginals 3610 to 3624.

(5) The competent authority shall establish a certificate (see marginals 3677 to 3679) stating that the approved package design meets the requirements of marginals 3610 to 3624.

C. APPROVAL OF SHIPMENTS

(1) Multilateral shipment approvals shall be required for the following packages:

(a) Type B(M) packages specially designed to allow continuous venting.

(b) Type B(M) packages containing radioactive materials with an activity greater than $3 \times 10^3 A_1$ or $3 \times 10^3 A_2$, as appropriate, or $3 \times 10^4 Ci$, whichever is the lower;

c) Fissile Class II packages with marginal 3620.

d) Fissile Class III packages.

However, a competent authority can authorize transport into or through its country, without shipment approval, by a specific provision in its design approval.

2) An application for shipment approval shall include:

a) the period of time, related to the shipment, for which the approval is sought;

b) the actual contents, the type of vehicle and the probable or proposed route; and

c) how the special precautions and special administrative and operational controls referred to in the package design certificates issued under marginals 3673 and 3674, are to be put into effect.

3) Upon approval of the shipment, the competent authority shall issue a certificate (see marginals 3677 to 3679).

4) The package and shipment certificates may be combined into a single certificate.

3673

D: APPROVAL OF TRANSPORT BY SPECIAL ARRANGEMENT

3676

1) A consignment of radioactive substances which does not satisfy all the applicable requirements of this Appendix shall be transported only by special arrangement, which always requires multilateral approval. The special arrangements shall be adequate to ensure that the overall level of safety in transport is at least equivalent to that which would be provided if all the applicable requirements of this Appendix had been met.

2) An application for approval shall include the information required under marginals 3672 to 3675 and also:

a) a statement of the respects in which, and of the reasons why, the consignment cannot be made in full accordance with the applicable requirements of this Appendix; and

b) a statement of any special precautions or special administrative or operational controls which shall be taken during transport to compensate for the failure to meet the applicable requirements of this Appendix.

3674

3) Upon approval of the special arrangement, the competent authority shall issue a certificate (see marginals 3677 to 3679).

E. COMPETENT AUTHORITY CERTIFICATES OF APPROVAL

1. Competent authority identification marks

3677

1) Each approval certificate issued by a competent authority shall be identified by an identification mark. The mark shall be of the following generalized type:

Symbol of nationality of country⁶ Number/Type Code

a) The number shall be assigned by the competent authority, and shall be unique and specific with regard to the particular design or shipment. The shipment approval identification mark shall be clearly identified with the package design approval identification mark.

b) The following type codes shall be used in the order listed to indicate the types of approval certificates issued:

A Type A package design (when also a fissile class package)

B(U) Type B(U) package design

B(M) Type B(M) package design

F Fissile class package design

S Special form material approval

T Shipment

X Special arrangement

2) These type codes shall be applied as follows:

a) Each certificate and each package shall bear the appropriate identification mark composed of the symbols prescribed in paragraph (1) except that for packages, only the applicable package design type codes shall appear following the second stroke, i.e. the «S», «T» and «X» shall not appear in the identification marking on the package. Where the package design approval and shipment approval are combined, the applicable Type Codes do not need to be repeated. For example:

⁵ That is, operational controls during transport not routinely provided for in this Appendix but which are considered necessary to ensure the safety of the package during transport, such as human intervention for temperature or pressure measurements or for periodical venting. These controls shall also take into account the possibility of unexpected delay.

⁶ The signs referred to are the national distinguishing signs for motor vehicles in international traffic.

- A/132/B(M)F: A Type B(M) Fissile Class package approved by Austria for package design number 132 (to be marked on both the package itself and on the package design approval certificate).
- A/132/B(M)FT: The shipment approval certificate identification mark issued for that package design (to be marked on the certificate only).
- A/137/X: The shipment approval certificate identification mark issued for Austrian design 137 under a special arrangements shipment (to be marked on the certificate only).
- b) Where multilateral approval is effected by validation, only the identification marks issued by the country of origin of the design or shipment would be used. Where multilateral approval is effected by issue of certificates by successive countries, each certificate would bear the appropriate mark and the package whose design was so approved would bear all appropriate identification marks. For example,

(A/132/B(M)F)
(CH/28/B(M)F)

would be the identification marks of a package which was originally approved by Austria and was subsequently approved, by separate certificate, by Switzerland. Additional identification marks would be tabulated in a similar manner on the package.

c) The revision of certificate numbers shall be indicated by a parenthetical expression following the identification mark on the certificate. For example, A/132/B(U)F. (Rev.2) would indicate revision 2 of the Austrian-approved package design certificate; or A/132/B(U)F. (Rev.0) would indicate the original issue of the Austrian-approved package design certificate. For original issue the parenthetical expression is optional and other words such as «(original issue)» may also be used in lieu of «(Rev.0)». Certificate revision numbers may only be issued by the country issuing the original certificate number. Revision by other than the issuing country shall require a new certificate and identification number.

d) Additional symbols (as may be necessitated by national requirements) may be added in brackets to the end of the identification mark. For example, A/132/B(U)F (SP503).

e) It is not necessary to alter the identification mark on the package each time that a revision to the package certificate is made. Such alteration shall be made only in those cases where the revision of the package design certificate involves a change in the letter type codes for the package design, following the second stroke.

2. Information required in certificates

Each approval certificate issued by a competent authority shall include the relevant information from the following:

- The competent authority identification mark.
- A brief description of the packaging, including materials of construction, gross weight, general outside dimensions, and appearance. This shall include a reproducible illustration not larger than 21 cm by 30 cm, showing the make-up of the package.
- A brief specification of the permitted contents, including any restrictions on contents which might not be obvious from the nature of the packaging. This should include the physical and chemical forms, the activities in curies (including those of the various isotopes, if appropriate), amounts in grams for fissile substances, and whether in special form.
- Additionally, for fissile class packages:
 - Fissile Class I: a detailed description of the permissible contents and any special features, on the basis of which the leakage of water in respect of certain void spaces has been assumed in the criticality assessment (see marginal

nal 3613(b)).

- Fissile Class II: a detailed description of the permissible contents, the corresponding allowable numbers (or transport index) and any special features, on the basis of which the leakage of water in respect of certain void spaces has been assumed in the criticality assessment (see marginal 3618(b)).

- Fissile Class III: a detailed description of the individual consignments including the permissible contents and the corresponding allowable numbers (or transport indices) together with any special precautions to be taken during transport.

- A statement regarding the ambient conditions assumed for purposes of design (see marginal 3602 (4)).

- For Type B(M) packages, a statement specifying those prescriptions of marginal 3603 with which the package does not conform and any amplifying information which may be useful to other competent authorities.

- A reference to the following information provided by the applicant:

- Instructions on the use and maintenance of the packaging;

- the actions to be taken by the consignor prior to the shipment, e.g. any special decontamination procedures.

- A detailed listing of any supplementary operational requirements (see footnote 5) for package preparation, loading, transport, storage, unloading, and handling, including any special stowage provisions for the safe dissipation of heat from the package, or a statement that no such controls are required.

- A statement authorizing shipment where shipment approval is required under marginal 3675.

- Any restrictions on the types of vehicle containers, and any necessary routing instructions.

- Emergency arrangements specific to the approved design.

- The following statement: «This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be transported».

- An issue date, and, if appropriate, an expiry date.

- Signature and identification of the certifying official.

- Appendices containing certificates for alternative package contents, other competent authority validations, or additional technical data or information.

3. Validation of certificates

Multilateral approvals may be by validation of the original certificate issued by the competent authority of the country of origin of the design or shipment.

F. CONSIGNOR'S RESPONSIBILITIES

1. Particulars of consignment

The consignor shall include in the transport document for each consignment or radioactive substances, as well as the description given in the appropriate schedule, the following details:

- The statement «The nature of the goods and the packaging are in conformity with the provisions of ADR».

- The identification mark for each competent authority certificate (special form, package design, and shipment) applicable to the consignment).

- The name of the radioactive substances, or nuclide.

- A description of the physical and chemical form of the substance, or whether it is in special form.

- The activity of the radioactive substances in appropriate curie units.

- The category of the package, i.e. I-WHITE, II-YELLOW, III-YELLOW.

- The transport index (Categories II-and III-YELLOW only).

- For a consignment of fissile substances:

- if exempted under marginal 3610, the words «FIS-SILE EXEMPT»; or

- if not so exempted, the fissile class of the package(s).

2. Information and notification for carriers

- The consignor shall provide in the transport doc-

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ument a statement regarding actions, if any, that must be taken by the carrier. The statement shall be in the languages deemed necessary by the carrier or the authorities concerned, and shall include at least the following points:

a) supplementary operational requirements for loading, transport, storage, unloading, handling, and stowage for safe dissipation of heat, or a statement that no supplementary operational requirements are necessary (see marginal 3678 (h));

b) any necessary routing instructions (see marginal 3678 (k)).

c) emergency arrangements specific to the approved design (see marginal 3678 (i)).

2) In all cases where approval of the shipment or prior notification to the competent authority is required, all the carriers shall be informed of the requirements in advance, in order that they may take in good time any measures required for the transport.

3. Notification to competent authorities

1) Before the first shipment of a Type B(U) package containing radioactive substances with an activity greater than $3 \times 10^3 A_1$ or $3 \times 10^3 A_2$, as appropriate, or $3 \times 10^4 Ci$, whichever is the lower, the consignor shall ensure that copies of each applicable competent authority certificate applying to that package design have been submitted to the competent authority of each country in whose territory the consignment is to be transported. The consignor is not required to await an acknowledgement from the competent authority, nor is the competent authority required to make such acknowledgement of receipt of the certificate.

2) For each shipment listed in a) to d) below inclusive, the consignor shall notify the competent authorities of each country in whose territory the consignment is to be transported. This notification shall be in the hands of each competent authority prior to the commencement of the shipment, and preferably at least 15 days in advance.

a) Type B(U) packages containing radioactive substances with an activity greater than $3 \times 10^3 A_1$ or $3 \times 10^3 A_2$, as appropriate, or $3 \times 10^4 Ci$, whichever is the lower.

b) Type B(M) packages.

c) Fissile Class III packages under marginal 3674 (3).

d) Transport by special arrangement.

3) The consignment notification shall include:

a) sufficient information to enable the identification of the package, including all applicable certificate numbers and identification marks; and

b) information on the date of shipment, the expected date of arrival and proposed routing.

(4) The consignor is not required to send a separate notification if the required information has been included in the application for shipment approval (see marginal 3675 (2)).

4. Possession of certificates

The consignor shall have in his possession a copy of each certificate required under this Appendix and a copy of the instructions with regard to the proper closing of the package and other preparation for shipment before making any shipment under the terms of the certificates.

G. QUALITY CONTROL IN FABRICATION AND MAINTENANCE OF PACKAGING

The manufacturer, consignor, or user of an approved package design shall be prepared to demonstrate to any cognizant competent authority that:

(a) the constructional methods and materials used for the construction of the packaging are in accordance with the approved design requirements; the competent authority may carry out inspection of the packaging during construction;

(b) all packagings built to an approved design shall be maintained in good condition so that they continue to

comply with all relevant regulatory criteria, even after repeated use.

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CHAPTER VI - ACTIVITY LIMITS

DETERMINATION OF A_1 AND A_2

1. Single radionuclides

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(1) For single radionuclides of known identity, the values of A_1 and A_2 are given in Table XX. The values of A_1 and A_2 are also applicable for radionuclides contained in (a, n) or (γ , n) neutron sources.

TABLE XX. A_1 and A_2 VALUES FOR RADIONUCLIDES

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| Symbol of radionuclide | Element and atomic number | $A_1(Ci)$ | $A_2(Ci)$ | Specific activity (Ci/g) |
|---|---------------------------|-----------|-----------|--------------------------|
| $^{227}_{Ac}$ | Actinium (89) | 1.000 | 0.003 | 7.2×10 |
| $^{228}_{Ac}$ | | 10 | 4 | 2.2×10^6 |
| $^{105}_{Ag}$ | Silver (47) | 40 | 40 | 3.1×10^4 |
| $^{110}_{Agm}$ | | 7 | 7 | 4.7×10^3 |
| $^{111}_{Ag}$ | | 100 | 100 | 1.6×10^5 |
| $^{241}_{Am}$ | Americium (95) | 8 | 0.008 | 3.2 |
| $^{243}_{Am}$ | | 8 | 0.008 | 1.9×10^{-1} |
| $^{37}_{Ar}$ (compressed or uncompressed) | Argon (18) | 1.000 | 1000 | 1.0×10^5 |
| $^{41}_{Ar}$ (uncompressed) | | 20 | 20 | 4.3×10^7 |
| $^{41}_{Ar}$ (compressed) | | 1 | 1 | 4.3×10^7 |
| $^{73}_{As}$ | Arsenic (33) | 1.000 | 400 | 2.4×10^4 |
| $^{74}_{As}$ | | 20 | 20 | 1.0×10^5 |
| $^{76}_{As}$ | | 10 | 10 | 1.6×10^6 |
| $^{77}_{As}$ | | 300 | 300 | 1.1×10^6 |
| $^{211}_{At}$ | Astatine (85) | 200 | 7 | 2.1×10^6 |
| $^{193}_{Au}$ | Gold (79) | 200 | 200 | 9.3×10^5 |
| $^{196}_{Au}$ | | 30 | 30 | 1.2×10^5 |
| $^{198}_{Au}$ | | 40 | 40 | 2.5×10^5 |
| $^{199}_{Au}$ | | 200 | 200 | 2.1×10^5 |
| $^{131}_{Ba}$ | Barium (56) | 40 | 40 | 8.7×10^4 |
| $^{133}_{Ba}$ | | 40 | 10 | 4.0×10^2 |
| $^{140}_{Ba}$ | | 20 | 20 | 7.3×10^4 |
| $^7_{Be}$ | Beryllium (4) | 300 | 300 | 3.5×10^5 |
| $^{206}_{Bi}$ | Bismuth (83) | 5 | 5 | 9.9×10^4 |
| $^{207}_{Bi}$ | | 10 | 10 | 2.16×10^2 |
| $^{210}_{Bi(RaE)}$ | | 100 | 4 | 1.2×10^5 |
| $^{212}_{Bi}$ | | 6 | 6 | 1.5×10^7 |
| $^{249}_{Bk}$ | Berkelium (97) | 1.000 | 1 | 1.8×10^3 |
| $^{82}_{Br}$ | Bromine (35) | 6 | 6 | 1.1×10^6 |
| $^{14}_{C}$ | Carbon (6) | 1.000 | 100 | 4.6 |
| $^{45}_{Ca}$ | Calcium (20) | 1.000 | 40 | 1.9×10^4 |
| $^{47}_{Ca}$ | | 20 | 20 | 5.9×10^5 |
| $^{109}_{Cd}$ | Cadmium (48) | 1.000 | 70 | 2.6×10^3 |
| $^{115}_{Cd}$ | | 30 | 30 | 2.6×10^4 |
| $^{115}_{Cd}$ | | 80 | 80 | 5.1×10^5 |
| $^{139}_{Ce}$ | Cerium (58) | 100 | 100 | 6.5×10^3 |
| $^{141}_{Ce}$ | | 300 | 200 | 2.8×10^4 |
| $^{143}_{Ce}$ | | 60 | 60 | 6.6×10^5 |
| $^{144}_{Ce}$ | | 10 | 7 | 3.2×10^3 |
| $^{249}_{Cf}$ | Californium (98) | 2 | 0.002 | 3.1 |
| $^{250}_{Cf}$ | | 7 | 0.007 | 1.3×10^2 |
| $^{252}_{Cf}$ | | 2 | 0.009 | 6.5×10^2 |
| $^{36}_{Cl}$ | Chlorine (17) | 300 | 30 | 3.2×10^{-2} |
| $^{38}_{Cl}$ | | 10 | 10 | 1.3×10^8 |
| $^{242}_{Cm}$ | Curium (96) | 200 | 0.2 | 3.3×10^3 |
| $^{243}_{Cm}$ | | 9 | 0.009 | 4.2×10 |
| $^{244}_{Cm}$ | | 10 | 0.01 | 8.2×10 |
| $^{245}_{Cm}$ | | 6 | 0.006 | 1.0×10^{-1} |
| $^{246}_{Cm}$ | | 6 | 0.006 | 3.6×10^{-1} |
| $^{56}_{Co}$ | Cobalt (27) | 5 | 5 | 3.0×10^4 |
| $^{57}_{Co}$ | | 90 | 90 | 8.5×10^3 |
| $^{58}_{Co}$ | | 1.000 | 1.000 | 5.9×10^6 |
| $^{58}_{Co}$ | | 20 | 20 | 3.1×10^4 |
| $^{60}_{Co}$ | | 7 | 7 | 1.1×10^3 |
| $^{51}_{Cr}$ | Chromium (24) | 600 | 600 | 9.2×10^4 |

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| | | | | | | | | | |
|--|--|-------|-------|-----------------------|--------------------------------|--------------------|-----------|-----------|----------------------|
| 131 _{Cs} | Caesium (55) | 1.000 | 1.000 | 1.0×10 ⁵ | 65 _{Ni} | | 10 | 10 | 1.9×10 ⁷ |
| 134 _{Cs} ^m | | 1.000 | 1.000 | 7.4×10 ⁶ | 237 _{Np} | Neptunium (93) | 5 | 0.005 | 6.9×10 ⁻⁴ |
| 134 _{Cs} | | 10 | 10 | 1.2×10 ³ | 239 _{Np} | | 200 | 200 | 2.3×10 ⁵ |
| 135 _{Cs} | | 1.000 | 100 | 8.8×10 ⁻⁴ | 185 _{Os} | Osmium (76) | 20 | 20 | 7.3×10 ³ |
| 136 _{Cs} | | 7 | 7 | 7.4×10 ⁴ | 191 _{Os} | | 600 | 400 | 4.6×10 ⁴ |
| 137 _{Cs} | | 30 | 20 | 9.8×10 | 191 _{Os} ^m | | 200 | 200 | 1.2×10 ⁶ |
| 64 _{Cu} | Copper (29) | 80 | 80 | 3.8×10 ⁶ | 193 _{Os} | | 100 | 100 | 5.3×10 ⁵ |
| 165 _{Dy} | Dysprosium (66) | 100 | 100 | 8.2×10 ⁶ | 32 _P | Phosphorus (15) | 30 | 30 | 2.9×10 ⁵ |
| 166 _{Dy} | | 1.000 | 200 | 2.3×10 ⁵ | 230 _{Pa} | Protoactinium (91) | 20 | 0.8 | 3.2×10 ⁴ |
| 169 _{Er} | Erbium (68) | 1.000 | 300 | 8.2×10 ⁴ | 231 _{Pa} | | 2 | 0.002 | 4.5×10 ⁻² |
| 171 _{Er} | | 50 | 50 | 2.4×10 ⁶ | 233 _{Pa} | | 100 | 100 | 2.1×10 ⁴ |
| 152 _{Eu} ^m | Europium (63) | 30 | 30 | 2.2×10 ⁶ | 210 _{Pb} | Lead (82) | 100 | 0.2 | 8.8×10 |
| 152 _{Eu} | | 20 | 20 | 1.9×10 ² | 212 _{Pb} | | 6 | | 1.4×10 ⁶ |
| 154 _{Eu} | | 10 | 5 | 1.5×10 ² | 103 _{Pd} | Palladium (46) | 1.000 | 700 | 7.5×10 ⁴ |
| 155 _{Eu} | | 400 | 90 | 1.4×10 ³ | 109 _{Pd} | | 100 | 100 | 2.1×10 ⁶ |
| 18 _F | Fluorine (9) | 20 | 20 | 9.3×10 ⁷ | 147 _{Pm} | Promethium (61) | 1.000 | 80 | 9.4×10 ² |
| 52 _{Fe} | Iron (26) | 6 | 6 | 7.3×10 ⁶ | 149 _{Pm} | | 100 | 100 | 4.2×10 ⁵ |
| 55 _{Fe} | | 1.000 | 1.000 | 2.2×10 ³ | 210 _{Po} | Polonium (84) | 200 | 0.2 | 4.5×10 ³ |
| 59 _{Fe} | | 10 | 10 | 4.9×10 ⁴ | 142 _{Pr} | Praseodymium (59) | 10 | 10 | 1.2×10 ⁶ |
| 72 _{Ga} | Gallium (31) | 7 | 7 | 3.1×10 ⁶ | 143 _{Pr} | | 300 | 200 | 6.6×10 ⁴ |
| 153 _{Gd} | Gadolinium (64) | 200 | 100 | 3.6×10 ³ | 191 _{Pt} | Platinum (78) | 100 | 100 | 2.3×10 ⁵ |
| 159 _{Gd} | | 300 | 300 | 1.1×10 ⁶ | 193 _{Pt} | | 200 | 200 | |
| 71 _{Ge} | Germanium (32) | 1.000 | 1.000 | 1.6×10 ⁵ | 197 _{Pt} ^m | | 300 | 300 | 1.2×10 ⁷ |
| 3 _H | Hydrogen (1) see T-Tritium | | | | 197 _{Pt} | | 300 | 300 | 8.8×10 ⁵ |
| 181 _{Hf} | Hafnium (72) | 30 | 30 | 1.6×10 ⁴ | 238 _{Pu} | Plutonium (94) | 3 | 0.003 | 1.7×10 |
| 197 _{Hg} ^m | Mercury (80) | 200 | 200 | 6.6×10 ⁵ | 239 _{Pu} | | 2 | 0.002 | 6.2×10 ⁻² |
| 197 _{Hg} | | 200 | 200 | 2.5×10 ⁵ | 240 _{Pu} | | 2 | 0.002 | 2.3×10 ⁻¹ |
| 203 _{Hg} | | 80 | 80 | 1.4×10 ⁴ | 241 _{Pu} | | 1.000 | 0.1 | 1.1×10 ² |
| 166 _{Ho} | Holmium (67) | 30 | 30 | 6.9×10 ⁵ | 242 _{Pu} | | 3 | 0.003 | 3.9×10 ⁻³ |
| 125 _I | Iodine (53) | 1.000 | 70 | 1.7×10 ⁴ | 223 _{Ra} | Radium (88) | 50 | 0.2 | 5.0×10 ⁴ |
| 126 _I | | 40 | 10 | 7.8×10 ⁴ | 224 _{Ra} | | 6 | 0.5 | 1.6×10 ⁵ |
| 129 _I | | 1.000 | 2 | 1.62×10 ⁻⁴ | 226 _{Ra} | | 10 | 0.05 | 1.0 |
| 131 _I | | 40 | 10 | 1.2×10 ⁵ | 228 _{Ra} | | 10 | 0.05 | 2.3×10 ² |
| 132 _I | | 7 | 7 | 1.1×10 ⁷ | 86 _{Rb} | Rubidium (37) | 30 | 30 | 8.1×10 ⁴ |
| 133 _I | | 30 | 30 | 1.1×10 ⁶ | 87 _{Rb} | | Unlimited | Unlimited | 6.6×10 ⁻⁸ |
| 134 _I | | 8 | 8 | 2.7×10 ⁷ | Rb (natural) | | Unlimited | Unlimited | 1.8×10 ⁻⁸ |
| 135 _I | | 10 | 10 | 3.5×10 ⁶ | 186 _{Re} | Rhenium (75) | 100 | 100 | 1.9×10 ⁵ |
| 113 _{In} ^m | Indium (49) | 60 | 60 | 1.6×10 ⁷ | 187 _{Re} | | Unlimited | Unlimited | 3.8×10 ⁻⁸ |
| 114 _{In} ^m | | 30 | 20 | 2.3×10 ⁴ | 188 _{Re} | | 10 | 10 | 1.0×10 ⁶ |
| 115 _{In} ^m | | 100 | 100 | 6.1×10 ⁶ | Re (natural) | | Unlimited | Unlimited | 2.4×10 ⁻⁸ |
| 190 _{Ir} | Iridium (77) | 10 | 10 | 6.2×10 ⁴ | 103 _{Rh} ^m | Rhodium (45) | 1.000 | 1.000 | 3.2×10 ⁷ |
| 192 _{Ir} | | 20 | 20 | 9.1×10 ³ | 105 _{Rh} | | 200 | 200 | 8.2×10 ⁵ |
| 194 _{Ir} | | 10 | 10 | 8.5×10 ⁵ | 222 _{Rn} | Radon (86) | 10 | 2 | 1.5×10 ⁵ |
| 42 _K | Potassium (19) | 10 | 10 | 6.0×10 ⁶ | 97 _{Ru} | Ruthenium (44) | 80 | 80 | 5.5×10 ⁵ |
| 85 _{Kr} ^m (uncompressed) | Krypton (36) | 100 | 100 | 8.4×10 ⁶ | 103 _{Ru} | | 30 | 30 | 3.2×10 ⁴ |
| 85 _{Kr} ^m (compressed) | | 3 | 3 | 8.4×10 ⁶ | 105 _{Ru} | | 20 | 20 | 6.6×10 ⁶ |
| 85 _{Kr} ^m (uncompressed) | | 1.000 | 1.000 | 4.0×10 ² | 106 _{Ru} | | 10 | 7 | 3.4×10 ³ |
| 85 _{Kr} (compressed) | | 5 | 5 | 4.0×10 ² | 35 _S | Sulphur (16) | 1.000 | 300 | 4.3×10 ⁴ |
| 87 _{Kr} (uncompressed) | | 20 | 20 | 2.8×10 ⁷ | 122 _{Sb} | Antimony (51) | 30 | 30 | 3.9×10 ⁵ |
| 87 _{Kr} (compressed) | | 0.6 | 0.6 | 2.8×10 ⁷ | 124 _{Sb} | | 5 | 5 | 1.8×10 ⁴ |
| 140 _{La} | Lanthanum (57) | 30 | 30 | 5.6×10 ⁵ | 125 _{Sb} | | 40 | 30 | 1.4×10 ³ |
| LIS | Low-level solid radioactive material See Marginal 2450 (2) | | | | 46 _{Sc} | Skandium (21) | 8 | 8 | 3.4×10 ⁴ |
| LSA | Low specific activity material See Marginal 2450 (2) | | | | 47 _{Sc} | | 200 | 200 | 8.2×10 ⁵ |
| 177 _{Lu} | Lutetium (71) | 300 | 300 | 1.1×10 ⁵ | 48 _{Sc} | | 5 | 5 | 1.5×10 ⁶ |
| MFP | Mixed fission products | 10 | 0.4 | | 75 _{Se} | Selenium (34) | 40 | 40 | 1.4×10 ⁴ |
| 28 _{Mg} | Magnesium (12) | 6 | 6 | 5.2×10 ⁶ | 31 _{Si} | Silicon (14) | 100 | 100 | 3.9×10 ⁷ |
| 52 _{Mn} | Manganese (25) | 5 | 5 | 4.4×10 ⁵ | 141 _{Sm} | Samarium (62) | Unlimited | Unlimited | 2.0×10 ⁻⁸ |
| 54 _{Mn} | | 20 | 20 | 8.3×10 ³ | 151 _{Sm} | | 1.000 | 90 | 2.6×10 |
| 56 _{Mn} | | 5 | 5 | 2.2×10 ⁷ | 153 _{Sm} | | 300 | 300 | 4.4×10 ⁵ |
| 99 _{Mo} | Molybdenum (42) | 100 | 100 | 4.7×10 ⁵ | 113 _{Sn} | Tin (50) | 60 | 60 | 1.0×10 ⁴ |
| 22 _{Na} | Sodium (11) | 8 | 8 | 6.3×10 ³ | 125 _{Sn} | | 10 | 10 | 1.1×10 ⁵ |
| 24 _{Na} | | 5 | 5 | 8.7×10 ⁶ | 85 _{Sr} ^m | Strontium (38) | 80 | 80 | 3.2×10 ⁷ |
| 93 _{Nb} ^m | Niobium (41) | 1.000 | 200 | 1.1×10 ³ | 85 _{Sr} | | 30 | 30 | 2.4×10 ⁴ |
| 95 _{Nb} | | 20 | 20 | 3.9×10 ⁴ | 87 _{Sr} ^m | | 50 | 50 | 1.2×10 ⁷ |
| 97 _{Nb} | | 20 | 20 | 2.6×10 ⁷ | 89 _{Sr} | | 100 | 40 | 2.9×10 ⁴ |
| 147 _{Nd} | Neodymium (60) | 100 | 100 | 8.0×10 ⁴ | 90 _{Sr} | | 10 | 0.4 | 1.5×10 ² |
| 149 _{Nd} | | 30 | 30 | 1.1×10 ⁷ | 91 _{Sr} | | 10 | 10 | 3.6×10 ⁶ |
| 59 _{Ni} | Nickel (28) | 1.000 | 900 | 8.1×10 ⁻² | 92 _{Sr} | | 10 | 10 | 1.3×10 ⁷ |
| 63 _{Ni} | | 1.000 | 100 | 4.6×10 | T (uncompressed) | Tritium (1) | 1.000 | 1.000 | 9.7×10 ³ |
| | | | | | T (compressed) | | 1.000 | 1.000 | |
| | | | | | T (activated luminous paint) | | 1.000 | 1.000 | |
| | | | | | T (absorbed on solid carrier) | | 1.000 | 1.000 | |
| | | | | | T (tritiated water) | | 1.000 | 1.000 | |
| | | | | | T (other forms) | | 20 | 20 | |

| | | | | |
|------------------------------------|-----------------|-----------|-----------|----------------------|
| 182 _{Ta} | Tantalum (73) | 20 | 20 | 6.2×10 ³ |
| 160 _{Tb} | Terbium (65) | 20 | 20 | 1.1×10 ⁴ |
| 96 _{Tc,m} | Technetium (43) | 1.000 | 1.000 | 3.8×10 ⁷ |
| 96 _{Tc} | | 6 | 6 | 3.2×10 ⁵ |
| 97 _{Tc,m} | | 1.000 | 200 | 1.5×10 ⁴ |
| 97 _{Tc} | | 1.000 | 400 | 1.4×10 ³ |
| 99 _{Tc,m} | | 100 | 100 | 5.2×10 ⁶ |
| 99 _{Tc} | | 1.000 | 80 | 1.7×10 ⁻² |
| 125 _{Te,m} | Tellurium (52) | 1.000 | 100 | 1.8×10 ⁴ |
| 127 _{Te,m} | | 300 | 40 | 4.0×10 ⁴ |
| 127 _{Te} | | 300 | 300 | 2.6×10 ⁶ |
| 129 _{Te,m} | | 30 | 30 | 2.5×10 ⁴ |
| 129 _{Te} | | 100 | 100 | 2.0×10 ⁷ |
| 131 _{Te,m} | | 10 | 10 | 8.0×10 ⁵ |
| 132 _{Te} | | 7 | 7 | 3.1×10 ⁵ |
| 227 _{Th} | Thorium (90) | 200 | 0.2 | 3.2×10 ⁴ |
| 228 _{Th} | | 6 | 0.008 | 8.3×10 ² |
| 230 _{Th} | | 3 | 0.003 | 1.9×10 ⁻² |
| 231 _{Th} | | 1.000 | 1.000 | 5.3×10 ⁵ |
| 232 _{Th} | | Unlimited | Unlimited | 1.1×10 ⁻⁷ |
| 234 _{Th} | | 10 | 10 | 2.3×10 ⁴ |
| Th (natural) | | Unlimited | Unlimited | (see Table XXI) |
| Th (irradiated) | | a | a | |
| 200 _{Tl} | Thallium (81) | 20 | 20 | 5.8×10 ⁵ |
| 201 _{Tl} | | 200 | 200 | 2.2×10 ⁵ |
| 202 _{Tl} | | 40 | 40 | 5.4×10 ⁴ |
| 204 _{Tl} | | 300 | 30 | 4.3×10 ² |
| 170 _{Tm} | Thulium (69) | 300 | 40 | 6.0×10 ³ |
| 171 _{Tm} | | 1.000 | 100 | 1.1×10 ³ |
| 230 _U | Uranium (92) | 100 | 0.1 | 2.7×10 ⁴ |
| 232 _U | | 30 | 0.03 | 2.1×10 ¹ |
| 233 _U | | 100 | 0.1 | 9.5×10 ⁻³ |
| 234 _U | | 100 | 0.1 | 6.2×10 ⁻³ |
| 235 _U | | 100 | 0.2 | 2.1×10 ⁻⁶ |
| 236 _U | | 200 | 0.2 | 6.3×10 ⁻⁵ |
| 238 _U | | Unlimited | Unlimited | 3.3×10 ⁻⁷ |
| U (natural) | | Unlimited | Unlimited | (see Table XXI) |
| U (enriched) <20% | | Unlimited | Unlimited | (see Table XXI) |
| 20% | | | | |
| or greater | | 100 | 0.1 | |
| U (depleted) | | Unlimited | Unlimited | (see Table XXI) |
| U (irradiated) | | b | b | |
| 48 _V | Vanadium (23) | 6 | 6 | 1.7×10 ⁵ |
| 181 _W | Tungsten (74) | 200 | 100 | 5.0×10 ³ |
| 185 _W | | 1.000 | 100 | 9.7×10 ⁻³ |
| 187 _W | | 40 | 40 | 7.0×10 ⁵ |
| 131 _{Xe,m} (compressed) | Xenon (54) | 10 | 10 | 1.0×10 ⁵ |
| 131 _{Xe,m} (uncompressed) | | 100 | 100 | 1.0×10 ⁵ |
| 133 _{Xe} (uncompressed) | | 1.000 | 1.000 | 1.9×10 ⁵ |
| 133 _{Xe} (compressed) | | 5 | 5 | 1.9×10 ⁵ |
| 135 _{Xe} (uncompressed) | | 70 | 70 | 2.5×10 ⁶ |
| 135 _{Xe} (compressed) | | 2 | 2 | 2.5×10 ⁶ |
| 90 _Y | Yttrium (39) | 10 | 10 | 5.3×10 ⁵ |
| 91 _{Y,m} | | 30 | 30 | 4.1×10 ⁷ |
| 91 _Y | | 30 | 30 | 2.5×10 ⁴ |
| 92 _Y | | 10 | 10 | 9.5×10 ⁶ |
| 93 _Y | | 10 | 10 | 3.2×10 ⁶ |
| 175 _{Yb} | Ytterbium (70) | 400 | 400 | 1.8×10 ⁵ |
| 65 _{Zn} | Zinc (30) | 30 | 30 | 8.0×10 ³ |
| 69 _{Zn,m} | | 40 | 40 | 3.3×10 ⁶ |
| 69 _{Zn} | | 300 | 300 | 5.3×10 ⁷ |
| 93 _{Zr} | Zirconium (40) | 1.000 | 200 | 3.5×10 ⁻³ |
| 95 _{Zr} | | 20 | 20 | 2.1×10 ⁴ |
| 97 _{Zr} | | 20 | 20 | 2.0×10 ⁶ |

a. The values for A_1 and A_2 shall be calculated in accordance with marginal 3691 (3) taking into account the activity of the fission products and uranium-233 in addition to that of thorium.

b. The values for A_1 and A_2 shall be calculated in accordance with marginal 3691 (3) taking into account the activity of the fission products and plutonium isotopes in addition to that of the uranium.

TABLE XXI. ACTIVITY-MASS RELATIONSHIPS FOR URANIUM AND NATURAL THORIUM^a

(This table is referred to in Table XX).

| Radioactive material | Ci/g | g/Ci |
|---|-----------------------|----------------------|
| Uranium (wt% 235 _U present) | | |
| 0.45 | 5.0×10 ⁻⁷ | 2.0×10 ⁶ |
| 0.72 (natural) | 7.06×10 ⁻⁷ | 1.42×10 ⁶ |
| 1.0 | 7.6×10 ⁻⁷ | 1.3×10 ⁶ |
| 1.5 | 1.0×10 ⁻⁶ | 1.0×10 ⁶ |
| 5.0 | 2.7×10 ⁻⁶ | 3.7×10 ⁵ |
| 10.0 | 4.8×10 ⁻⁶ | 2.1×10 ⁵ |
| 20.0 | 1.0×10 ⁻⁵ | 1.0×10 ⁵ |
| 35.0 | 2.0×10 ⁻⁵ | 5.0×10 ⁴ |
| 50.0 | 2.5×10 ⁻⁵ | 4.0×10 ⁴ |
| 90.0 | 5.8×10 ⁻⁵ | 1.7×10 ⁴ |
| 93.0 | 7.0×10 ⁻⁵ | 1.4×10 ⁴ |
| 95.0 | 9.1×10 ⁻⁵ | 1.1×10 ⁴ |
| Natural thorium | 2.2×10 ⁻⁷ | 4.6×10 ⁶ |

(2) For any single radionuclide whose identity is known, but which is not listed in Table XX, the values of A_1 and A_2 shall be determined according to the procedure given below:

(a) If the radionuclide emits only one type of radiation, A_1 shall be determined according to the rules in (i), (ii), (iii) and (iv) below. For radionuclides emitting different kinds of radiation, A_1 shall be the most restrictive value of those determined for each individual radiation. However, in both cases A_1 shall be restricted to a maximum of 1000 Ci. If a parent nuclide decays into a shorter lived daughter, of a half-life not greater than 10 days, A_1 shall be calculated for both the parent and the daughter, and the more limiting of the two values should be assigned to the parent nuclide.

(1) For gamma emitters, A_1 is determined by the expression:

$$A_1 = \frac{9}{\Gamma} \text{ curies}$$

where Γ is the gamma-ray constant, corresponding to the dose in R/h at 1 m per Ci; the number 9 results from the choice of 1 rem/h at a distance of 3 m as the reference dose equivalent rate.

(ii) For X-ray emitters, A_1 is determined by the atomic number of the nuclide:

for $Z \leq 55$; $A_1 = 1.000 \text{ Ci}$

for $Z > 55$; $A_1 = 200 \text{ Ci}$

(iii) For beta emitters, A_1 is determined by the maximum beta energy (E_{\max}) according to Table XXII.

(iv) For alpha emitters A_1 is determined by the expression:

$$A_1 = 1.000 A_3$$

where A_3 is the value listed in Table XXIII.

(b) A_2 shall be the more restrictive of the following two values:

(1) the corresponding A_1 and (2) the value A_3 obtained from Table XXIII.

TABLE XXII
RELATIONSHIP BETWEEN A_1 AND E_{\max} FOR BETA EMITTERS

| E_{\max} (MeV) | A_1 (Ci) |
|------------------|------------|
| < 0.5 | 1.000 |
| 0.5 - < 1.0 | 300 |
| 1.0 - < 1.5 | 100 |
| 1.5 - < 2.0 | 30 |
| > 2.0 | 10 |

a. The figures for uranium include the activity of uranium-234 which is concentrated during the enrichment process. The activity for thorium includes the equilibrium concentration of thorium-228.

TABLE XXIII
RELATIONSHIP BETWEEN A_1 AND THE ATOMIC
NUMBER OF THE RADIONUCLIDE

| Atomic number | A_3 | | |
|---------------|----------------------------------|--|--|
| | Half-life less than 1000 days | Half-life 1000 days to 10^6 years | Half-life greater than 10^6 years |
| 1 to 81 | 3 Ci | 50 mCi | 3 Ci |
| 82 and above | 2 mCi | 2 mCi | 3 Ci |

(3) For any single radionuclide whose identity is unknown, the value of A_1 shall be taken to be 2 Ci and the value of A_2 shall be taken to be 0.002 Ci. However, if the atomic number of the radionuclide is known to be less than 82, the value of A_1 shall be taken to be 10 Ci and the value of A_2 shall be taken to be 0.4 Ci.

2. Mixtures of radionuclides, including radioactive decay chains

(1) For mixed fission products the following activity limits may be assumed, if a detailed analysis of the mixture is not carried out:

$$A_1 = 10 \text{ Ci}$$

$$A_2 = 0.4 \text{ Ci}$$

(2) A single radioactive decay chain in which the radionuclides are present in their naturally occurring proportions and in which no daughter nuclide has a half-life either longer than 10 days or longer than that of the parent nuclide shall be considered as a single radionuclide. The activity to be taken into account and the A_1 or A_2 value to be applied shall be those corresponding to the parent nuclide of that chain.

However, in the case of radioactive decay chains in which any daughter nuclide has a half-life either longer than 10 days or greater than that of the parent nuclide, the parent and such daughter nuclides shall be considered as mixtures of different nuclides.

(3) In the case of a mixture of different radionuclides, where the identity and activity of each radionuclide are known, the permissible activity of each radionuclide $R_1, R_2 \dots R_n$ shall be such that $F_1 + F_2 + \dots F_n$ is not greater than unity, where

$$F_1 = \frac{\text{Total activity of } R_1}{A_1(R_1)}$$

$$F_2 = \frac{\text{Total activity of } R_2}{A_1(R_2)}$$

$$F_n = \frac{\text{Total activity of } R_n}{A_1(R_n)}$$

$A_1(R_1), A_1(R_2), \dots A_1(R_n)$, is the value of A_1 or A_2 as appropriate for the nuclide $R_1, R_2 \dots R_n$.

(4) When the identity of each radionuclide is known but the individual activities of some of the radionuclides are not known, the formula given in paragraph (3) shall be applied to establish the values of A_1 or A_2 as appropriate. All the radionuclides whose individual activities are not known (their total activity will, however, be known) shall be classed in a single group and the most restrictive value of A_1 and A_2 applicable to any one of them shall be used as the value of A_1 or A_2 in the denominator of the fraction.

(5) Where the identity of each radionuclide is known but the individual activity of none of the radionuclides is known, the most restrictive value of A_1 or A_2 applicable to any one of the radionuclides present shall be adopted as the applicable value.

(6) When the identity of none or only some of the nuclides is known, the value of A_1 shall be taken to be 2 Ci and the value of A_2 shall be taken to be 0.002 Ci. However, if alpha emitters are known to be absent, the value of A_2 shall be taken to be 0.4 Ci.

CHAPTER VII. DECONTAMINATION, LEAKING PACKAGES AND ACCIDENTS

(1) If a package containing radioactive substances is broken or is visibly leaking or is involved in an accident during carriage, the vehicle or affected area shall be isolated so as to prevent all contact of persons with radioactive substances and, when possible, shall be duly marked off or surrounded by barriers. No-one shall be authorised to stay within the isolated area until qualified persons arrive to supervise the handling and salvage work. The sender and authorities concerned shall be notified immediately. Notwithstanding these provisions, the presence of radioactive substances shall not be considered as a bar to operations for the rescue of people or fire-fighting.

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(2) If radioactive substances have leaked, have been spilled or have been scattered in any way whatever in a place, area or on to goods or equipment used in storage, qualified persons shall be called in as soon as possible to direct decontamination operations. The place, area or equipment thus contaminated shall only be put back into service when its use has been declared free from danger by qualified persons.

(3) Except as provided for in paragraph (4) any vehicles, equipment or part thereof, which have been contaminated in the course of carriage of radioactive substances shall be decontaminated as soon as possible by a qualified person and shall not be reused unless the non-fixed radioactive contamination is below the levels specified in Table XIX and the vehicles, equipment or part thereof have been declared safe in respect of residual radiation levels by a qualified person.

(4) Vehicles or compartments used for the bulk transport or tank transport of low specific activity substances, or for the transport of packages of low specific activity substances carried as a full load or for the transport of low level solid radioactive substances as a full load shall not be used for other goods until decontaminated as specified in paragraph (3).

APPENDIX A.7

Reserved

APPENDIX A.8

Reserved

APPENDIX A.9

Provisions relating to danger labels

(1) Labels Nos. 1, 2A, 2B, 2C, 2D, 3, 4, 4A, 5, 6A, 6B and 6C shall be in the form of a square of 10 cm side standing on a corner. They have a black line 5 mm in the edge and running parallel to it. Labels to be affixed to fixed tanks (tank-vehicles and tank-trailers) shall be of not less than 30 cm side.

(2) Labels Nos. 7, 8 and 9 shall be rectangular, of standard format A5 (148 × 210 mm). For packages, these dimensions may be reduced to a format not less than A7 (74 × 105 mm).

(3) An inscription, in figures or letters, concerning the nature of the danger may be placed on the lower part of the labels.

(1) Danger labels, where they are required under the provisions of this Annex, must be stuck on packages and

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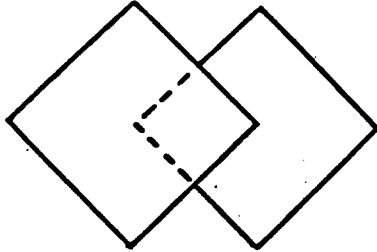
- 3899

3900

3901

fixed tanks or affixed in some other suitable manner. Only where the state of the outside of a package does not permit this should labels be stuck on cards or tablets securely attached to the package. On outer packagings and fixed tanks, indelible danger markings corresponding exactly to the prescribed models may be used instead of labels.

(2) Where a package is required to bear two labels of the same model, the labels shall be affixed in the manner indicated hereafter:



(3) It is the sender's duty to affix the labels to packages, and, where appropriate, to fixed tanks and containers.

2. Explanation of symbols

The danger labels prescribed for substances and articles of Classes 1 to 8 (see annexed plate) have the following meanings:

- No. 1 (black bomb on orange ground):
prescribed in marginals 2117 (1) and (2), 2145 and 2563;
No. 2A (black flame on red ground):
prescribed in marginals 2224 (3), 2316 (3), 2478 (2), 2307 (1) and 2632 (1);
No. 2B (black flame on ground of equidistant alternate red and white vertical stripes):
prescribed in marginal 2414 (1);
No. 2C (black flame on white ground, lower triangle of label red):
prescribed in marginal 2443 (1);
No. 2D (black flame on blue ground):
prescribed in marginal 2478 (1);
No. 3 (flame over a circle, black on yellow ground):
prescribed in marginals 2511 (1) and 2563 (1);
No. 4 (death's head on cross-bones, black on white ground):
prescribed in marginals 2307 (1), 2316 (3), 2632 (1) and 2643 (3);
- danger of explosion;
danger of fire (inflammable liquids);
danger of fire (inflammable solids);
substance liable to spontaneous ignition;
danger of emission of inflammable gases on contact with water;
oxidizing substance or organic peroxide;
toxic substance: to be kept apart in vehicles and at loading, unloading or transloading points from foodstuffs and other articles for consumption;

No. 4A (St. Andrew's Cross on ear of corn, black on white background):
harmful substance: to be kept apart from foodstuffs in vehicles and at loading, unloading or transloading points;

prescribed in marginals 2632 (1) and 2643 (3);
No. 5 (liquid dripping from a test-tube on to a plate and from another test-tube on to a hand; black on white ground, lower triangle of label black with a white border):
corrosive substance;

prescribed in marginals 2511 (1), 2824 (1) and 2835 (3);
No. 6A (stylized trefoil, inscription RADIOACTIVE, a vertical stripe in the lower half, with following text: Contents ... Activity ... Symbol and inscriptions black on white ground, vertical stripe red):
radioactive substance in packages of Category I - WHITE; in the event of damage to the packages, danger to health by ingestion or inhalation of, or contact with, spilled contents;

prescribed in schedules 5 to 12 as appropriate and in marginal 3656 (1), (2) and (3);
No. 6B (like the foregoing, but with two vertical stripes in the lower half and the following text: Contents ... Activity ... Transport index. Symbol and inscriptions black; upper half of ground yellow; lower half of ground white; vertical stripes red):
radioactive substance in packages of Category II - YELLOW; packages to be kept away from packages containing undeveloped radiographic or photographic plates or films; in the event of damage to packages, danger to health by ingestion or inhalation of, or contact with, spilled contents, and risk of external irradiation at a distance;

prescribed in schedules 5 to 12 as appropriate and in marginal 3656 (1), (2) and (3);
No. 6C (like the foregoing, but with three vertical stripes in the lower half):
radioactive substance in packages of Category III - YELLOW; packages to be kept away from packages containing undeveloped radiographic or photographic plates or films; in the event of damage to packages, danger to health by ingestion or inhalation of, or contact with, spilled contents, and risk of external irradiation at a distance;

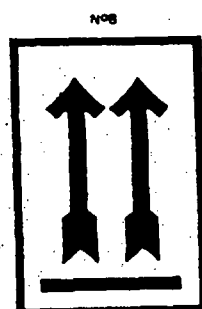
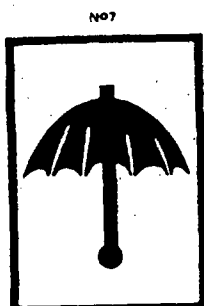
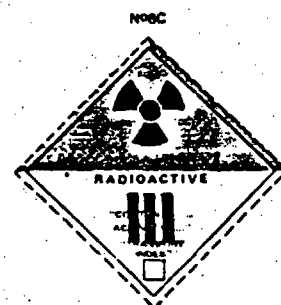
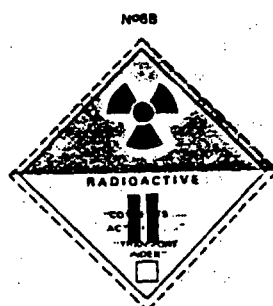
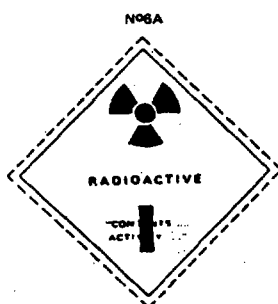
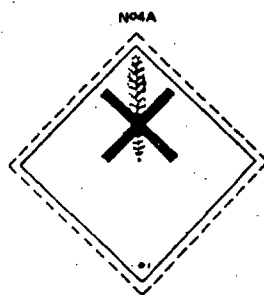
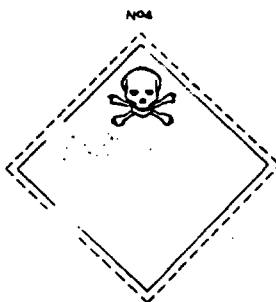
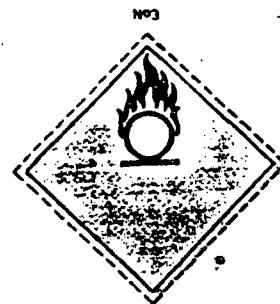
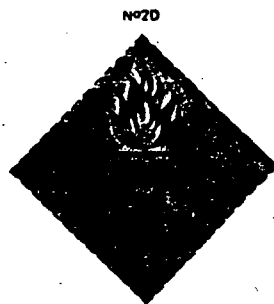
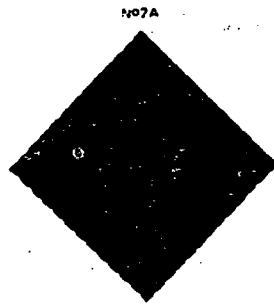
No. 7 (open black umbrella on white ground):
keep dry

prescribed in marginal 2478 (1);
No. 8 (two black arrows on white ground):
this side up:
label to be affixed, with arrows pointing upwards, on two opposite sides of the package;

prescribed in marginals 2117 (2), 2224 (2), 2307 (3), 2414 (2), 2443 (2) and (3), 2478 (3), 2511 (2), 2563 (2), 2632 (2), 2664, 2709 (3), 2824 (2) and (3);
No. 9 (red wineglass on white ground):
handle with care, or: do not drop.

prescribed in marginals 2117 (2), 2182, 2224 (1), (2) and (3), 2307 (3), 2414 (2), 2443 (3), 2478 (3), 2511 (2), 2562 (2), 2632 (2), 2664, 2709 (3) and 2824 (2);

APPENDICE A9
DANGER LABELS
(See marginal 19021)
Reproduction on reduced scale



**ECONOMIC COMMISSION FOR EUROPE
INLAND TRANSPORT COMMITTEE**

European Agreement

concerning the international carriage
of dangerous goods by road (ADR)
and protocol of signature

done at Geneva on 30 September 1957

**VOLUME III
(Annex B)**

UNITED NATIONS NATIONS UNIES

1978

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FOREWORD

The text below comprises, in addition to the Agreement itself and the Protocol of signature, the annexes in the form in which they entered into force on 29 July 1968 as well as the amendments thereto up to 1 October 1978.

**EUROPEAN AGREEMENT CONCERNING THE
INTERNATIONAL CARRIAGE OF DANGEROUS
GOODS BY ROAD (ADR)**

ANNEX B

**PROVISIONS CONCERNING TRANSPORT EQUIPMENT AND
TRANSPORT OPERATIONS**

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**CHAPTER II SPECIAL PROVISIONS
APPLICABLE TO THE
CARRIAGE OF DANGEROUS
SUBSTANCES OF
CLASSES I TO VII**

Marginals

| | | |
|---|---|---------------|
| Classes Ia, Ib and Ic | Explosive substances and articles; Articles filled with explosive substances; Igniters, fireworks and similar goods | 11000 et sec. |
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| | | |
|---------------|--|---------------|
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ANNEX B PROVISIONS CONCERNING TRANSPORT EQUIPMENT AND TRANSPORT OPERATIONS

| | |
|-----------------------|--------|
| Plan of the Annex | 4000 |
| This Annex comprises: | 9999 |
| | 10 000 |

- (a) general provisions applicable to the carriage of dangerous substances of all Classes (Chapter I);
- (b) special provisions applicable to the carriage of dangerous substances of Classes 1 to 8 (Chapter II);
- (c) Appendices as follows:

- Appendix B.1a concerning fixed tanks (tank - vehicles), demountable tanks and batteries of receptacles;
- Appendix B.1b concerning tank-containers;
- Appendix B.1c concerning fixed tanks and demountable tanks in reinforced plastics;
- Appendix B.1d relating to requirements concerning the materials and construction of fixed tanks, of demountable tanks, and of shells of tank - containers, intended for the carriage of deeply - refrigerated liquefied gases of Class 2;
- Appendix B.2 concerning electrical equipment;
- Appendix B.3 containing a model certificate of approval for vehicles;
- Appendix B.4 containing tables concerning the carriage of substances of Class 7 and a model label to be affixed to vehicles carrying these substances;
- Appendix B.5 containing the list of substances mentioned under marginal 10 500 (2)

(2) The general provisions of Chapter I and the special provisions of Chapter II are divided into sections with the following headings:

Section 1. General (this section contains, inter alia, the provisions concerning authorizations for the carriage of goods in bulk, in containers or in tanks);

Section 2. Special requirements to be fulfilled by vehicles and their equipment;

Section 3. General service provisions;

Section 4. Special provisions concerning loading, unloading and handling (this section contains the provisions concerning methods of despatch, restrictions on forwarding and prohibitions on mixed loading);

Section 5. Special provisions concerning the operations of vehicles;

Section 6. Transitional provisions, derogations, and provisions peculiar to certain countries.

Applicability of other regulations, national or international 10001

(1) If the vehicle carrying out a transport operation subject to the provisions of ADR is conveyed over a section of the journey otherwise than by road haulage, then any national or international regulations which govern the carriage of dangerous goods on that section by the mode of transport used for conveying the road vehicle shall alone be applicable to that section of the journey.

(2) In cases where a transport operation subject to the provisions of ADR is likewise subject over the whole or a part of the road journey to the provisions of an international convention which regulates the carriage of dangerous goods by a mode of transport other than road carriage by virtue of clauses extending the applicability of that convention to certain motor - vehicle services, then the provisions of that international convention shall apply, over the journey in question, concurrently with those of ADR which are not incompatible therewith; the other clauses of ADR shall not apply over the journey in question.

Applicability of the provisions of Chapter I of this Annex 10002

Where provisions of Chapter II or of the Appendices to this Annex conflict with provisions of Chapter I, those provisions of Chapter I shall not apply.

Nevertheless

(a) the provisions of marginal 10 100 shall take precedence over those of Chapter II;

(b) the provisions of marginal 10 403 shall take precedence over the prohibitions on mixed loading prescribed in the Sections 4 of Chapter II.

10 003-10 099

Chapter I GENERAL PROVISIONS APPLICABLE TO THE CARRIAGE OF DANGEROUS SUBSTANCES OF ALL CLASSES (see, however, marginal 10002) Section 1

General

Scope of this Annex 10100

(1) Annex A exempts from the provisions of the present Annex carriage performed under the conditions (of packaging, weight, etc.) laid down in marginals 2201a, 2301a, 2401a, 2431a, 2471a, 2501a and 2801a.

(2) (a) Limited quantities of dangerous substances in packages may be carried without application of the provisions of this Annex relating:

- to the types of vehicles (marginals «...104» of Chapters I and II, and marginals 11 105 and 11 106 of Chapter II concerning Classes 1a, 1b and 1c);
- to the crews of vehicles and to supervision (Marginals «...171» of Chapters I and II);
- to the carriage of passengers (Marginal 10 172);
- to instructions in writing (Marginals 10 181 (1) (b), 10 185 and 61 185);
- to the special certificate of approval for vehicles (marginals 10 182 and 11 182);
- to the special requirements to be fulfilled by vehicles and their equipment (all Sections 2 of Chapters I and II), subject, however, to compliance with the provisions of marginal 21 212;
- to places of loading and unloading (marginals 11 407, 21 407 and 61 407); and
- to the operation of vehicles (all Sections 5 of Chapters I and II), subject, however, to compliance with the provisions of marginal 61 515.

Section 1

(b) The exemptions under (a) above shall apply to the loading on one transport unit of: 10 100 (contd.)

1. One or more of the following dangerous substances, whatever the weight on condition that there are no other dangerous substances of ADR in the transport unit

- | | |
|-----------|------------------------------------|
| Class 1a | - empty packagings of 15° |
| Class 1c | - safety matches of 1° (a); |
| Class 3 | - empty receptacles of 6°; |
| Class 4.1 | - substances of 9° and 10°; |
| Class 4.2 | - empty packagings of 14° and 15°; |

| | |
|-----------|--|
| Class 4.3 | - empty receptacles of 5°; |
| Class 5.1 | - empty packagings of 11°; |
| Class 5.2 | - empty packagings of 99°; |
| Class 6.1 | - empty packagings of 91° and 92°; |
| Class 6.2 | - articles of 12°; and |
| Class 8 | - sodium sulphide of 36° and empty receptacles of 51°; |

2. One only of the dangerous substances listed below, on condition that the gross weight of all the packages containing the dangerous substance does not exceed the weight shown and that there are no other dangerous substances of ADR in the transport unit

| | |
|--------------------|--|
| Class 1b | - articles of 2° (b) or 4°: 100 kg; |
| Class 1c | - slow - combustion fuses of 3°: 100 kg; |
| Class 2 | - cyanogen chloride of 3° (ct): 5 kg; phosgene (carbonyl chloride) of 3° (at): 25 kg; - fluorine of 1° (at): 50 kg; |
| Class 3 | - diethyl ether, carbon disulphide of 1° (a) or mixtures of 1° (b) such as collodions and semi - collodions containing diethyl ether: 3 kg; - acetaldehyde, acetone or acetone mixtures of 5°: 75 kg |
| Class 4.1 | - sulphur of 2° (a), naphthalene of 11° (b): 250 kg; |
| Class 4.3 | - calcium carbide of 2° (a), calcium silicide of 2° (d) or manganese calcium silicide of 2° (d): 1,000 kg; |
| Class 5.2 | - substances of 45°, 46° (a), 47° (a) and (b) packed in conformity with the provisions of marginal 2559: 2 kg*; (not including the weight of the refrigerating system, if any) |
| Class 5.2 (contd.) | Section 1 - substances of 1° to 22°, 30° and 31° packed in conformity with the provisions of marginal 2561: 5kg; and - substances of 1° to 22°, 30°, 31° and 40° packed in conformity with the provisions of marginals 2553 to 2556 and 2558: 10 kg; |
| Class 6.1 | - substances of 41°, 61° and 62°, 71° to 75°, 83° and 84°: 100 kg; |
| Class 8 | - substances of 6° (a), 7°, 9°, 11°, 12°, 14°, 15°, 22° 23° 34° and 35°: 10 kg; |

3. One or more dangerous substances listed below of the same Class, on condition that the total gross weight of all the packages containing each dangerous substance does not exceed the weight indicated:

| | |
|-----------|---|
| Class 1a | - any dangerous substance of the Class other than those listed in 1 above: 5 kg; |
| Class 1b | - any article of the Class other than those listed in 2 above: 10 kg; |
| Class 1c | - any dangerous substance of the Class other than those listed in 1 and 2 above: 15 kg; |
| Class 2 | - any dangerous substance of the Class other than those listed in 2 above: 300 kg; |
| Class 3 | - any substance of the Class other than those listed in 1 and 2 above: 250 kg; |
| Class 4.1 | - any substance of the Class other than those listed in 1 and 2 above: 50 kg; |
| Class 4.2 | - substances of the Class other than those of 1°, 2°, 3° and 4° and the |

* Not including the weight of the refrigerating system, if any.

empty packagings listed in 1 above: 250 kg;

| | |
|-----------|--|
| Class 4.3 | - any substance of the Class other than those listed in 1 and 2 above: 10 kg; |
| Class 6.1 | - any substance of the Class other than those listed in 1 and 2 above: 5 kg; |
| Class 6.2 | - any substance of the Class other than those listed in 1 above: 300 kg; and |
| Class 8 | - any substance of the Class other than those listed in 1 and 2 above: 250 kg; |

Section 1

(3) For the purposes of paragraph (2) above, the weights of liquids or gases carried in the ordinary fixed tanks of vehicles for propelling the vehicles or operating their special - purpose equipment (e.g. refrigerating equipment) and for ensuring their safety shall not be taken into account. 10100

(4) The only provisions of Chapter I of this Annex which are applicable to the carriage of dangerous substances of Class 6.2 shall be those of Chapter II which relate to this Class and those of the marginals of this Chapter I which are expressly rendered applicable by the aforesaid provisions of Chapter II.

(5) Derogations from the provisions of this Annex may be made in the case of emergency transport to save human life.

Definitions 10101 10102

(1) For the purposes of this Annex:

- the term «competent authority» means the authority designated as such in each country and in each specific case by the Government;

- the term «fragile package» means a package containing a fragile receptacle (i.e. a receptacle made of glass, porcelain, stoneware or similar materials) which is not enclosed in a packaging with complete sides protecting it effectively against shock

[see also Annex A, marginal 2001(5)];

- the term «gas» means a gas or vapour;

- the term «dangerous substances», when used alone, means the substances and articles designated as being substances and articles of ADR;

- the term «RID» means the International Regulations concerning the Carriage of Dangerous Goods by Rail [Annex 1 to the International Convention concerning the Carriage of Goods by Rail (CIM)];

- the term «carriage in bulk» means the carriage of a solid substance without packaging;

- the term «carriage in bulk» means the carriage of a solid substance without packaging;

- the term «container» means an article of transport equipment (lift van, demountable tank or other similar structure)

- of a permanent character and accordingly strong enough to be suitable for repeated use;

- specially designed to facilitate the carriage of goods, by one or more means of transport, without breakage of load;

- fitted with devices permitting its ready handling, particular when being transloaded from one means of transport to another;

- so designed as to be easy to fill and empty, and having an internal volume of not less than one cubic metre;

- the term «container» does not cover conventional packagings, or vehicles, or tank containers;

- the term «large container» means a container having an internal volume of more than 3 cubic metres;

- the term «small container» means a container having an internal volume of not less than 1 cubic metre and not more than 3 cubic metres;

- the term «tank-container» means an article of transport equipment conforming to the definition of the term «container» given above and built to contain liquid, gaseous, powdery or granular substances but having a capacity of more than 0.45 cubic metres;

- the term «battery of receptacles» means an assembly comprising a number of receptacles (called «elements») whose individual or average capacity is over 150 litres and which are interconnected by a manifold and permanently mounted on a frame [for frames of gas cylinders, see Annex A, marginal 2212(d)];

- the term «demountable tank» means a tank, other than a fixed tank, a tank-container or a battery of receptacles, which has a capacity of over 1.000 litres, is not designed for the carriage of goods without breakage of load, and normally cannot be handled except when it is empty;

- the term «fixed tank» means a tank which is structurally attached to a vehicle (which then becomes a tank-vehicle) or is an integral part of the frame of such vehicle;

- the term «tank», when used alone, means a tank-container or a tank of a capacity exceeding 1 m³ which may be a fixed tank, a demountable tank or a battery of receptacles. (See, however, a limitation of the meaning of the word «tank» in the provisions common to the B.1 Appendices, marginal 200.000(2));

- the term «transport unit» means a motor vehicle without an attached trailer, or a combination consisting of a motor vehicle and an attached trailer;

- the term «closed vehicle» means a vehicle having a body capable of being closed;

- the term «open vehicle» means a vehicle the platform of which has no superstructure or is merely provided with side boards and a tailboard;

- the term «sheeted vehicle» means an open vehicle provided with a sheet to protect the load;

- the term «tank-vehicle» means a vehicle built to carry liquids, gases, or powdery or granular substances and comprising one or more fixed tanks;

- the term «battery-vehicle» means a tank-vehicle comprising a number of fixed tanks (called «elements») interconnected by a manifold.

(2) For the purposes of this Annex, tanks [see definition (1) above] are not placed on the same footing as receptacles, the term «receptacle» being used in a restrictive sense. Provisions concerning receptacles apply to fixed tanks, batteries of receptacles, demountable tanks and tank-containers only if this is expressly stipulated.

(3) The term «full load» means any load originating from one sender, for which the use of a vehicle or a large container is exclusively reserved and all operations for loading and unloading which are carried out in conformity with the instructions of the sender or consignee [see marginal 10 108].

(4) Unless expressly stated otherwise, the sign «%» or the expression «per cent» in this Annex represents:

(a) in the case of mixtures of solids or of liquids, and also in the case of solutions and of solids wetted by a liquid: a percentage by weight based on the total weight of the mixture, the solution or the wetted solid;

(b) in the case of gaseous mixtures: a percentage by volume based on the total volume of the gaseous mixture.

(5) All weights mentioned for packages in this Annex are, unless otherwise specified, gross weights. The weight of containers or tanks used for the carriage of goods is not included in the gross weight.

(6) Pressures of all kinds relating to receptacles (such as test pressure, internal pressure, safety-value opening pressure) are always indicated in kg/cm² gauge pressure (pressure in excess of atmospheric pressure); however, the vapour pressure of substances is always expressed in kg/cm² absolute pressure.

(7) Where this Annex specifies a degree of filling for receptacles or tanks, that degree of filling is always referred to a temperature of the substances of 15°C unless some other temperature is indicated.

Types of vehicles

(1) A transport unit loaded with dangerous substances may in no case include more than one trailer or semi-trailer.

(2) Special provisions concerning the types of vehicles to be used for the carriage of certain dangerous substances will, where appropriate, be found in Chapter II of this Annex (see also the marginals dealing with carriage in containers, the carriage of solid substances in bulk, carriage in tanks, and tanks).

(3) Packages comprising packagings made of materials sensitive to moisture shall be loaded on to closed or on to sheeted vehicles.

Full Load

Where the provisions relating to carriage as a «full load» are applied, the competent authorities may require the vehicle or large container used for such carriage to be loaded at only one point and unloaded at only one point.

Carriage in bulk

(1) Solid dangerous substances may not be carried in bulk unless this mode of carriage is expressly authorized for the said substances by the provisions of Chapter II of this Annex, and then only under the conditions stipulated by those provisions. Nevertheless, empty packagings, uncleaned, may be carried in bulk if this mode of carriage is not explicitly prohibited by the requirements of Annex A, Part II.

(2) For carriage in bulk in containers, see marginal 10118 (2) and (5).

Carriage in containers

Note: The provisions concerning carriage in tank-containers will be found in the marginals headed «Carriage in tanks».

(1) The carriage of packages in containers is authorized.

(2) Substances may not be carried in bulk in containers unless their carriage in bulk is expressly authorized (see marginal 1011 1); small containers must be of the closed type and have complete walls.

(3) Large containers must meet the requirements concerning the body of the vehicle which are laid down in this Annex for the load in question; the body of the vehicle need not then satisfy those provisions.

(4) Subject to the provisions of the last phrase in (3) above, the fact that dangerous substances are enclosed in one or more containers shall not affect the conditions required to be met by the vehicle by reason of the nature and quantities of the dangerous substances carried.

(5) If the dangerous substances carried in a container are such that, under Annex A, one or more danger labels are required to be affixed to the packages containing them, the same label or labels shall be affixed to the outside of the container containing those substances in packages or in bulk. However, label No. 8 need not be affixed if the container comprises a device or inscription clearly showing which way up it should be kept.

Carriage in tanks

(1) Dangerous substances may be carried in tanks only if this mode of carriage is expressly authorized for those substances by the provision of Chapter II of this Annex; carriage must then comply with the provision of this Annex. Reinforced-plastics tanks may be used only if their use is expressly authorized in Chapter II. The temperature of the substance carried shall not exceed 50°C at the time of filling. See marginal 10500 for the marking and labelling of vehicles.

(2) If the substances carried in a demountable tank, a battery of receptacles or a tank-container are such that, under Annex A, one or more danger labels are required to be affixed to the packages containing them, the same

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label or labels shall be affixed to the outside of the demountable tank, battery of receptacles or tank-container. However, label No. 8 need not be affixed if the tank comprises a device or inscription clearly showing which way up it should be kept.

Tanks

(1) The provisions concerning the design, inspection, filling and use of fixed tanks, demountable tanks and batteries of receptacles, and various provisions concerning tank-vehicles and their use, will be found in Appendix B.1a and, so far as the design of fixed tanks, demountable tanks and batteries of receptacles intended for the carriage of refrigerated liquefied gases of Class 2 is concerned, in Appendix B.1d (for the approval of tank-vehicles, see marginal 10182).

(2) The provisions concerning the construction, items of equipment, type approval, tests, marking, etc., of tank-containers are to be found in Appendix B.1b and, so far as the construction of tank-containers intended for the carriage of deeply-refrigerated liquefied gases of Class 2 is concerned, in Appendix B.1d.

(3) The provisions concerning the construction of fixed tanks and demountable tanks in reinforced plastics are to be found in Appendix B.1c.

(4) The provisions common to the B.1 Appendices are to be found in marginal 200000.

(5) For receptacles, see Annex A.

Crews of vehicles: Supervision

(1) Where the provisions of this Annex concerning specific goods require the driver to be accompanied by an assistant, the assistant must be able to take over from the driver.

Section 1

(2) The requirements of this marginal relating to supervision during the time when a vehicle is parked shall apply only to dangerous substances carried in quantities in excess of the exemption limits.

Transport units carrying dangerous goods for which the exemption limit is less than 1,000 kg shall be supervised at all times in order to prevent any malicious act and to alert the driver and the competent authorities in the event of loss or fire.

Transport units carrying dangerous goods for which the exemption limit is 1,000 kg or more shall either be supervised or alternatively may be parked, unsupervised in an isolated position in the open in a secure depot or secure factory premises. If such facilities are not available, the transport unit, after having been properly secured, may be parked in an isolated position meeting the requirements of paragraphs (i), (ii) or (iii) below. The parking facilities permitted in paragraph (ii) shall be used only if those described in paragraph (i) are not available, and those described in paragraph (iii) may be used only if facilities described in paragraphs (i) and (ii) are not available.

(i) A vehicle park supervised by an attendant who has been notified of the nature of the load and the whereabouts of the driver.

(ii) A public or private vehicle park where the transport unit is not likely to suffer damage from other vehicles, or

(iii) A suitable open separated from the public highway and human habitation, where the public do not normally pass or assemble.

Carriage of passengers

No passengers not members of the vehicle's crew may be carried in transport units conveying dangerous substances.

Transport documents

(1) In addition to the documents required under other

regulations, the following documents shall be carried on the transport unit:

(a) the transport documents prescribed in Annex A, marginal 2002(3) and (4), covering all the dangerous goods carried; and

(b) instructions, as prescribed in marginal 10185, relating to all the dangerous substances carried.

(2) Where the provisions of this Annex require the following documents to be drawn up, the said documents shall likewise be carried on the transport unit:

(a) the special certificate of approval referred to in marginal 10182, for each vehicle; and

(b) the permit authorizing the transport operation.

Approval of vehicles

(1) Tank-vehicles and, where so required under the provisions of Chapter II of this Annex, other vehicles shall be subject to technical inspection in their country of registration to make sure that they conform to the provisions of this Annex, including those of its Appendices, and the general safety regulations (concerning brakes, lighting etc.) in force in their country of origin; if these vehicles are trailers or semi-trailers coupled behind a drawing vehicle, the drawing vehicle shall be subject to technical inspection for the same purposes.

(2) A special certificate of approval shall be issued by the competent authority of the country of registration for each vehicle whose inspection yields satisfactory results. It shall be drawn up in the language or one of the languages of the country issuing it, and also, if that language is not English, or French, or German, in English, French or German, unless agreements concluded between the countries concerned in the transport operation provide otherwise. It shall conform to the model shown in Appendix B.3.

(3) A special certificate of approval issued by the competent authorities of one Contracting Party for a vehicle registered in the territory of that Contracting Party shall be accepted, so long as its validity continues, by the competent authorities of the other Contracting Parties.

(4) The validity of special approval certificates shall expire not later than one year after the date of the technical inspection of the vehicle preceding the issue of the certificate. However, in the case of tanks subject to compulsory periodic inspection this provision shall not have the result of requiring tightness (leakproofness) tests, hydraulic pressure tests or internal inspections of tanks to be carried out at intervals shorter than those laid down in Appendix B.1a and B.1c.

Instructions in writing

(1) As a precaution against any accident or emergency that may occur or arise during carriage, the driver shall be given instructions in writing specifying concisely:

(a) the nature of the danger inherent in the dangerous substances being carried, and the safety measures that need to be taken to avert it;

(b) the action to be taken and treatment to be given in the event of persons coming into contact with the goods being carried or with any substances which might escape therefrom;

(c) the measures to be taken in case of fire and, in particular, the fire-fighting equipment or equipment not to be used;

(d) the measures to be taken in case of breakage or deterioration of packagings or of the dangerous substances being carried, particularly where such dangerous substances have spilled over the road.

(2) These instructions shall be prepared for each dangerous substance or Class of dangerous substances by the manufacturer or the sender, in a language of the country of origin; where that language is not the same as those of the countries of transit or destination, the instructions shall also be drawn up in the language of those countries. A set of these instructions shall be kept in the driver's cab.

(3) These instructions shall be supplied to the carrier at the latest when the transport order is given, so as to

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enable him to take all necessary steps to ensure that the employees concerned are aware of these instructions and are capable of carrying them out efficiently.

Section 2

Special requirements to be fulfilled by vehicles and their equipment

Rear protection for vehicles carrying fixed tanks, demountable tanks or batteries of receptacles

A bumper sufficiently resistant to rear impacts shall be fitted over the full width of the tank at the rear of the vehicle. There shall be a clearance of at least 100 mm between the rear wall of the tank and the rear of the bumper, this clearance being measured from the rearmost point of the tank wall or from projecting fittings or accessories in contact with the substance being carried.

Fire-fighting appliances

(1) Every transport unit carrying dangerous substances shall be equipped with

(a) at least one portable fire extinguisher of adequate total capacity, suitable for fighting a fire in the engine or in any other part of the transport unit, and such that, if it is used to fight a fire in the load, it does not aggravate the fire and, if possible, controls it; however, if the vehicle is equipped with a fixed fire extinguisher, automatic or easily brought into action, for fighting a fire in the engine, the portable extinguisher need not be suitable for fighting a fire in the engine;

(b) in addition to the equipment prescribed under (a) above, at least one portable fire extinguisher of adequate total capacity, suitable for fighting a fire in the load, and such that, if it is used to fight a fire in the engine or in any other part of the transport unit, it does not aggravate the fire and, if possible, controls it;

(2) The fire-extinguishing agents contained in the fire extinguisher with which a transport unit is equipped shall be such that they are not liable to release toxic gases into the driver's cab or under the influence of the heat of the fire.

(3) Where a transport unit comprises a trailer and the laden trailer is uncoupled and left on the public highway, at a distance from the drawing vehicle, the trailer shall be equipped with at least one fire extinguisher conforming to the provisions of sub-paragraph (1) (b) of this marginal.

Section 2

Electrical equipment

The provisions concerning the electrical equipment of vehicles carrying various dangerous substances will be found in Appendix B.2.

Miscellaneous equipment

(1) Every transport unit carrying dangerous goods shall be equipped with:

(a) a tool kit for emergency repairs to the vehicle;

(b) for each vehicle, at least one scotch of a size suited to the weight of the vehicle and to the diameter of the wheels;

(c) two amber lights. These lights shall be independent of the electrical equipment of the vehicle and be so designed that their use cannot cause the goods being carried to ignite; they shall be steady or flashing.

(2) The provisions of sub-paragraph (1) (c) of this marginal shall not apply in the territory of the United Kingdom.

Section 3

General service provisions

Fire-fighting appliances

The crew of the vehicle must know how to use the fire-fighting appliances.

Portable lighting apparatus

A vehicle may not be entered by persons carrying lighting apparatus comprising a flame. In addition, the lighting apparatus used shall not exhibit any metal surface liable to produce sparks.

Prohibition of smoking

Smoking shall be prohibited during handling operations, in the vicinity of packages awaiting handling, near halted vehicles, and inside the vehicles.

Section 4

Special provisions concerning loading, unloading and handling

Limitation of the quantities carried

The fact that dangerous substances are enclosed in one or more containers shall not affect the weight limitations laid down by this Annex regarding carriage in a single vehicle or in a single transport unit.

Prohibition of mixed loading on one vehicle

Unless the contrary is explicitly prescribed by the provisions of the Sections 4 of Chapter II of this Annex, the prohibitions of mixed loading on one vehicle shall not apply to consignments of goods packed together in the manner permitted by the provisions on mixed packing contained in Annex A.

Compliance with the prohibitions on mixed loading shall be based on the danger labels of Appendix A.9, which shall be affixed to packages in accordance with the requirements laid down for the various Classes in Annex A.

Prohibition of mixed loading in one container

The prohibitions of mixed loading on one vehicle shall also be observed within each container.

Prohibition of mixed loading with goods contained in a container

For the purpose of the application of the prohibitions of mixed loading on one vehicle, no account shall be taken of substances contained in closed containers with complete sides.

Cleaning before loading

All the provisions in this Annex which relate to the cleaning of vehicles before loading shall also apply to the cleaning of containers.

Handling and stowage.

(1) The various components of a load comprising dangerous substances shall be suitably stowed on the vehicle and wedged by appropriate means to prevent them from being displaced in any way in relation to each other and to the walls of the vehicle.

(2) If the load comprises goods of different categories the packages of dangerous substances shall be separated from the other packages.

(3) All the provisions in this Annex which relate to the loading and unloading of vehicles and to the stowage and handling of substances shall also apply to the loading, stowage and unloading of containers on to and from vehicles.

(4) Nothing whatsoever may be loaded on top of a fragile package.

(5) A driver or a driver's assistant may not open a package containing dangerous substances.

Cleaning after unloading

(1) If, when a vehicle which has been loaded with packed

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dangerous substances is unloaded, some of the contents are found to have escaped from the packagings, the vehicle shall be cleaned as soon as possible and in any case before reloading.

(2) Vehicles which have been loaded with dangerous substances in bulk shall be suitably cleaned before reloading unless the new load consists of the same dangerous substance as did the preceding load.

(3) All the provisions of this Annex which relate to the cleaning or decontamination of vehicles shall also apply to the cleaning or decontamination of containers.

Loading and unloading of dangerous substances in containers.

The provisions of this Annex which relate to the loading and unloading of vehicles and the stowage and handling of dangerous substances shall also apply to the loading and unloading of dangerous substances in containers.

Running the engine during loading or unloading

Except where the engine has to be used to drive the pumps or other appliances for loading or unloading the vehicle and the laws of the country in which the vehicle is operating permit such use, the engine shall be shut off during loading and unloading operations.

Section 5

Special provisions concerning the operation of vehicle

Vehicle signs

(1) Transport units carrying dangerous substances specified in the ... 500 marginals shall display two rectangular reflectorized orange-coloured plates of 40 cm base and not less than 30 cm high, set in a vertical plane. The plates shall have a black border not more than 15 mm wide. They shall be affixed one at the front and the other at the rear of the transport unit, both perpendicular to the longitudinal axis of the transport unit. They shall be clearly visible.

Note. The colour of the orange plates in conditions of normal use should have chromaticity co-ordinates lying within the area on the chromaticity diagram formed by joining the following co-ordinates:

| Chromaticity co-ordinates of points at the corners of the area on the chromaticity diagram. | | | | |
|---|------|------|-------|-------|
| x | 0.52 | 0.52 | 0.578 | 0.618 |
| y | 0.38 | 0.40 | 0.422 | 0.38 |

Luminance factor of reflectorized colour: $B \geq 0.12$.
Reference centre E, Standard Illuminant C,
normal incidence 45° and viewed at 0°.
Co-efficient of reflex luminous intensity at an angle of illumination of 5°, viewed at 0.2°: not less than 20 candelas per lux per m².

(2) Transport units fixed tanks carrying only one of the substances listed in Appendix B.5 shall display orange-coloured plates as prescribed above, on which the identification numbers shown in that Appendix shall appear.

(3) However, where two different substances are carried in an transport unit consisting of a tank-vehicle drawing a tank-trailer, the vehicle and the trailer shall each display at both front and rear an orange-coloured plate bearing the respective identification numbers of the substances being carried.

(4) Where a number of different substances are carried on a tank-vehicle in separate tanks or tank-compartments, orange-coloured plates identically similar to those prescribed in paragraph (1), set parallel to the longitudinal axis of the vehicle and bearing the appropriate identifica-

tion numbers, shall be so displayed on the sides of each tank or tank-compartment as to be clearly visible. In this case the plates prescribed in paragraph (1) above shall display no number.

(5) The identification numbers shall be made up of black digits 100 mm high and of 15 mm stroke thickness. The hazard-identification number shall be inscribed in the upper part of the plate and the substance-identification number in the lower part; they shall be separated by a horizontal black line, 15 mm in stroke width, extending from side to side of the plate at mid height (see Appendix B.5). The identification numbers shall be indelible and shall remain legible after 15 minutes' engulfment in fire.

(6) The foregoing requirements are also applicable to empty tanks, uncleaned and not degassed. After the dangerous substances have been unloaded and the tanks been cleaned and degassed, the orange-coloured plates shall no longer be visible.

(7) Tank-vehicles shall also bear on both sides and at the rear the labels prescribed in Section 5 of each Class.

Parking in general

No transport unit carrying dangerous substances may be parked without the parking brake's being applied.

Parking at night or when visibility is poor

(1) If a vehicle is parked at night, or when visibility is poor, and its lights are not working, the amber lights referred to in marginal 10 260 (1)(c) shall be placed on the road,

one about 10 m ahead of the vehicle, and the other about 10 m to the rear of the vehicle.

(2) The provisions of this marginal shall not apply in the territory of the United Kingdom.

Parking of a vehicle constituting a special danger

Without prejudice to the measures prescribed in marginal 10 505 above, if the nature of the dangerous substances carried in the parked vehicle constitutes a source of special danger to road-users (e.g. in the event of substances dangerous to pedestrians, animals or vehicles spilling over the road) and the crew of the vehicle is unable to eliminate the danger quickly, the driver shall alert the nearest competent authorities, or cause them to be alerted, immediately. He shall also, where necessary, take the measures prescribed in the instructions provided for in marginal 10 185.

Other provisions

As to provisions not included in this Chapter or in Chapter II of this Annex which concern the operation of vehicles carrying dangerous goods, the relevant measures adopted in this sphere by each Contracting Party on the basis of its domestic legislation and relating to domestic carriage shall be applicable to international carriage using its territory.

Section 6

Transitional provisions, derogations, and provisions peculiar to certain countries

Rapid procedure for authorizing derogations for the purpose of trials

For the purpose of carrying out the trials necessary with a view to amending the provisions of this Annex in order to adapt them to technological and industrial developments, the competent authorities of the Contracting Parties may agree directly among themselves to authorize certain transport operations in their territories by temporary derogation from the provisions of this Annex. The authority which has taken the initiative with respect to the temporary derogation so granted shall notify the competent service of the United Nations Secretariat of the derogation,

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which service shall bring it to the attention of the Contracting Parties.

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Chapter II

SPECIAL PROVISIONS APPLICABLE TO THE CARRIAGE OF DANGEROUS SUBSTANCES OF CLASSES 1 to 8

Classes 1a Explosive substances and articles

1b Articles filled with explosive substances

1c Limiters, fireworks and similar goods

Section 1

General

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-11 103

Types of vehicles

(See also marginals 11 105 and 11 106)

Dangerous substances of Classes 1a, 1b and 1c may be carried only in closed vehicles or in sheeted vehicles fitted with side boards and a tailboard. The sheet of a sheeted vehicle must be of impermeable material not readily inflammable. It must be tautened so as to cover the vehicle on all sides, with an overlap of not less than 20 cm down the sides of the vehicle, and be kept in position by lockable metal bars or chains.

Categories of vehicles

For the purposes of this Annex, transport units authorized to carry dangerous substances of Classes 1a, 1b and 1c are classified as follows:

(1) «A» transport units: Transport units whose engines use a liquid fuel with a flash-point below 55° C.

(2) «B» transport units: Transport units whose engines use a liquid fuel with a flash-point of 55° C or more; this category B comprises the following sub-categories:

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Classes 1a, 1b and 1c

(a) «B.I.» transport units:

These have either no trailer or a trailer meeting the following conditions:

its coupling device is quickly detachable and is robust; and

it is fitted with an effective braking device acting on all the wheels, actuated by the drawing vehicle's service-brake control, and automatically stopping the trailer in the event of breakage of the coupling.

(b) «B.II» transport units:

These have the following characteristics in addition to those of sub-category B.I.:

1. Engine and exhaust system

The engine and the exhaust system are placed forward of the front wall of the body. The exhaust-pipe outlet is directed outwards from the vehicle.

2. Fuel tank

The fuel tank is placed well away from the engine, the electric wiring and the exhaust-gas piping, and in such a manner that in the event of leakage from the tank the fuel drains directly on to the ground and cannot reach the load of explosives. The fuel tank is well away from the storage battery, or is at least separated from it by a leak-proof partition. It is so placed as to be so far as possible protected in a collision. The engine is not gravity-fed.

3. Driver's cab

No inflammable material has been used in the construction of the driver's cab, except in the seating equipment.

Classes 1a, 1 b and 1c

(c) «B.III» transport units

These have all the characteristics of sub-category B.II and, in addition, their body exhibits the following features:

1. It is closed and has a continuous surface; it is separated from the driver's cab by a space of not less than 15 cm; it is robustly constructed in such a manner and of such materials that it adequately protects the goods carried; the materials used for the lining are incapable of producing sparks; the insulating and heat-resisting properties of the body are at all points at least equivalent to those of a partition consisting of a layer of asbestos board 5 mm thick between two metal walls or to those of a partition consisting of an outer metal wall lined with a layer of fire-proofed wood 10 mm thick.

2. The door or doors are provided with a lock and key; all joints and closures are of overlapping type. The door or doors must be so constructed as to reduce the strength of the body as little as possible.

Restrictions on the use of vehicles of certain categories

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(1) «A» transport units may carry only articles of Class 1b, 2° (b), 4° (a), (b) and (e), and of Class 1c, 1° (a) and 3°.

No special limitation of weight is prescribed for such carriage.

(2) «B.I.» transport units may carry

(a) without special weight limitations, articles of Class 1b, 2° (b) and 4°, and of Class 1c, 1° (a) and 3°;

(b) subject to the weight limitations prescribed in marginal 11 401, the dangerous substances referred to in that marginal.

(3) The provisions relating to restrictions, in the light of the weight and nature of the load, on the use of «B.II» and «B.III» transport units will be found in marginal 11 401.

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Carriage in containers

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Small containers shall satisfy the requirements prescribed in respect of the body of the vehicle for the transport operation concerned; it will then not be necessary for the body of the vehicle to satisfy those requirements.

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Crews of vehicles: Supervision

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(1) A driver's assistant shall be carried on every transport unit. If the national regulations so provide, the competent authority of a contracting country may require an approved official to be carried in the vehicle at the carrier's expense.

(2) The provisions of marginal 10 171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

Class 1a: Substances and articles of 1° - 14°: 5 Kg;

Class 1b: Articles of 1° (b), (c) and (d), 5° - 7° and 9° - 11°: 50 Kg; and

Class 1c: Articles of 21° - 23°: 50 Kg.

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Approval of vehicles

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The requirements of marginal 10 182 shall be applicable to «B.III» transport units.

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Section 2

Special requirements to be fulfilled by vehicles and their equipment

Materials to be used in the construction of vehicle bodies 11200

In the construction of the body, no materials shall be used which are likely to form dangerous compounds with the explosives carried (e.g. lead in the case of the carriage of hexyl, picric acid, picrates, explosive organic nitro-compounds soluble in water, or explosives of an acid nature [see also marginal 11 105 (2) (c)].

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Driver's cab 11216

[See marginal 11 105 (2) (b) 3.]

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- 11224

Combination of drawing vehicle and trailer 11225

[See marginal 11 105 (2) (a)]

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Engine and exhaust system 11231

[See marginal 11 105 (2) (b) 1.]

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- 11239

Fire-fighting appliances 11240

The provisions of marginal 10 240 (1) (b) and (3) shall not apply to the carriage of dangerous substances of Class 1c, 1° to 3°, 5° to 20°, 24°, 25° and 27°.

11241

11250

Electrical equipment 11251

(1) The rated voltage of the electric lighting system shall not exceed 24 V.

(2) No circuit shall be installed inside the bodies of «B.II» and «B.III» transport units.

(3) The provisions of Appendix B.2, marginal 220 000(2), shall not apply to the electrical equipment of vehicles carrying articles of Class 1c, 1° (a) and 3°, or carrying articles of Class 1c, 1° (b) in a quantity not exceeding 500 kg.

(4) The provisions of Appendix B.2, marginal 220 000 (2) (a) and (c), shall not apply to the electrical equipment of vehicles carrying dangerous substances of Class 1c, 2°, 5° to 20°, 24°, 25° and 27°, or carrying articles of Class 1c, 1c (b) in a quantity exceeding 500 kg.

11252

- 11299

Section 3

General service provisions
(No special provisions)

11300

- 11399

Classes 1a, 1b and 1c

Section 4

Special provisions concerning loading
unloading and handling

Method of despatch and restrictions on forwarding 11 400

Substances of Class 1a, 13° and 14° (a) and (b), may

be carried only as a complete load. However, packages weighing not more than 10 kg and handed over for carriage in a quantity not exceeding 100 Kg may be carried otherwise than as a complete load.

Limitation of the quantities carried.

11 401

The quantity of dangerous substances of Classes 1a, 1b and 1c which may be carried on one transport unit shall be limited as follows (see also Marginals 11 402 and 11 403 as regards the prohibition of mixed loading).

(1) A «B.I» transport unit may carry only

(a) one of the loads authorized by marginals 11 106 (1) and (2) (a); or

(b) not more than 500 Kg of articles of Class 1c, 1° (b); or

(c) not more than 300 Kg of substances of Class 1a, 12°; or

(d) not more than 100 Kg of substances of Class 1a 11°, 13° and 14°.

(2) A «B.II» transport unit may carry only

(a) one of the loads authorized in (1) above for «B.I» transport units; or

(b) not more than 500 Kg of substances of Class 1a, 1° to 10° and 12°; of articles of Class 1b, 1° to 4° and 6° to 11°; or of dangerous substances of Class 1c. However, substances of Class 1a, 3°, 4° and 5° must be packed in accordance with what is prescribed for consignments carried otherwise than as a complete load.

(3) A «B.III» transport unit may carry only

(a) one of the loads authorized in (2) above for «B.II» transport units; or,

(b) provided that the weight of the load, of dangerous substances does not exceed 90 per cent of the weight of the load of ordinary goods declared permissible for the vehicle by the competent authority of the country of registration of the vehicle, not more than 9,000 kg of the dangerous substances of Classes 1a, 1b or 1c per articulated vehicle or vehicle without trailer, or than 15,000 kg of those dangerous substances per transport unit of another kind. However, if the load includes one or more substances of Class 1a, 11°, 13° or 14° or one or more substances of Class 1b, 5°, 6° and 11°, these limits shall be reduced to 6,000 kg and 10,000 kg respectively.

11 402

11 403

Prohibition of mixed loading on one vehicle

(1) Substances and articles of Class 1a shall not be loaded together on one vehicle with:

(a) articles of Class 1b enclosed in packages bearing two labels conforming to model No 1; with

(b) packages bearing a label of any of the models Nos 2D, 4, 4A, 6A, 6B and 6C; or with

(c) packages bearing a label or two labels or any of the models Nos. 2A, 2B, 2C and 5.

(2) Articles of Class 1b enclosed in packages bearing a label conforming to model No 1 shall not be loaded together on one vehicle with:

(a) articles of Class 1b enclosed in packages bearing two labels conforming to model No 1; with

(b) packages bearing a label of any of the models Nos 2D, 4, 4A, 6A, 6B and 6C; or with

(c) packages bearing a label or two labels of any of the models Nos 2A, 2B, 2C, 3 and 5.

(3) Articles of Class 1b enclosed in packages bearing two labels conforming to model No 1 shall not be loaded together on one vehicle with:

(a) substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label conforming to model No 1; or with

(b) the substances indicated under (2) (b) and (2) (c) above,

(4) Articles of Class 1c enclosed in packages bearing a label conforming to model No 1 shall not be loaded together in one vehicle with:

(a) articles of Class 1b enclosed in packages bearing two labels conforming to model No 1; with

(b) packages bearing a label of any of the models Nos. 2D, 4, 4A, 6A, 6B and 6C; or with

(c) packages bearing a label or two labels of any of the models Nos. 2A, 2B, 2C, 3 and 5.

Prohibition of mixed loading with goods contained in a container 11 405

(1) The prohibitions of mixed loading of goods laid down in marginal 11 403 shall apply within each container.

(2) The provisions of marginal 11 403 shall apply as between the dangerous substances contained in a container and the other dangerous substances loaded on the same vehicle, whether or not the latter substances are enclosed in one or more other containers.

Places of loading and unloading

(1) The following operations are prohibited:

(a) loading or unloading dangerous substances of Classes 1a, 1b and 1c in a public place in a built-up area without special permission from the competent authorities; (b) loading or unloading dangerous substances of the said Classes in a public elsewhere than in a built-up area without prior notice there of having been given to the competent authorities, unless the said operations are justified for serious reasons of safety.

(2) If, for any reason, handling operations have to be carried out in a public place, then:

— substances and articles of different kinds shall be separated according to the labels; and

— packages fitted with handles or supports shall be kept flat. Cleaning before loading

Before dangerous substances of Classes 1a, 1b, or 1c are loaded, all remnants of straw, rags, paper and similar materials, and all iron objects (nails, screws, etc) not being an integral part of the body of the vehicle, shall be removed.

Handling and stowage

(1) The use of readily inflammable materials for stowing packages in vehicles is prohibited.

(2) Packages containing dangerous substances of Classes 1a, 1b and 1c shall be loaded in such a manner that they can be unloaded one by one at the point of destination without its being necessary to rearrange the load.

(3) Packages shall be so stowed in the vehicle that they cannot be displaced therein. They shall be protected against any friction or impact. If casks are carried lying on their sides, they shall be so arranged that their longitudinal axis lies parallel to that of the vehicle, and wooden wedges shall be applied to prevent any lateral movement.

Section 5

Special provisions concerning the operation of vehicles
Vehicle signs,

The provisions of marginal 10 500, paragraphs (1) and (6), shall apply to the carriage of dangerous substances of Classes 1a, 1b and 1c.

Halts for passage through Customs

When a transport unit or convoy of vehicles carrying dangerous substances of Classes 1a, 1b, and 1c is to pass a frontier Customs post, the transport unit (or convoy) shall stop at least 50 m from the Customs post. The driver's assistant shall proceed to the Customs post to inform the authorities of the arrival of the transport unit (or convoy) carrying dangerous substances.

Halts of limited duration for service requirements

So far as is possible, halts, for service requirements shall not be made near inhabited places or places of resort. A halt near such a place may not be prolonged except with the agreement of the competent authorities.

Convoys

(1) When vehicles carrying dangerous substances of Classes 1a, 1b and 1c travel in convoy, a distance of not less than 80 m shall be maintained between each transport unit and the next.

(2) If, for any reason, the convoy is obliged to halt and if, in particular, loading or unloading operations have to be carried out in a public place, a distance of not less than 50 m shall be maintained between the halted vehicles.

(3) The competent authorities may lay down rules for the order or composition of convoys.

11 521

11 599

Section

Transitional provisions, derogations, and provisions peculiar to certain countries

11 600

11 604

11605

Transitional provisions

By derogation from article 4, paragraph 2, of the Agreement, vehicles which were in service in the territory of a Contracting Party at the time of the entry into force of this Annex or were put into service there within two months after its entry into force may be used for the international carriage of dangerous substances of Classes 1a, 1b and 1c only during a period of one year from such entry into force if their design and equipment do not fully satisfy the requirements laid down in this Annex for such carriage.

11 606

11 609

11 610

Provisions peculiar to certain countries.

The carriage of dangerous substances of Classes 1a, 1b and 1c shall be subject in the territory of the United Kingdom to the regulations in force in that country at the time of carriage.

11 611

20 999

Class 2

Gases: compressed, liquefied or dissolved under pressure

Section 1

General

21000-

21117

21118

Carriage in containers

The carriage in small containers of packages containing gases of 7°(a) and 8°(a) is prohibited.

21119-

21120

21121

Carriage in tanks

(1) Gases of Class 2 other than those listed below may be carried in fixed tanks, in demountable tanks, or in batteries of receptacles: fluorine and silicon tetrafluoride [1°(a t)]; nitric oxide [1°(c t)]; mixtures of hydrogen with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume [2°(b t)]; mixtures of hydrogen with not more than 10 per cent diborane by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume [2°(c t)]; boron chloride, chlorine trifluoride, nitrosyl chloride, sulphuryl fluoride and tungsten hexafluoride [3°(a t)]; methylsilane [3°(b)]; arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane [3°(b t)]; cyanogen, cyanogen chloride and ethylene oxide [3°(c t)]; mixtures of methylsilanes [4°(b t)]; ethylene oxide containing not more than 50 per cent methyl formate by weight [4°(c t)]; silane [5°(b)]; substances of 5°(b t) and (c t); dissolved acetylene [9°(c)]; and gases of 12° and 13°.

Class 2

(2) Cases of Class 2 other than those listed below may be carried in tank-containers: fluorine and silicon tetrafluoride

21121

ride [1°(a t)]; nitric oxide [1°(c t)]; mixtures of hydrogen with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume [2°(b t)]; mixtures of hydrogen with not more than 10 per cent diborane by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume [2°(c t)]; boron chloride, chlorine trifluoride, nitrosyl chloride, sulphuryl fluoride and tungsten hexafluoride [3°(a t)]; methylsilane [3°(b)]; arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane [3°(b t)]; cyanogen, cyanogen chloride and ethylene oxide [3°(c t)]; mixtures of methylsilanes [4°(b t)]; ethylene oxide containing not more than 50 per cent methyl formate by weight [4°(c t)]; silane [5°(b)], and the gases of 12° and 13°. However, chlorine and phosphene [3°(a t)] shall not be carried in tank-containers of a cubic capacity exceeding 1 m³.

(3) Tank-containers containing substances of 1°(b); 2°(b); 3°(b); chloroethane (ethyl chloride) or dimethyl ether of 3°(b t); substances of 3°(c); vinyl bromide or methyl vinyl ether of 3°(c t); or substances of 4°(b), 4°(c), 5°(b), 5°(c), 6°(c), 7°(b) or 8°(b) shall bear on both their sides a label conforming to model No. 2A.

Tank-containers containing oxygen of 1°(a); boron trifluoride of 1°(a t); mixtures containing more than 20 per cent oxygen by volume, of 2°(a); nitrous oxide of 5°(a); nitrous oxide or oxygen of 7°(a); or liquid air or mixtures containing more than 20 per cent oxygen by weight of 8°(a), shall bear on both their sides a label conforming to model No.

Tank-containers containing ammonia, bromomethane, chlorine or sulphur dioxide, of 3°(a t), or ethylene oxide containing not more than 10 per cent by weight carbon dioxide, of 4°(c t), shall bear on both their sides a label conforming to model No. 4.

Tank-containers containing gases of 1°(b t) or 2°(b t), or dimethylamine, ethylamine, hydrogen sulphide, methylamine, methyl chloride, methyl mercaptan, or trimethylamine, of 3°(b t), shall bear on both their sides labels conforming to models Nos. 2A and 4.

Tank-containers containing nitrous dioxide or phosphene of 3°(a t) shall bear on both their sides labels conforming to models Nos. 3 and 4.

Tank-containers containing hydrogen bromide of 3°(a t) or hydrogen chloride of 5°(a t) shall bear on both their sides labels conforming to models Nos. 4 and 5.

Class 2

Empty tanks

(1) For empty fixed tanks, empty batteries of receptacles and empty demountable tanks, see Annex A, marginal 2201, 14°, Note 1.

(2) For tank-containers, see marginal 212 177.

Crews of vehicles: Supervision

The provisions of marginal 10 171 (2) shall apply only to the dangerous goods listed below in quantities exceeding the weights indicated:

- boron trifluoride and fluorine [1°(a t)]; the substances of 3°(a t); of 3°(b t) other than dimethyl ether and ethyl chloride; and of 3°(c t); hydrogen chloride of 5°(a t); and the deeply-refrigerated liquefied gases of 7°(a) and 8°(a): 1,000 kg
- the substances of 3°(b); dimethyl ether and ethyl chloride of 3°(b t); vinyl chloride of 3°(c); the substances of

4°(b); and the inflammable liquefied gases of 7°(b) and 8°(b): 10,000 kg

Class 2

Section 2

Special requirements to be fulfilled by vehicles and their equipment

Ventilation

If packages containing gases of 1° to 6° and 9°(c) are carried in a closed vehicle, the vehicle shall be provided with adequate ventilation.

Engine and exhaust system

The engine of a vehicle carrying a gas of Class 2 in a fixed tank, in a demountable tank or in a battery of receptacles, and where appropriate the engine driving the decanting pump, shall be so equipped and placed, and the exhaust pipes so directed or protected, as to avoid any danger to the load through heating or ignition.

Fire-fighting appliances

The provisions of marginal 10 240 (l) (b) and (3) shall not apply to carriage other than that of inflammable gases or articles listed in marginal 220 002, or of empty packagings of 14° which have contained such gases.

Electrical equipment

The provisions of appendix B.2 shall not apply to carriage other than that of inflammable gases or articles listed in marginal 220002, or of empty packagings of 10° which have contained such gases.

Special equipment

When compressed gases or liquefied gases harmful to the respiratory organs of entailing a poison risk and identified by the letter «t» in the list of substances are being carried, the crew of the vehicle shall be provided with gas masks (respirators) of a type appropriate to the gases being carried.

21122-
21127
21128

21172-
21199

21200-
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21252-
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21261-
21299

Class 2

Section 3

General service provisions

21129-
21170
21171

Portable lighting apparatus

When inflammable gases or articles listed in marginal 220002 are being carried, a closed vehicle may not be entered by persons carrying lighting apparatus other than portable lamps so designed and constructed that they cannot ignite any gases which may have penetrated into the interior of the vehicle.

21300-
21352
21353

21354-
21399

Class 2

Section 4

Special provisions concerning loading, unloading, and handling

Method of dispatch and restrictions on forwarding

21400

Carbon dioxide and nitrous oxide of 7°(a), mixtures containing carbon dioxide and nitrous oxide of 8°(a), and the gases of 7°(b) and 8°(b) may be carried only in fixed tanks, in demountable tanks, in batteries of receptacles or in tank-containers.

Prohibition of mixed loading on one vehicle

21401-
21402
21403

Articles of Class 2 enclosed in packages bearing a label conforming to model No.2A shall not be loaded together on one vehicle with substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No. 1.

Places of loading and unloading

21404-
21406
21407

(1) The following operations are prohibited:

(a) loading or unloading the following substances in a public place in a built-up area without special permission from the competent authorities: hydrogen bromide, chlorine, nitrogen dioxide, sulphur dioxide or phosgene [3°(a t); hydrogen sulphide [3°(b t)]; and hydrogen chloride [5°(a t)];

(b) loading or unloading the substances listed under (a) above in a public place elsewhere than in a built-up area without prior notice there of having been given to the competent authorities, unless the said operations are justified for serious reasons of safety.

(2) If for any reason handling operations have to be carried out in a public place, then:

- substances and articles of different kinds shall be separated according to the labels; and
- packages fitted with means of handling shall be kept flat while being handled.

21408-
21413

Class 2

Handling and stowage

21414

(1) Packages shall not be thrown or subjected to impact.

(2) Receptacles shall be so stowed in the vehicle that they cannot overturn or fall and that the following requirements are met:

(a) the cylinders referred to in marginal 2212 (1) (a) shall be laid parallel to or at right angles to the longitudinal axis of the vehicle; however, those situated near the forward transverse wall shall be laid at right angles to the said axis.

Short cylinders of large diameter (about 30 cm and over) may be stowed longitudinally with their valve-protecting devices directed towards the middle of the vehicle.

Cylinders which are sufficiently stable or are carried in suitable devices effectively preventing them from overturning may be placed upright.

Cylinders which are laid flat shall be so welded or attached that they cannot shift;

(b) receptacles containing gases of 7°(a) or 8°(a) shall always be placed in the position for which they were designed and be protected against any possibility of being damaged by other packages.

21415-
21499

Class 2

Section 5

Special provisions concerning the operation of vehicles
Vehicle signs

21500

(1) The provisions of marginal 10 500, paragraphs (1) and (6) shall apply to the carriage of dangerous substances of Class 2. The provisions of paragraphs (2) to (5) shall additionally apply to the carriage of substances listed in Appendix B.5.

(2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear the following labels on both sides and at the rear:

| | |
|--|------|
| Air, liquefied | 3 |
| Ammonia, anhydrous | 4 |
| Butadiene | 2A |
| Butane | 2A |
| Butylene | 2A |
| Chlorine | 4 |
| Cyclopropane | 2A |
| Dimethyl ether | 2A |
| Ethyl chloride | 2A |
| Ethylene | 2A |
| Ethylene, liquid (refrigerated) | 2A |
| Hydrocarbons, mixtures of (Mixtures A, A0, A1, B and C) | 2A |
| Hydrogen bromide | 4+5 |
| Hydrogen chloride | 4+5 |
| Isobutane | 2A |
| Isobutylene | 2A |
| Methane, liquid (refrigerated) | 2A |
| Methylamine, anhydrous | 4 |
| Methyl bromide | 4 |
| Methyl chloride | 2A+4 |
| Methyl vinyl ether | 2A |
| Natural gas, liquid (refrigerated) | 2A |
| Nitrogen dioxide NO ₂ | 3+4 |
| Nitrous oxide N ₂ O | 3 |
| Oxygen (refrigerated) | 3 |
| Phosgene | 3+4 |
| Propylene | 2A |
| Trimethylamine, anhydrous | 2A+4 |
| Vinyl chloride | 2A |

21501
21508

Class 2

Halts of Limited duration for service requirements

21509

In the carriage of dangerous substances of Class 2 other than those of 1°, (a) and (at); 7° (a); 8° (a); and 10°, halts for service requirements shall so far as possible not be made near inhabited places or places of resort. A halt near such a place may not be prolonged except with the agreement of the competent authorities.

21510
21599

Class 2

Section 6

Transitional provisions, derogations and provisions peculiar to certain countries

21600
21609
21610

Provisions peculiar to certain countries

The carriage of dangerous substances of Class 2 shall be subject in the territory of the United Kingdom to the regulations in force in that country at the time of carriage.

21611
30999

| | | | |
|---|-------|--|-------|
| Class 3 | | (2) These same substances may also be carried in tank- | |
| Section 5 | | containers. | |
| Special provisions concerning the operation of vehicles | | | 41122 |
| Vehicle signs | 31500 | Class 4.1 | 41127 |
| (1) The provisions of marginal 10500, paragraphs (1) | | Empty tanks | 41128 |
| and (6), shall apply to the carriage of substances of 1°, | | For tank-containers, see marginal 212177. | |
| 3°, 4° and 5°. The provisions of paragraphs (2) to (5) shall | | | 41129 |
| also apply to the carriage of substances listed in Appendix | | | 41170 |
| B.5. | | | 41171 |
| (2) Fixed tanks containing substances listed in Appen- | | Crews of vehicles; Supervision | |
| dix B.5 shall in addition bear on both sides and at the | | (1) A driver's assistant shall be carried on every trans- | |
| rear a label conforming to model No. 2A; those containing | | port unit carrying more than 300 kg of substances of 6°. | |
| or (empty tanks, uncleaned) having contained acrylalde- | | (2) The provisions of marginal 10171 (2) shall apply | |
| hyde (acrolein) or chloroprene (chlorobutadiene [1° (a)] | | only to the dangerous goods listed below in quantities | |
| or methanol (methyl alcohol) (5°) shall in addition bear | | exceeding those specified below: | |
| labels conforming to model No. 4. | | The substances of 7°(a), (b) and (c): 1,000 kg. | |
| | 31501 | | 41172 |
| Class 3 | 31599 | Class 4.1 | 41199 |
| Section 6 | | Section 2 | |
| Transitional provisions, derogations, | | Special requirements to be fulfilled by | |
| and provisions peculiar to certain countries | | vehicles and their equipment | |
| | 31600 | | 41200 |
| Transitional provisions | 31604 | Electrical equipment | 41250 |
| Tanks which were in service in the territory of a Con- tracting Party at the time of the entry into force of the Agree- ment under article 7, paragraph 1, or were put into service there within two months after its entry into force, may be used for the international carriage of dangerous substances during a period of three years from such entry into force even if their design and equipment do not fully satisfy the requirements laid down in Appendix B.1. | 31605 | The provisions of Appendix B.2, marginal 220000, shall not apply to carriage other than that of substances of 3° to 7°. | 41251 |
| | | | 41252 |
| | | Class 4.1 | 41299 |
| | | Section 3 | |
| | | General service provisions | |
| | | (No special provisions) | 41300 |
| | 31606 | | 41399 |
| Provisions peculiar to certain countries | 31609 | | |
| The carriage of liquids of Class 3 whose flash-point is below 23° C shall be subject in the territory of the United Kingdom to the regulations in force in that country at the time of carriage. | 31610 | Class 4.1 | |
| | | Section 4 | |
| | | Special provisions concerning loading, unloading and handling | |
| | | Method of despatch and restrictions on forwarding | 41400 |
| | | Sulphur in the melted state [2°(b)] and naphthalene in the melted state [11°(c)] may be carried only in tank- vehicles and tank-containers. | |
| | 31611 | | 41401 |
| Class 4.1 | 40999 | | 41402 |
| Inflammable solids | | | 41403 |
| | | Prohibition of mixed loading on one vehicle | |
| | | (1) Substances of Class 4.1 enclosed in packages bear- ing a label or two labels conforming to model No. 2B shall not be loaded together on one vehicle with substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No.1. | |
| | 41000 | (2) Substances of Class 4.1 enclosed in packages bear- ing two labels conforming to model No. 2B shall not be loaded together on one vehicle with: | |
| | 41103 | (a) substances of Classes 5.1 or 5.2 enclosed in packa- ges bearing two labels conforming to model No. 3; or with | |
| | 41104 | (b) liquids of Class 8 enclosed in packages bearing two labels conforming to model No. 5. | |
| Types of vehicles | | | 41404 |
| Packages containing substances of 4° to 8° shall be loaded on to closed vehicles or on to sheeted vehicles. | | | 41499 |
| | 41105 | Class 4.1 | |
| Carriage in bulk | 41110 | Section 5 | |
| (1) Sulphur of 2° (a) may be carried in bulk. | 41111 | Special provisions concerning the operation of vehicles | |
| (2) Naphthalene of 11° (a) and (b) may be carried in bulk; it must in that case be carried in closed vehicles with a metal body or in sheeted vehicles with a non- inflammable sheet and either having a metal body or hav- ing a sheet of closely-woven material spread on the floor. For the carriage of naphthalene of 11°(a), the floors of vehicles shall be protected by an oil-proof lining. | | Vehicle signs | 41500 |
| | 41112 | (1) The provisions of marginal 10500, paragraphs (1) | |
| | 41117 | and (6), shall apply to the carriage of substances of 2°(b), 4° to 8° and 11°(c). The provisions of paragraphs (2) to | |
| Carriage in containers | 41118 | (5) shall also apply to the carriage of substances listed in Appendix B.5. | |
| For the carriage of naphthalene of 11°(a) and (b), small wooden containers shall be fitted with an oil-proof lining. | | (2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 2B. | |
| | 41119 | | 41501 |
| | 41120 | | 41599 |
| Carriage in tanks | 41121 | Section 6 | |
| | | Transitional provisions, derogations, and provisions peculiar to certain countries | |
| (1) Sulphur (2°), phosphorus sesquisulphide, phos- phorus pentasulphide (8°) and naphthalene (11°) may be carried in fixed tanks or in demountable tanks. | | (No special provisions) | 41600 |
| | | | 41999 |

Class 4.2

Substances liable to spontaneous combustion

Section 1

General

42000

42103

42104

42105

42110

42111

42112

42120

42121

42122

42127

42128

42129

42170

42171

42172

42199

42200

42250

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42252

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42300

42399

Section 2

Special requirements to be fulfilled by vehicles and their equipment

42200

42250

42251

42252

42299

42300

42399

Section 3

General service provisions

42300

42399

Section 4

Special provisions concerning loading, unloading and handling

42400

42402

42403

42404

42413

42414

42415

42499

42500

42501

42599

42600

42999

Section 5

Special provisions concerning the operation of vehicles

Vehicle signs

42500

Section 6

Transitional provisions, derogations, and provisions peculiar to certain countries

42600

42999

Class 4.3

Substances which give off inflammable gases on contact with water

Section 1

General

43000-

43103

43104

43105-

43110

43111

43112-

43117

43118

Section 1

General

43000-

43103

43104

43105-

43110

43111

43112-

43117

43118

Section 2

Special requirements to be fulfilled by vehicles and their equipment

43105-

43110

43111

43112-

43117

43118

Section 3

General service provisions

43112-

43117

43118

Types of vehicles

Packages containing substances of 4° and 10° shall be loaded on to closed vehicles or on to sheeted vehicles.

Carriage in bulk

Substances of 5°, dust from blast-furnace filters [6°(a)] and substances of 10° may be carried in bulk. Substances of 5° and 10° shall in that case be carried in closed vehicles with a metal body, and dust from blast-furnace filters in closed vehicles with a metal body or in sheeted vehicles with a metal body.

Carriage in tanks

(1) White or yellow phosphorus (1°) and newly-quenched charcoal, powdered or granulated, (8°) may be carried in fixed tanks or in demountable tanks.

(2) White or yellow phosphorus (1°), aluminium alkyls, halides and hydrides of aluminium alkyls (3°) and newly-quenched charcoal, powdered or granulated, (8°) may be carried in tank-containers.

Empty tanks

(1) To be accepted for carriage, empty fixed tanks and empty demountable tanks which have contained phosphorus of 1° shall either

- be filled with nitrogen, in which case the transport document shall be required to certify that the tank, after closure, is gas-tight; or

- be filled to not less than 96 per cent of their capacity with water; between 1 October and 31 March this water shall contain, in a concentration making it impossible for the water to freeze during carriage, one or more non-corrosive anti-freezing agents not liable to react with phosphorus.

(2) For tank-containers, see 212177 and 212474.

Crews of vehicles; Supervision

(1) A driver's assistant shall be carried on every transport unit carrying substances of 1°, 2°, 3° and 4°.

(2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

- The substances of 1° - 3°, powder of zirconium of 6°(a) and metals in a pyrophoric form of 6°(d); 10,000kg

Prohibition of mixed loading on one vehicle

(1) Substances of Class 4.2 enclosed in packages bearing a label or two labels conforming to model No.2 C shall not be loaded together on one vehicle with substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to Model No. 1.

(2) Substances of 4° enclosed in packages bearing two labels conforming to model No. 2 C shall not be loaded together on one vehicle with:

(a) substances of Classes 5.1 or 5.2 enclosed in packages bearing two labels conforming to model No. 3; or with

(b) liquids of Class 8 enclosed in packages bearing two labels conforming to model No. 5.

Handling and stowage

(1) Receptacles and packages containing substances of 1° and 3° must not be subjected to impact. They shall be so placed in the vehicle that they cannot overturn or fall or be displaced in any way.

(2) The use of readily inflammable materials for stowing packages in vehicles is prohibited.

Section 5

Special provisions concerning the operation of vehicles

Vehicle signs

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of substances of 1° to 4° and 6°. The provisions of paragraphs (2) to (5) shall also apply to the carriage of substances listed in Appendix B.5.

(2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 2C.

Section 6

Transitional provisions, derogations, and provisions peculiar to certain countries

(No special provisions)

Class 4.3

Substances which give off inflammable gases on contact with water

Section 1

General

Types of vehicles

Dangerous substances of Class 4.3. in packages shall be loaded on to closed or sheeted' vehicles. However, receptacles containing calcium carbide [2°(a)] may also be loaded on to open vehicles.

Carriage in bulk

Calcium carbide [2°(a)] and calcium silicide in lumps [2°(d)] may be carried in bulk in vehicles equipped with movable or fixed receptacles which must conform to the general conditions of packing set forth in marginal 2472 (1), (2) and (3). Such receptacles must be so designed that the openings used for loading or unloading can be closed hermetically.

Carriage in containers

Small containers used for the carriage in bulk of the substances referred to in marginal 43111 shall conform to the provisions of that marginal concerning vehicles and the receptacles of vehicles.

43404-
43413
43414

Handling and stowage

Packages shall be so stowed in the vehicle that they cannot be displaced therein. They shall be protected against any friction or impact. While packages are being handled, special measures shall be taken to prevent them from coming into contact with water.

Carriage in tanks

(1) Sodium, potassium, and alloys of sodium or potassium [1°(a)], and trichlorosilane (silicochloroform) (4°), may be carried in fixed tanks or in demountable tanks.

43415-
43499

(2) These same substances may also be carried in tank-containers.

Class 4.3

Section 5

Special provisions concerning the operation of vehicles

43122-
43127

Class 4.3

Vehicle signs

43500

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of dangerous substances of Class 4.3. The provisions of paragraphs (2) to (5) shall also apply to the carriage of substances listed in Appendix B.5.

(2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 2D.

Empty tanks

(1) To be accepted for carriage, empty tanks and empty demountable tanks which have contained sodium, potassium or alloys of sodium and potassium [1°(a)] shall be closed in the same manner and leak-proof in the same degree as though they were full.

43123

(2) For tank-containers, see marginal 212177.

43129-
43170
43171

43501-
43599

Crews of vehicles; Supervision

(1) A driver's assistant shall be carried on every transport unit carrying substances of Class 4.3 other than calcium carbide [2°(a)] and calcium silicide [2°(d)].

(2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

— The alkali metals and substances containing alkali metals of 1°, alkali metal hydrides of 2°(b) and trichlorosilane (silicochloroform) of 4°: 10,000 kg

Class 4.3

Section 6

Transitional provisions, derogations, and provisions peculiar to certain countries

43600-
50999

(No special provisions)

Class 5.1

Oxidizing substances

Section 1

General

Special requirements to be fulfilled by vehicles and their equipment

43200-
43299

51000
—51110

(No special requirements)

Class 4.3

Section 3

General service provisions

43300-
43399

(No special provisions)

Class 4.3

Section 4

Special provisions concerning loading, unloading and handling

43400-
43402
43403

Prohibition of mixed loading on one vehicle

Substances of Class 4.3 shall not be loaded together on one vehicle with substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No. 1.

Carriage in bulk

51111

(1) Substances of 4° to 6° and 7° (a) may be carried in bulk as a complete load.

(2) Substances of 4° and 5° shall be carried in open metal «vat vehicles» (vehicules cuves) covered with an impermeable non-inflammable sheet, or in metal containers [see marginal 51118 (2)].

(3) Substances of 6° and 7° (a) and (b) shall be carried in closed vehicles or in vehicles covered with an impermeable non-inflammable sheet, the vehicles being so constructed either that the substance cannot come into contact with wood or any other combustible material or that the entire surface of the floor and walls, if combustible, has been provided with an impermeable and incombustible surfacing or treated with substances rendering the wood incombustible.

51112
—51117

Carriage in containers

51118

(1) Fragile packages within the meaning of marginal 10102 (1) and those containing hydrogen peroxide or

solutions of hydrogen peroxide (1°) or tetranitromethane (2°) may not be carried in small containers.

(2) Containers intended for the carriage of substances of 4° and 5° shall be made of metal, be leak-proof, be covered with a lid or an impermeable sheet resistant to combustion, and be so constructed that the substances held in the containers cannot come into contact with wood or any other combustible material.

(3) Containers intended for the carriage of substances of 6° and 7° (a) and (b) shall be covered with a lid or an impermeable sheet resistant to combustion and be so constructed either that the substances held in the containers cannot come into contact with wood or any other combustible material or that the entire surface of the floor and walls, if made of wood, has been provided with an impermeable surfacing resistant to combustion or has been coated with sodium silicate or a similar substance.

Carriage in tanks

(1) Substances of 1° to 3°; solutions of 4° (also powdery sodium chlorate in the moist or the dry state); and hot aqueous solutions of ammonium nitrate of 6° (a) in a concentration of more than 80 per cent but not more than 93 per cent on condition that:

(a) the pH value, measured in a 10 per cent aqueous solution of the substance carried, is between 5 and 7, and that

(b) the solutions not containing any combustible substance in a quantity greater than 0.2 per cent or any chlorine compound in such quantity that the chlorine content exceeds 0.02 per cent may be carried in fixed tanks and in demountable tanks.

(2) The substances of 1° to 3°, the solutions of 4° and moist sodium chlorate of class 5.1 may be carried in tank-containers.

(3) Solutions of 4° (a), may be carried in reinforced-plastics tanks conforming to the provisions of Appendix B.1c.

Empty tanks

(1) To be accepted for carriage, empty fixed tanks and empty demountable tanks which have contained substances of Class 5.1 shall be closed in the same manner and leak-proof in the same degree as though they were full.

(2) For tank-containers, see marginal 212177.

(3) Empty fixed tanks and empty demountable tanks which have contained a chlorate, a perchlorate, a chlorite (4° and 5°), an inorganic nitrate (8°) or substances of 9° and 10° and have residues from their previous contents adhering to the outside are not to be accepted for carriage.

Crews of vehicles: Supervision

(1) A driver's assistant shall be carried on every transport unit carrying substances of Class 5.1, 1°, 2° and 3°

(2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

— The substances of 1° to 3° and 9° (a): 10.000 kg

Class 5.1

Section 2

Special requirements to be fulfilled by vehicles and their equipment

(No special requirements) 51200
51215

Cab 51216

The following provisions shall apply to the carriage of liquids of 1° in fixed tanks or in demountable tanks:

(1) unless the driver's cab is made of fire-proof materials, a metal shield of the same width as the same tank shall be fitted at the back of the cab;

(2) any windows in the back of the driver's cab or in the metal shield shall be hermetically closed. They shall be made of fire-resistant safety glass and have fire-proof frames; and

(3) there shall be a clear space of not less than 15 cm between the tank and the driver's cab or the shield.

Vehicle body 51217

For the carriage of liquids of 1° in fixed tanks or in demountable tanks, no wood (unless covered with metal or a suitable synthetic material) shall be used in the construction of any part of the vehicle situated to the rear of the shield prescribed in marginal 51216 (1).

51218
-51230

Engine 51231

For the carriage of liquids of 1° in fixed tanks or in demountable tanks, the engine and (except where the vehicle is driven by a diesel engine) the fuel tank shall be placed forward of the rear wall of the driver's cab or of the shield, or shall if placed otherwise be specially protected.

51122 51232
-51127 -51259

Special equipment 51260

Vehicles carrying liquids of 1° in fixed tanks or in demountable tanks shall carry on board a tank having a capacity of about 30 litres of water. The water tank shall be placed as securely as possible, and there shall be admixed to the water it contains an anti-freeze preparation which does not attack the skin or the mucous membranes and does not react chemically with the load.

51261
- 51299

Class 5.1

Section 3

General service provisions

Crews of vehicles: Supervision 51171

(1) A driver's assistant shall be carried on every transport unit carrying substances of Class 5.1, 1°, 2° and 3°

(2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

— The substances of 1° to 3° and 9° (a): 10.000 kg

51172 51304
- 51199 51399

Precautions with respect to articles of consumption 51305

In vehicles and at places of loading, unloading or transloading, tetranitromethane of 2o, barium chlorate of 4° (b), barium perchlorate of 4° (b), barium nitrate and lead nitrate of 7° (c), inorganic nitrites of 8°, barium dioxide of 9° (b) and barium permanganate of 9° (c) shall be kept away from foodstuffs and other articles of consumption

| | |
|---|--|
| Class 5.1 | Class 5.2 |
| Section 4 | Organic peroxides Section 1 General |
| Special provisions concerning loading, unloading and handling | |
| 51400 51402 | 52000- 52103 52104 Types of vehicles |
| Prohibition of mixed loading on one vehicle (1) Substances of Class 5.1 enclosed in packages bearing a label or two labels conforming to model No. 3 shall not be loaded together on one vehicle with substances of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No.1. | (1) Substances of 1° to 22°, 30° and 31° shall be loaded on to closed or sheeted vehicles. Substances of 45° to 55° enclosed in protective packagings filled with a refrigerant shall be loaded on to closed or sheeted vehicles. If the vehicles used are closed they shall be adequately ventilated. Sheeted vehicles shall be fitted with side boards and a tailboard. The sheets of these vehicles shall be of a impermeable material not readily inflammable. |
| (2) Substances of Class 5.1 enclosed in packages bearing two labels conforming to model No.3 shall not be loaded together on one vehicle with: | (2) Where, by reason of the provisions of marginal 52400, substances are required to be carried in insulated, refrigerated or mechanically-refrigerated vehicles, those vehicles shall satisfy the requirements of marginal 52248. |
| (a) substances of Classes 3, 4.1 or 4.2 enclosed in packages bearing two labels conforming to models Nos. 2A, 2B or 2C; or with | |
| (b) liquids of Class 8 enclosed in packages bearing two labels conforming to model No. 5. | 52105- 52117 52118 |
| 51404 -51413 | Carriage in containers Fragile packages within the meaning of marginal 10102 (1) shall not be carried in small containers. |
| Handling and stowage (1) Packages containing substances of Class 5.1 shall be placed flat on their bottoms. In addition, receptacles containing liquids of Class 5.1 shall be so wedged that they cannot overturn. | 52119- 52120 52121 Carriage in tanks |
| (2) The use of readily inflammable materials for stowing packages in vehicles is prohibited. | (1) Substances of 1°, 10°, 14°, 15° and 18° may be carried in fixed tanks and in demountable tanks. (2) These substances may also be carried in tank containers. |
| Cleaning after unloading After unloading, vehicles which have been carrying substances of 4° to 6° and 7° (a) and (b) in bulk shall be copiously swilled. | 52122- 52127 |
| 51415 | Class 5.2 |
| 51416 -51499 | 52128 Empty tanks (1) To be accepted for carriage, empty fixed tanks and empty demountable tanks of 99° shall be closed in the same manner and leak-proof in the same degree as though they were full. (2) For tank-containers, see marginal 212177. |
| Class 5.1 | |
| Section 5 | |
| Special provisions concerning the operation of vehicles | 52129- 52170 52171 |
| Vehicle signs | |
| (1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of substances of 1°, 2°, 3° of chlorates and inorganic chlorate weedkillers of 4° (a), barium perchlorate of 4° (b), substances of 8° and go (b), and barium permanganate of 9° (c). the provisions of paragraphs (2) to (5) shall also apply to the carriage of substances listed in Appendix B.5. | 521500 Crews of vehicles: Supervision (1) A driver's assistant shall be carried on every transport unit loaded with substances of 46° (a), 47° (a) and 49° (a) and on every transport unit loaded with more than 2,000 kg of substances of 45°, 46°(b) and (c), 50°, 51° to 53° and 55°. |
| (2) fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 3. | (2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below: |
| 51501- 51999 | Group A. Substances of 4°, 8°(a), 9°(a), 13°(a) and 17°(a) : 1,000 kg Group C. Substances of 35° : 1,000 kg Group E. Substances of 46°(a), 47°(a) and 49°(a) : 100 kg Substances of 45°, 46°(b) and (c), 47°(b), 48°, 49°(b), 50°-55° : 2,000 kg |
| Class 5.1 | |
| Section 6 | |
| Transitional provisions, derogations, and provisions peculiar to certain countries | |
| (No special provisions) | 52172- 52199 |
| 51600- 51999 | |

Class 5.2

Section 2

Special requirements to be fulfilled by vehicles and their equipment

Insulated, refrigerated and mechanically - refrigerated vehicles

Insulated, refrigerated and mechanically - refrigerated vehicles used by reason of the requirements of marginal 52400 shall conform to the following provisions:

(a) the vehicle used shall be such and be so equipped as regards its insulation and source of cold that the maximum temperature prescribed in marginal 52400 is not exceeded whatever the atmospheric conditions may be;

(b) the vehicle shall be so equipped that vapours from the substances carried cannot penetrate into the cab;

(c) a suitable device shall be provided enabling the temperature prevailing in the loading space to be determined at any time from the driver's cab;

(d) the loading space shall be provided with vents or ventilating valves if there is any risk of a dangerous excess pressure arising therein. Care shall be taken where necessary to ensure that refrigeration is not impaired by the vents or ventilating valves;

(e) the refrigerant used shall not be inflammable;

(f) the refrigerating appliance of a mechanically - refrigerated vehicle shall be capable of operating independently of the engine used to propel the vehicle.

52200-
52247
52248

Class 5.2

Section 3

General service provisions

(No special provisions)

52249-
52299

Class 5.2

Section 4

Special provisions concerning loading, unloading and handling

Method of despatch and restrictions on forwarding

(1) Substances of Group E shall be forwarded in such manner that the ambient temperatures indicated below are not exceeded:

| substances of 45° | maximum | temperature | +10°C |
|---------------------|---------|-------------|-------|
| » 46°(a) | » | » | -10°C |
| » 46°(b) and (c) | » | » | -10°C |
| » 47°(a) | » | » | -10°C |
| » 47°(b) | » | » | -10°C |
| » 48° | » | » | +2°C |
| » 49°(a) | » | » | -10°C |
| » 49°(b) | » | » | -10°C |
| » with phlegmatizer | » | » | +2°C |
| » with solvent | » | » | -5°C |
| » 50° | » | » | 0°C |
| » 51° | » | » | 0°C |
| » 52° | » | » | +20°C |
| » 53° | » | » | -10°C |
| » 54° | » | » | +20°C |
| » 55° | » | » | +10°C |

(2) Where substances of Group E are not carried in mechanically - refrigerated vehicles, the quantity of refrigerant in the protective packaging shall be so proportioned that the temperatures specified in paragraph (1) above are not exceeded at any time during carriage, which term here includes loading and unloading.

Class 5.2

(3) The use of liquid air liquid oxygen as a refrigerant is prohibited.

(4) The temperature of refrigeration shall be so selected as to avoid any danger which might arise from the separation of phases.

Limitation of the quantities carried

A transport unit shall not carry more than 750 kg of substances of 46° (a), 47° (a) and 49° (a), no more than 5,000 kg of substances of 45°, 46° (b) and (c), 47° (b), 48°, 49°(b), 50° to 53° and 55°, no more than 10,000 kg of substances of 54°.

Prohibition of mixed loading on one vehicle

Substances of Class 5.2 shall not be loaded together on one vehicle with:

(a) substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No. 1; with

(b) substances of Classes 3, 4.1 or 4.2 enclosed in packages bearing two labels conforming to models Nos. 2A, 2B or 2C; or with

(c) liquids of Class 8 enclosed in packages bearing two labels conforming to model No. 5.

Cleaning before loading

Vehicles for the carriage of packages containing substances of Class 5.2 shall be carefully cleaned.

Handling and stowage

(1) Packages containing substances of Class 5.2 shall be loaded in such a manner that they can be unloaded one by one at the point of destination without its being necessary to rearrange the load.

(2) Packages containing substances of Class 5.2 shall be kept upright and be so secured and fixed that they cannot overturn or fall. They shall be protected against any damage which might be caused by other packages.

Class 5.2

(3) The use of readily inflammable materials for stowing packages in vehicles is prohibited.

(4) Packages containing substances of Group E shall not be placed on top of other goods; in addition, they shall be so stowed as to be readily accessible.

(5) Substances of Group E shall be loaded and unloaded without intermediate storage, and shall in the event of transloading be transferred directly from one vehicle to another. The prescribed maximum temperatures shall not be exceeded during such handling (see marginal 52400 (1))

Class 5.2

Section 5

Special provisions concerning the operation of vehicles

Vehicle signs

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of dangerous substances of Class 5.2. The provisions of paragraphs (2) to (5) shall apply to substances listed in Appendix B.5.

(2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 3.

Halts of limited duration for service requirements

During the carriage of substances of 46° (a), 47° (a) and 49° (a), halts for service requirements shall so far as

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(contd)

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(contd)

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52508
52509

possible not be made near inhabited places or places of resort. A halt near such a place may not be prolonged except with the agreement of the competent authorities. The same rule shall apply where one transport unit is loaded with more than 2,000 kg of substances of 45°, 46° (b) and (c), 48°, 49° (b) and 50° to 55°.

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| Class 5.2 | 52510 |
| Section 6 | 52599 |
| Transitional provisions, derogations and provisions peculiar to certain countries | |
| (No special provisions) | 52600 60999 |

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|------------------|-------------------|
| Class 6.1 | |
| Toxic substances | |
| Section 1 | |
| General | |
| | 61 000 |
| Carriage in bulk | -61 110 61 111 |

(1) Substances of 41° and 73° may be carried in bulk as a complete load.

(2) Substances of 41° shall be carried in closed or sheeted vehicles and those of 73° in open, sheeted or movable-roof vehicles

| | |
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| | 61 112 |
| Carriage in containers | -61 117 61 118 |

Fragile packages within the meaning of marginal 10 102 (1) may not be carried in small containers.

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| | 61 119 |
| Carriage in tanks | -61 120 61 121 |

(1) The following substances may be carried in fixed tanks or in demountable tanks:

(a) the highly toxic substances listed by name in 1° (b) to 5°;

(b) the toxic substances, carried in the liquid state, of 11°(a); 12°, (b) to (e); 13°(b); 14°; 52°; 81°(a); and 82°(a); and substances assimilable to them;

(c) the other toxic and harmful substances carried in the liquid state, of 11° to 13°; 21° to 23°; 31°, (b) and (c); 32° (b); 61°; 62°; 81° to 83°; and substances assimilable to them; and

(d) the powdery or granular toxic and harmful substances of 21° to 23°; 31° (a); 41°; 62°; 71° to 75°; 82° to 84°; and substances assimilable to them.

(2) The following substances of marginal 2601 may be carried in tank-containers:

Acrylonitrile (2°(a)), acetonitrile (methyl cyanide) (2°(b)), aqueous solutions of ethyleneimine (3°), allyl chloride (4°(a)), methyl chloroformate (4°(b)), ethyl chloroformate (4°(c)), 2-cyanopropane-2-ol (acetone cyanhydrin) (11°(a)), aniline (11° (b)), 1-chloro-2,3-epoxypropane (epichlorohydrin) (12°(a)), 2,2-dichlorodiethyl ether (chloroethyl ether, 2-chloroethyl ether) (12°(f)), allyl alcohol (13° (a)), dimethyl sulphate (13° (d)), phenol (13° (c)), lead alkyls (14°), 2-bromophenylacetone (bromobenzyl cyanide) (21°(a)), phenylcarbamylamine chloride (21°(b)), 2,4-diisocyanatotoluene (21°(c)), and its mixtures with 2,6-diisocyanatotoluene (which are assimilated to it), allyl isothiocyanate (21°(d)), chloroanilines (21°(e)), mononitroanilines and dinitroanilines (21°(f)), naphthylamines (21°(g)), 2,4-diaminotoluene (21°(h)), dinitrobenzenes (21°(i)), chloronitrobenzenes (21°(k)), mononitrotoluenes (21°(l)), dinitrotoluenes (21°(m)), nitroxylenes (21°(n)), toluidines (21°(o)), xylydines (21°(p)), cresols (22°(a)), xylenols (22°(b)), xylyl bromide (23°(a)), phenacyl chloride (w-chloroacetophenone) (23°(b)), phenacyl bromide (w-bromoacetophenone) (23°(c)), 4-chloroacetophenone (methyl p-chlorophenylketone) (23°(d)), symmetrical dichloroacetone (23°(e)), solutions of inorganic cyanides (31°(b)), ethylene dibromide (symmetrical dibromoethane) (61°(a)),

and carbon tetrachloride, chloroform and methylene chloride (which are assimilated to it), methyl chloroacetate (61°(e)), ethyl chloroacetate (61°(f)), benzyl chloride (61°(k)), benzene trichloride which is assimilated to substances of 62°, and substances and preparations used as pesticides (81° - 83°).

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| | 61 122 |
| Tanks | -61 126 61 127 |

The outside of the tanks must not be contaminated with toxic substances.

Empty tanks 61 128

(1) To be accepted for carriage, empty-fixed tanks and empty demountable tanks must not be contaminated on the outside with toxic substances; they shall be closed in the same manner and leak-proof in the same degree as though they were full.

(2) For tank containers, see marginal 212 177.

(3) Empty demountable tanks and empty tank-containers of 91°, if forwarded otherwise than as a full load, shall bear labels conforming to model No 4 (see Annex A, Appendix A.9).

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| | 61 129 |
| Crews of vehicles: Supervision | -61 170 61 171 |

(1) A driver's assistant shall be carried on every transport unit carrying more than one metric ton of substances of Class 6.1 1° to 5° and 14°, or more than 250 kg of fragile packages containing these substances.

(2) The provisions of paragraph 10 171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

—The substances of 1° - 5° : 1,000 kg

—The substances of 11°(a), 12°(a), (b) and (d), 13° (a) and (b), 14° and 81° : 5,000 kg

| | |
|-------------------------|-------------------|
| | 61 172 |
| Instructions in writing | -61 184 61 185 |

Where substances of 14°, or receptacles which have contained them, are carried, the text of the written instructions shall specify, inter alia, the following:

«(A) Precautions to be observed

The substance being carried is highly toxic. In the event of leakage from one of the receptacles the following precautions should be taken:

1. avoid:

(a) contact with the skin;

(b) inhalation of vapours;

(c) introduction of the liquid into the mouth;

2. when drums which are torn open or damaged or wetted with liquid are being handled, the use of the following is compulsory:

(a) respirators;

(b) gloves made of rubber or some suitable plastics material;

(c) boots made of rubber or some suitable plastics material.

In the event of a serious accident involving obstruction of the public highway, it is essential that persons arriving to clear the site should be warned of the danger incurred.

(B) Action to be taken

All practicable steps, including the use of the notices referred to in marginal 61 260, shall be taken to keep persons at a distance of not less than 15 metres from the site of the accident; the notices contained in the equipment box shall be set up round the enclosure and onlookers shall be kept away.

The respirators, gloves and boots will enable one person to approach the load and verify its condition.

Should any of the drums be torn open, the following should be done:

(a) additional respirators, gloves and boots with which to equip the worker should be procured urgently;

(b) drums still intact should be set aside;

(c) the liquid spilled on the vehicle or on the ground should be neutralized by copious swilling with an aqueous

solution of potassium permanganate (a neutralizing agent a bottle of which is kept in the equipment box); the solution is easily prepared by stirring 0.5 kg of permanganate with 15 litres of water in a bucket; swilling should be carried out several times, because it takes 2 kg of potassium permanganate to neutralize completely 1 kg of the substance being carried.

Where practicable, the best way to decontaminate the area is to pour petrol over the spilled fluid and ignite it.

(C) Important notice

In case of accident, one of the first steps which must be taken is to notify by telegram or telephone ... (insert here the addresses and telephone numbers of the establishments to be notified in each of the countries in whose territory carriage is to take place).

A vehicle which has been contaminated with the substance carried shall not be put back into service until it has been decontaminated under the supervision of a competent person. Any wooden parts of the vehicle which have been attacked by the substance carried shall be removed and burnt.»

61 186

-61 199

Section 2

Special requirements to be fulfilled by vehicles and their equipment

61 200

61 239

-61 240

Fire-fighting appliances

The provisions of marginal 10 240 (1)(b) and (3) shall not apply to the carriage of dangerous substances of Class 6.1.

61 241

-61 250

61 251

Electrical equipment

(1) The provisions of Appendix B.2, marginal 220 000, shall not apply to the carriage of dangerous substances of Class 6.1.

(2) However, vehicles carrying liquids of 14° in fixed tanks or in demountable tanks shall be fitted with a switch enabling the entire electric circuit to be opened (cut-out switch). The switch shall be situated near the storage batteries. The electrical equipment shall satisfy the provisions of marginal 220 000 (2)(c) 2.

61 252

-61 259

61 260

Special equipment

Whenever substances of 14° or receptacles having contained them are carried, the driver shall, when he is given the transport document, at the same time be given a portable equipment box fitted with a handle and containing:

—three copies of the written instructions specifying the action to be taken in the event of an accident or incident occurring during carriage (see marginal 61 185);

—two pairs of gloves and two pairs of boots made of rubber or some suitable plastics material;

—two respirators with an activated-charcoal cartridge of 500 cm³ capacity;

—a bottle (made of bakelite, for example) containing 2 kg of potassium permanganate and bearing the inscription «dissolve in water before use»;

Class 6.1

—six fibreboard notices bearing the inscription «DANGER - volatile poison spilled. Do not approach without respirator» in the language or languages of each of the countries in whose territory carriage takes place.

-61260

This equipment box shall be kept in the driver's cab in a place where it can easily be found by the decontamination team.

61261

61299

Section 3

General service provisions

61300

61301

61302

Action to be taken in the event of accident

(See marginal 61 185)

Precautions with respect to articles of consumption 61303

In vehicles and at places of loading, unloading or transloading, dangerous substances of Class 6.1 shall be kept from foodstuffs and other articles of consumption.

61304

61352

61353

Portable lighting apparatus

The provisions of marginal 10353 shall not apply.

61354

61373

61374

Prohibition of smoking

The provisions of marginal 10374 shall not apply.

61375

61399

Section 4

Special provisions concerning loading, unloading and handling

Method of despatch and restrictions on forwarding 61400

The substances referred to under 2° (a) (acrylonitrile) and 61° (1) (1-chloro-1-nitropropane) may be carried in non-returnable metal drums [see marginal 2604(1) (b)2 and 2623(2)(d)] only as a complete load on open vehicles.

61401

61402

61403

Prohibition of mixed loading on one vehicle

Substances of Class 6.1 enclosed in packages bearing a label conforming to models Nos. 2A, 4 or 4A shall not be loaded together on one vehicle with substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No. 1.

61404

61406

61407

Places of loading and unloading

(1) The following operations are prohibited:

(a) loading or unloading substances of 1° to 5°, 13°(b) 14° and 81° in a public place in a built-up area without special permission from the competent authorities;

(b) loading or unloading the said substances in a public place elsewhere than in a built-up area without prior notice thereof having been given to the competent authorities, unless the said operations are justified for serious reasons of safety.

(2) If, for any reason, handling operations have to be carried out in a public place, then substances and articles of different kinds shall be separated according to the labels.

61408

61414

61415

Cleaning after unloading

(1) After unloading, vehicles which have been carrying substances of 41° and 73° in bulk shall be copiously swilled.

(2) A vehicle which has been contaminated with substances of 14° or with a mixture thereof shall not be put back into service until it has been decontaminated under the supervision of a competent person. Any wooden parts of the vehicle which have been attacked by substances of 14° shall be removed and burnt.

61416

61499

Section 5

Special provisions concerning the operation of vehicles

Vehicle signs 61500

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of substances of 1° to 5°, 11° to 14°, 21° to 23°, 31° to 33°, 41°, 51° to 54°, 61°, 62°, 81° and 82°. The provisions of paragraphs (2) to (5) shall also apply to the carriage of substances listed in Appendix B.5.

(2) Whenever substances of 14° are carried, the vehicle shall display on each side a warning notice to the effect that, if any liquid escapes, the greatest caution must be exercised and the vehicle must not be approached without gas-mask, gloves and boots of rubber or of some suitable plastics material.

(3) Fixed tanks containing substances listed in Appendix B.5 shall in addition bear on both sides and at the

rear a label conforming to model No. 4. Those containing or (empty tanks, uncleaned) having contained acetonitrile, 2-cyanopropan-2-ol (acetone cyanohydrin), allyl chloride or acrylonitrile shall in addition bear labels conforming to model No. 2A.

61501
61508
61509

Halts of limited duration for service requirements

Halts for service requirements shall so far as possible not be made near inhabited places or places of resort. A halt near such a place may not be prolonged except with the agreement of the competent authorities.

61510
61514
61515

Protection against action of sun

During the period April to October inclusive, when a vehicle carrying hydrocyanic acid [1°(a)] is stationary the packages shall, if the legislation of the country in which the vehicle is halted so requires, be effectively protected against the action of the sun, e.g. by means of sheets placed not less than 20 cm above the load.

Section 6

Transitional provisions, derogations, and provisions peculiar to certain countries

61516
61599

Transitional provisions

Pursuant to the last sentence of article 4, paragraph 2, of the Agreement, vehicles which were in service in the territory of a Contracting Party at the time of the entry into force of the Agreement under article 7, paragraph 1, or were put into service there within two months after its entry into force, may be used for the international carriage of substances of 14° only during a period of two years from such entry into force if their design and equipment do not fully satisfy the requirements laid down in this Annex for such carriage.

61606
61999

Class 6.2
Repugnant substances and substances liable to cause infection
Section 1
General

62000
62099
62100

Application of Chapter 1 of this Annex

The only provisions of this Annex other than those of Sections 1 to 6 below which apply to the carriage of dangerous substances of Class 6.2 are those of marginals 10001, 10100, 10102, 10111, 10118, 10181(1)(a), 10404, 10405, 10413, 10414, 10415 and 10419.

62101
62110
62111

Carriage in bulk

(1) Substances of 1°, 2°, 3° and 5° may be carried in bulk. Substances of 9° may not be carried otherwise than in bulk.

(2) When they are in bulk

(a) substances of 1°(a) and (c) and 2° shall be loaded on to specially fitted covered vehicles equipped with ventilating installations. During the months from November to February these substances may also be loaded on to open vehicles on condition that they been sprayed with suitable disinfectants to remove their bad odour;

(b) the following shall be loaded on to open vehicles; substances of 1°(b), after being sprayed with suitable disinfectants to remove their bad odour; substances of 3°; substances of 5°, after being sprayed with limewash so that no putrid odour is discernible; and substances of 9°.

Class 6.2

(3) In addition, when they are loaded on to open vehicles, they shall be covered with:

(a) a sheet impregnated with suitable disinfectants and itself covered with a second sheet: substances of 1°(a) and (c) and 2°;

(b) a sheet or tarred or bituminized fibreboard (and sprayed with suitable disinfectants): fresh horns, claws, hoofs or bones [1°(b)];

(c) a sheet: substances of 3°, unless they are sprayed with suitable disinfectants to prevent any bad odour; and

(d) a sheet: substances of 9°.

62111
62112
62117
62118

Carriage in containers

The carriage of substances of 9° in small containers is prohibited.

Crews of Vehicles; Supervision

The provisions of marginal 10171 (2) shall not apply.

62119
62170
62171
62172
62199

Class 6.2

Section 2

Special requirements to be fulfilled by vehicles and their equipment

(No special requirements)

62200
62299

Class 6.2

Section 3

General service provisions

62300
62302
62303

Precautions with respect to articles of consumption

In vehicles and at places of loading, unloading and transloading, dangerous substances of Class 6.2 other than substances of 7° and than substances of 8° packed in conformity with the provisions of Annex A, marginal 2659 (2) (a) or (b), shall be kept away from foodstuffs and other articles of consumption.

62304
62399

Class 6.2

Section 4

Special provisions concerning loading, unloading and handling

62400
62402
62403

Prohibition of mixed loading on one vehicle

Substances of 9° and 10° shall not be loaded together on one vehicle with dangerous substances of Class 5.2.

62404
62414
62415

Cleaning after unloading

After unloading, vehicles which have been carrying substances of Class 6.2 in bulk shall be copiously swilled and treated with suitable disinfectants.

62416
62499

Class 6.2

Section 5

Special provisions concerning the operation of vehicles

(No special provisions)

62500
62599

Class 6.2

Section 6

Transitional provisions, derogations and provisions peculiar to certain countries

(No special provisions)

62600
70999

| | | | |
|---|--------|--------|--|
| Class 7 | | | |
| Radioactive Substances | | | |
| Section 1 | | | |
| General | | | |
| Carriage | 71000 | | |
| For details see the relevant schedule in marginal 2703. | | | |
| | 71001 | 81112 | |
| | 71170 | -81117 | |
| | 71171 | | |
| Crews of vehicles: supervision | | | |
| The provisions of marginal 10171 (2) shall apply to all substances, in whatever quantity. However, the provisions of marginal 10171 (2) need not be applied where: | | | |
| (a) the loaded compartment is locked and the packages carried are otherwise protected against any illicit unloading, and | | | |
| (b) the dose rate does not exceed 0.5 mR/h at any accessible point on the surface of the vehicle. | | | |
| | 71172 | | |
| | 71199 | | |
| Class 7 | | | |
| Section 2 | | | |
| Special requirements to be fulfilled by vehicles and their equipment | | | |
| Provisions | 71200 | | |
| For details see the relevant schedule in marginal 2703. | | | |
| | 71201 | | |
| | 71299 | | |
| Section 3 | | | |
| General Service Provisions | | | |
| Provisions | 71300 | | |
| For details see the relevant schedule in marginal 2703. | | | |
| | 71301 | | |
| | 71373 | | |
| | 71374 | | |
| Prohibition of smoking | | | |
| The provisions of marginal 10374 shall not apply. | | | |
| | 71375 | | |
| | 71399 | | |
| Section 4 | | | |
| Special provisions concerning loading, unloading and handling | | | |
| Provisions | 71400 | | |
| For details see the relevant schedule in marginal 2703. | | | |
| | 71401 | | |
| | 71499 | | |
| Section 5 | | | |
| Special provisions concerning the operation of vehicles | | | |
| Vehicle signs | 71500 | | |
| (1) Marginal 10500 shall not apply. | | | |
| (2) Every road vehicle carrying radioactive substances shall bear on the outside of each side wall and of the rear wall a label conforming to the model shown in Appendix B.4, marginal 240010. If loading is done by the sender, it shall be his duty to affix these labels to the vehicles. | | | |
| | 71501 | | |
| | 71506 | | |
| | 71507 | | |
| Parking of a vehicle constituting a special danger | | | |
| (See, in addition to marginal 10507, marginal 3695 of Appendix A.6). | | | |
| | 71508 | 81129 | |
| | 71599 | 81170 | |
| Section 6 | | | |
| Transitional provisions, derogations, and provisions peculiar to certain countries | | | |
| | 71600 | | |
| (No special provisions). | 80999 | | |
| Class 8 | | | |
| Corrosive substances | | | |
| Section 1 | | | |
| General | | | |
| | 81000 | | |
| | -81110 | | |
| Carriage in bulk | 81111 | | |
| (1) Lead sludge containing sulphuric acid [1° (e)] and | | | |
| bisulphates (13°) may be carried in bulk as a full load. | | | |
| (2) For such carriage, the body of the vehicle shall be lined with lead or with a sufficient thickness of paraffin-waxed or tarred fibreboard, and if the vehicle is sheeted the sheet shall be so placed that it cannot touch the load. | | | |
| | | 81112 | |
| | | -81117 | |
| | | | |
| | | 81118 | |
| Carriage in containers | | | |
| (1) Fragile packages within the meaning of marginal 10102 (1) and those containing dangerous substances of 1° to 7°, 9°, 14°, 33° and 41° shall not be carried in small containers. | | | |
| (2) Small containers used for the carriage of bisulphates (13°) in bulk shall be lined with lead or with a sufficient thickness of paraffin | | | |
| -waxed or tarred fibreboard. | | | |
| (3) The carriage in bulk in small containers of lead sludge containing sulphuric acid of 1° (e) is prohibited. | | | |
| | | 81119 | |
| | | -81120 | |
| Carriage in tanks | | | |
| | | 81121 | |
| (1) All substances of marginal 2801 or covered by a collective heading may, if their physical state so permits, be carried in fixed tanks or in demountable tanks. | | | |
| (2) these same substances may also be carried in tank-containers. However, hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)] may not be carried in tank-containers of a cubic capacity exceeding 1 m ³ . | | | |
| (3) The following may be carried in reinforced-plastics tanks conforming to the provisions of Appendix B.1c: substances of 1° (b), (c) and (d) and 2° (b) and (c), solutions of hydrochloric acid of 5°, and substances of 32°, 37° and 41°. | | | |
| Class 8 | | | |
| | | 81122 | |
| | | -81127 | |
| Empty tanks | | | |
| | | 81128 | |
| (1) Empty fixed tanks and empty demountable tanks of 51° shall be closed in the same manner and leak-proof in the same degree as though they were full. Fixed tanks which have contained bromine (14°) shall be hermetically closed. | | | |
| (2) For tank-containers, see marginal 212177. | | | |
| (3) Tank-containers and demountable tanks which have contained hydrofluoric acid (6°) or bromine (14°) shall bear a label conforming to model No.5 (Appendix A.9). They shall have no traces of acid or bromine on the outside. | | | |
| | | 81129 | |
| | | 81170 | |
| Crews of vehicles; Supervision | | | |
| | | 81171 | |
| (1) A driver's assistant shall be carried on every transport unit carrying more than 250 kg of dangerous substances of Class 8 in fragile packages, or more than three metric tons of substances of 6°, 7°, 11°, 14°, 22°, 31°, 32° and 37°. | | | |
| (2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below: | | | |
| Chlorosulphonic acid, chlorides and oxychlorides of sulphur, and silicon tetrachloride, of 11° (a), antimony pentafluoride of 15° (b), bromine trifluoride and bromine pentafluoride of 15° (d), acetyl chloride, acetyl bromide and benzoyl chloride of 22°, and hydrazine in aqueous solutions containing not more than 72% hydrazine, of 34°: 10.000 kg. | | | |
| Bromine of 14°: 1.00 kg. | | | |
| | | 81172 | |
| | | -81199 | |

| | | | |
|--|--|--|--|
| Class 8 | | Cleaning before loading | |
| Section 2 | | Vehicles for the carriage of packages containing substances of 2° (a) and 3° (a) shall be carefully cleaned and, in particular, cleared of any combustible waste (straw, hay, paper, etc.). | |
| Special requirements to be fulfilled by vehicles and their equipment | | Handling and stowage | |
| | | 81200 | |
| | | -81239 | |
| Fire-fighting appliances | | 81240 | |
| The provisions of marginal 10240 (1) (b) and (3) shall not apply to the carriage of dangerous substances of Class 8 other than those of 2° (a) and 3° (a). | | (1) All packages containing substances of 2° (a) and 3° (a) shall rest on a stout floor, be placed with their openings at the top, and be so wedged that they cannot overturn. | |
| | | (2) The use of readily inflammable materials for stowing such packages in vehicles is prohibited. | |
| | | (3) Fragile packages shall be so wedged so as to prevent any displacement and any spilling of the contents. | |
| | | 81241 | |
| | | -81250 | |
| Electrical equipment | | 81251 | |
| The provisions of Appendix B.2, marginal 220000, shall not apply to the carriage of dangerous substances of Class 8 other than those of 2° (a) and 3° (a). | | Class 8 | |
| | | Section 5 | |
| | | Special provisions concerning the operation of vehicles | |
| | | 81252 | |
| | | -81299 | |
| Class 8 | | Vehicle signs | |
| Section 3 | | 81500 | |
| General service provisions | | (1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of substances of 1° to 7°, 9°, 11°, 12°, 14°, 15°, 21° (b), (c) and (e), 22°, 31° to 35°, 37° and 41°. The provisions of paragraphs (2) to (5) shall also apply to substances listed in Appendix B.5. | |
| | | (2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No.5. | |
| | | 81300 | |
| | | -81352 | |
| Portable lighting apparatus | | 81353 | |
| The provision of marginal 10353 shall not apply. | | 81501 | |
| | | -81599 | |
| | | 81354 | |
| | | -81373 | |
| Prohibition of smoking | | 81374 | |
| The provisions of marginal 10374 shall not apply. | | Class 8 | |
| | | Section 6 | |
| | | Transitional provisions, derogations, and provisions peculiar to certain countries | |
| | | 81375 | |
| | | 81399 | |
| | | (No special provisions) | |
| Class 8 | | 81600 | |
| Section 4 | | 199999 | |
| Special provisions concerning loading, unloading, and handling | | APPENDICES | |
| | | PROVISIONS COMMON TO THE B.1 APPENDICES | |
| Prohibition of mixed loading on one vehicle | | (1) The scope of application of the various B.1 Appendices is as follows: | |
| (1) Substances of Class 8 enclosed in packages bearing a label or two labels conforming to model No.5 shall not be loaded together on one vehicle with substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No.1. | | (a) Appendix B.1a applies to tanks other than tank-containers; | |
| (2) Liquids of Class 8 enclosed in packages bearing two labels conforming to model No.5 shall not be loaded together in one vehicle with: | | (b) Appendix B.1b applies to tank-containers; | |
| (a) substances of Classes 3, 4.1 or 4.2 enclosed in packages bearing two labels conforming to models Nos. 2A, 2B or 2C; or with | | (c) Appendix B.1c applies to tanks, other than batteries of receptacles and tank-containers, made of reinforced plastics; | |
| (b) substances of Classes 5.1 or 5.2 enclosed in packages bearing two labels conforming to model No.3. | | (d) for receptacles, see the relevant requirements of Annex A (Packages); and | |
| | | (e) Appendix B.1d is concerned with the materials and construction of fixed tanks, of demountable tanks, and of shells of tank-containers, intended for the carriage of deeply - refrigerated liquefied gases of Class 2. | |
| | | (2) By derogation from the definition given in marginal 10102 (1), the term «tank» when used alone in Appendix B.1a and Appendix B.1c does not cover tank-containers. However, some of the requirements of Appendix B.1a may be made applicable to tank-containers by the provisions of Annex B and Appendix B.1b. | |
| | | (3) It is recalled that marginal 10121 (1) prohibits the carriage of dangerous substances in tanks except where such carriage is expressly authorized. The B.1 Appendices are therefore confined to provisions applicable to tanks or | |
| | | 81400 | |
| | | -81402 | |
| | | 81043 | |
| | | 81404 | |
| | | -81412 | |
| | | 81413 | |

tank-containers used for transport operations which are expressly allowed.

200001-
211099

Appendix B.1a
PROVISIONS CONCERNING FIXED TANKS
(TANK-VEHICLES), DEMOUNTABLE TANKS
AND BATTERIES OF RECEPTACLES

Note: Chapter I sets out the requirements applicable to fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles intended for the carriage of substances of any Class. Chapter II contains special requirements supplementing or modifying the requirements of Chapter I.

Chapter I
REQUIREMENTS APPLICABLE TO ALL CLASSES

Section 1
General; scope; definitions

These requirements shall apply to fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles used for the carriage of liquid, gaseous, powdery or granular substances. 211100

(1) In addition to the vehicle proper, or the units of running gear used in its stead, a tank-vehicle comprises one or more shells, their items of equipment and the fittings for attaching them to the vehicle or to the running-gear units. 211101

(2) When attached to the carrier vehicle, the demountable tank or battery of receptacles shall meet the requirements prescribed for tank-vehicles.

In the following requirements. 211102

(1) (a) «shell» means the tank proper (including the openings and their closures);

(b) «service equipment of the shell» means the filling, discharge, venting, safety, heating and heat-insulating devices and the measuring instruments;

(c) «structural equipment» means the reinforcing, fastening, protective and stabilizing members external or internal to the shell;

(2) (a) «calculation pressure» means a notional pressure which is used to calculate the thickness of the walls of the shell. It is equal to the test pressure except in relation to certain dangerous goods for which a special, higher calculation pressure is laid down. External or internal reinforcing devices shall not be taken into account in this calculation;

Appendix B.1a

(b) «maximum working pressure» means the highest of the following three pressures: 211102

1. the highest effective pressure allowed in the shell during filling (maximum filling pressure allowed);

2. the highest effective pressure allowed in the shell during discharge (maximum discharge pressure allowed);

3. the effective pressure to which the shell is subjected by its contents (including such extraneous gases as it may contain) at the maximum working temperature;

(c) «test pressure» means the highest effective pressure applied during the pressure test of the shell;

(d) «filling pressure» means the highest pressure actually built up in the shell when it is being filled under pressure;

(e) «discharge pressure» means the highest pressure actually built up in the shell when it is being discharged under pressure;

(3) «Leakage test» or «leakproofness test» means the test which consists in subjecting the shell to an effective internal pressure equal to the maximum working pressure,

but not less than 0.2 kg/cm² (gauge pressure), by a procedure approved by the competent authority.

211103-
211119

Section 2
Construction

The materials used shall meet the following requirements 211120

(1) Shells shall be made of suitable metallic materials which, unless other temperature ranges are prescribed in the various Classes, shall be resistant to brittle fracture and to fissurizing corrosion under tensile stress between -20°C and +50°C.

(2) For welded shells only materials of faultless weldability and whose adequate impact strength at an ambient temperature of -20°C can be guaranteed, particularly in the welds and the zones adjacent thereto, shall be used.

(3) Welds shall be skilfully made and shall afford the fullest safety.

With regard to the execution and checking of weld beads, see also marginal 211127 (7).

Appendix B.1a

Shells whose minimum wall thicknesses have been determined in accordance with marginal 211127 (3) to (6) shall be checked by the methods described in the definition of the weld coefficient 0.8. 211120 (contd)

(4) The materials of shells, or of their protective linings in contact with the contents, shall not contain substances liable to react dangerously with the contents, to form dangerous compounds, or substantially to weaken the material.

(5) The protective lining shall be so designed that its leakproofness remains unimpaired whatever the deformation liable to occur in normal carriage [211127 (1)].

(6) If contact between the substance carried and the material used for the construction of the shell entails a progressive decrease in the thickness of the walls, this thickness shall be increased at manufacture by an appropriate amount. This additional thickness to allow for corrosion shall not be taken into consideration in calculating the thickness of the shell walls.

(1) Shells, their attachments and their service and structural equipment shall be designed to withstand without loss of contents (other than quantities of gas escaping through any degassing vents): 211121

— static and dynamic stresses in normal carriage;
— prescribed minimum stresses as defined in marginals 211125 and 211127.

(2) In the case of vehicles in which the shell constitutes a stressed self-supporting member, the shell shall be designed to withstand the stresses thus imposed in addition to stresses from other sources.

The pressure on which the wall thickness of the shell is based shall not be less than the calculation pressure, but the stresses referred to in marginal 211121 shall also be taken into account. 211122

Unless specially prescribed otherwise in the various Classes, the following particulars shall be taken into account in the design of shells: 211123

(1) gravity-discharge shells intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of not more than 1.1 kg/cm² (absolute) shall be designed to a calculation pressure of twice the static pressure of the substance to be carried, but not less than twice the static pressure of water;

Appendix B.1a

(2) pressure - filled or pressure - discharge shells intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of not more than 1.1 kg/cm² (absolute) shall be designed to a calculation pressure equal to 1.3 times the filling or discharge pressure;

(3) shells - whatever their filling or discharge system - intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of not less than 1.1 and not more than 1.75 kg/cm² (absolute) shall be designed to a calculation pressure of at least 1.5 kg/cm² (gauge pressure), or 1.3 times the filling or discharge pressure, whichever is the higher;

(4) shells - whatever their filling or discharge system - intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of more than 1.75 kg/cm² (absolute) shall be designed to a calculation pressure equal to the higher of the following two pressures:

- 1.5 times the total pressure at 50°C, less 1 kg/cm², subject to a minimum of 4 kg/cm² (gauge);
- 1.3 times the filling or discharge pressure.

Tanks intended to contain certain dangerous substances shall be provided with special protection which shall be determined for the various Classes.

At the calculation pressure, the stress σ (sigma) at the most severely stressed point of the shell shall not exceed the material - dependent limits prescribed below. Allowance shall be made for any weakening due to the welds. In addition, in choosing the material and determining wall thickness, the maximum and minimum filling and working temperatures should be taken into account.

(1) For metals and alloys exhibiting a clearly-defined yield point or characterized by a guaranteed conventional yield stress (R_e) (generally 0.2 per cent of residual elongation and, in the case of austenitic steels, 1 per cent of maximum elongation):

(a) where the ratio R_e/R_m is not more than 0.66:
(R_e = apparent yield stress, or 0.2 per cent proof stress or 1 per cent proof stress in the case of austenitic steels;)

Appendix B.1a

R_m = guaranteed minimum tensile strength:

$$\sigma \leq 0.75 R_e$$

(b) Where the ratio R_e/R_m exceeds 0.66:

$$\sigma \leq 0.5 R_m$$

(2) For Metals and alloys exhibiting no clearly - defined apparent yield stress and characterized by a guaranteed minimum tensile strength R .

$$\sigma \leq 0.43 R_m$$

(3) For steel, the elongation at fracture shall be not less than

$$\frac{1,000}{\text{determined tensile strength in Kg/mm}^2}$$

but in any case it shall be not less than 16 per cent for fine - grained steels and not less than 20 per cent for other steels. For aluminium alloys the elongation at fracture shall be not less than 12 per cent.¹

¹ In the case of sheet metal the axis of the tensile testpiece shall be at right angles to the direction of rolling. The permanent elongation at fracture ($l = 5d$) shall be measured on a test - piece of circular cross - section in which the gauge length l is equal to five times the diameter d ; if test - pieces of rectangular section are used, the gauge length shall be calculated by the formula $l = 5.65 \sqrt{F_0}$, where F_0 is the initial cross - sectional area of the test piece.

211123
(contd)

Tanks intended for the carriage of liquids having a flash point of or below 55°C and for the carriage of inflammable gases shall be connected to all parts of the vehicle by equipotential connexion and shall be capable of being electrically earthed. Any metal contact capable of causing electrochemical corrosion shall be avoided.

Shells and their fastenings shall withstand the stresses specified in paragraph (1), and the wall thicknesses of shells shall be at least as determined in accordance with paragraphs (2) to (6) below.

(1) The shells and their fastenings shall be capable of absorbing, under the maximum permissible load, the following stresses:

- in the direction of travel: twice the total weight;
- at right angles to the direction of travel: the total weight;
- vertically upwards: the total weight.
- vertically downwards: twice the weight.

Under the stresses defined above, the stress at the most severely stressed point of the shell and its fastenings shall not exceed the value σ defined in Marginal 211 125.

(2) The thickness of the cylindrical wall of the shell shall be at least equal to that obtained by the following formula:

$$e = \frac{R \times D}{200 \times \sigma \times \lambda} \text{ mm,}$$

where P = calculation pressure in kg/mm²;

D = internal diameter of shell in mm;

σ = permissible stress, as defined in marginal 211 125 (1), (a) and (b), and (2), in Kg/mm²; and

λ = a coefficient, not exceeding 1, allowing for any weakening due to welds.

The thickness shall in no case be less than that defined in paragraphs (3) to (6) below.

(3) The walls and ends of shells of circular cross section not more than 1.80 m in diameter, ² other than those referred to in paragraph (6), shall not be less than 5mm thick if of mild steel³, or of equivalent thickness if of another metal. If the diameter exceeds 1.80m, this thickness shall be increased to 6 mm if the shell is of mild steel, ³ or to an equivalent thickness if the shell is of another metal. «Equivalent thickness» means the thickness obtained by the following formula:

$$e_1 = \frac{10 \times e_0}{(R_{m1} \times A_1)^{1/2}} \sqrt{4}$$

(4) Where protection of the shell against damage through lateral impact or overturning is provided, the competent authority may allow the aforesaid minimum thicknesses to be reduced in proportion to the protection provided; however, the said thicknesses shall not be less than 3 mm in the case of mild steel, ³ or than an equivalent thickness in the case of other materials, for shells not more than 1.80 m in diameter ² For shells with a diameter exceeding 1.80 m the aforesaid minimum thickness shall be increased to 4 mm in the case of mild steel ³ and to an equivalent thickness in the case of other metal. «Equivalent thickness» means the thickness obtained by the following formula:

² For shells not of circular cross - section, for example box - shaped or elliptical shells, the indicated diameters shall correspond to those calculated on the basis of a circular cross - section of the same area. For such shapes of cross - section the radius of convexity of the shell wall shall not exceed 2,000 mm at the sides or 3,000 mm at the top and bottom.

³ «Mild steel» means a steel having a minimum breaking strength between 37 and 44 kg/mm².

$$e_1 = \frac{10 \times e_0}{(Rm_1 \times A_1)^{1/3}} \quad 4/$$

Note: The following measures or equivalent measures may be adopted to protect the shell against damage:

(a) The shell may be provided on both sides, at a height situated between its centreline and its lower half, with protection against lateral impact consisting of a rolled metal girder extending at least 25 mm beyond the extreme outer edge of the shell. This girder shall be of such cross-section that if it is of mild steel³ or a stronger material it has a section modulus of at least 5 cm³, the force being directed horizontally and at right angles to the direction of travel. If weaker materials are used, the section modulus shall be increased proportionately to the limits of elongation. Protection against overturning may take the form of strengthening rings, protective canopies, or transverse or longitudinal members so shaped that in the event of overturning no damage is caused to the fittings and accessories mounted on the upper part of the shell.

(b) There is also protection:

1. Where shells are made with double walls, the space between the latter being evacuated of air. The aggregate thickness of the outer metal wall and the shell wall shall correspond to the minimum wall thickness prescribed in paragraph (3), and the minimum thickness of the wall of the shell itself shall not be less than the minimum thickness prescribed in paragraph (4);

2. where the shells are made with double walls with an intermediate layer of solid materials at least 50 mm thick, the outer wall having a thickness of at least 0.5 mm if it is made of mild steel³ and at least 2 mm if it is made of a plastics material reinforced with glass fibre. Solid foam (with an impact - absorption capacity like that, for example, of polyurethane foam of about 400 Kg/m³ density) may be used as the intermediate layer of solid material.

(5) The thickness of tank shells designed in accordance with marginal 211 123 (1) which either are of not more than 5,000 litres capacity or are divided into leak - proof compartments of not more than 5,000 litres unit capacity may be adjusted to a level which, unless prescribed otherwise in the various Classes, shall however not be less than the appropriate value shown in the following table:

| Maximum radius of curvature of shell (m) | capacity of shell or shell compartment (m ³) | Minimum thickness (mm) Mild steel |
|--|--|-----------------------------------|
| ≤ | ≤5.0 | 3 |
| 2 - 3 | ≤3.5 | 3 |
| | >3.5 but ≤5.0 | 4 |

Where a metal other than mild steel is used, the thickness shall be determined by the equivalence formula given in paragraph (3). The thickness of the partitions and surge - plates shall in no case be less than that of the shell.

(6) Surge - plates and partitions shall be dished, with a depth of dish of not less than 10 cm, or shall be corrugated, profiled or otherwise reinforced to give equivalent strength. The area of the surge - plate shall be at least

70 per cent of the cross - sectional area of the tank in which the surge - plate is fitted.

(7) The manufacturer's qualification for performing welding operations shall be one recognized by the competent authority. Welding shall be performed by skilled welders using a welding process whose effectiveness (including any heat treatments required) has been demonstrated by test. Non - destructive tests shall be carried out by radiography or by ultrasound and must confirm that the quality of the welding is appropriate to the stresses.

In determining the thickness of the shell walls in accordance with paragraph (2), the following values of the coefficient lambda (λ) should be adopted for the welds:

0.8: where the weld beads are so far as possible inspected visually on both faces and are subjected to a non destructive spot check with particular attention to connexions;

0.9: where all longitudinal beads throughout their length, all connexions, 25 per cent of circular beads, and welds for the assembly of large - diameter items of equipment are subjected to non - destructive checks. Beads shall be checked visually on both sides as far as possible;

1.0: where all beads are subjected to non-destructive checks and are so far as possible inspected visually on both sides. A weld test-piece shall be removed.

where the competent authority has doubts regarding the quality of weld beads, it may require additional checks.

(8) Measures shall be taken to protect shells against the risk of deformation as result of a negative internal pressure.

(9) The thermal insulation shall be so designed as not to hinder access to, or the operation of, filling and discharge devices and safety valves.

Stability

The overall Width of the ground - level bearing surface (distance between the outer points of contact with the ground of the right - hand tyre and the left - hand tyre of same axle) shall be at least equal to 90 per cent of the height of the centre of gravity of the laden tank-vehicle. In an articulated vehicle the weight on the axles of the load - carrying unit of the laden semi - trailer shall not exceed 60 per cent of the nominal total laden weight of the complete articulated vehicle.

Section 3

Items of equipment

The items or equipment, wherever situated, shall be so arranged as to be protected against the risk of being wrenched off or damaged during carriage or handling. They shall possess a degree of safety adapted to and comparable to that of the shells themselves, and shall in particular:

- be compatible with the substances carried; and
- meet the requirements of marginal 211 121.

As many operating parts as possible shall be served by the smallest possible number of apertures in the shell wall.

The leakproofness of the items of equipment shall be ensured even in the event of overturning of the vehicle.

Gaskets shall be made of material compatible with the substance carried and shall be replaced as soon as their effectiveness is impaired, for example as a result of ageing.

Gaskets ensuring the leakproofness of operating parts needing to be manipulated during normal use of the vehicle shall be so designed and arranged that manipulation of the operating part in which they are incorporated does not damage them.

Appendix B.1a

Every bottom-discharge shell, and in the case of compartmented bottom-discharge shells every compartment, shall be equipped with two mutually independent shut-off devices mounted in series, the first taking the form of an

211131

⁴ This formula is derived from the general formula

$$e_1 = e_0 \sqrt[3]{\frac{Rm_0 \times A_0}{Rm_1 \times A_1}}$$

where $Rm_0 = 37$;

$A_0 = 27$ for the mild steel of reference;

Rm_1 = minimum tensile strength of the metal chosen, in kg/mm²; and

A_1 = minimum elongation of the metal chosen on fracture under tensile stress, in per cent.

internal stop-valve⁵ mounted, with its seating, inside the shell and the second that of a sluice-valve or other equivalent device, at each end of the discharge pipe-socket. The internal stop-valve shall be operable from above or from below. If possible, the setting - open or closed - of the internal stop-valve shall be capable of being verified from the ground in both cases. The controls of the internal stop-valve shall be so designed as to prevent any inadvertent opening through impact or unconsidered action. The internal shut-off device must continue to be effective in the event of damage to the external control.

The position and/or direction of closure of the sluice-valves must be clearly apparent.

In order to avoid any loss of contents in the event of damage to the external filling and discharge fittings (pipes, lateral shut-off devices), the internal stop-valve and its seating shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to withstand them. The filling and discharge devices (including flanges or threaded plugs) and protective caps (if any) shall be capable of being secured against any inadvertent opening.

The shell or each of its compartments shall be provided with an opening large enough to permit inspection.

Shells intended for the carriage of substances all the openings for which are above the surface level of the liquid may be equipped, in the lower part of the body, with a cleaning aperture (first-hole). This aperture must be capable of being sealed by a flange so closed as to be leakproof and whose design must be approved by the competent authority or by a body designated by that authority. 211132

Shells intended for the carriage of liquids having a vapour pressure of not more than 1.1 kg/cm² (absolute) at 50° C shall have a venting system and a safety device to prevent the contents from spilling out if the shell overturns; otherwise they must conform to the requirements of marginals 211134 or 211135. 211133

Shells intended for the carriage of liquids having a vapour pressure of not less than 1.1 and not more than 1.75 kg/cm² (absolute) at 50° C shall have a safety valve set at not less than 1.5 kg/cm² gauge pressure and which must be fully open at a pressure not exceeding the test pressure; otherwise they must conform to the requirements of marginal 211135. 211134

Appendix B.1a

Shells intended for the carriage of liquids having a vapour pressure of not less than 1.75 and not more than 3 kg/cm² (absolute) at 50° C shall have a safety valve set at not less than 3 kg/cm² gauge pressure and which must be fully open at a pressure not exceeding the test pressure; otherwise they must be hermetically closed.⁶ 211135

No movable parts such as covers, closures, etc., which are liable to come into frictional or percussive contact with aluminium shells intended for the carriage of inflammable liquids having a flash-point of or below 55° C or for the carriage of inflammable gases may be made of unprotected corrodible steel. 211136

211137-
211139

Section 4

Type approval

The competent authority or a body designated by that 211140

authority shall issue in respect of each new type of tank a certificate attesting that the prototype tank, including the shell fastenings which it has surveyed, is suitable for the purpose for which it is intended and meets the construction requirements of Section 2, the equipment requirements of Section 3 and the conditions peculiar to the Classes of substances carried.

The test results, the substances for the carriage of which the tank is approved, and its approval number as a prototype shall be recorded in a test report.

This approval shall be valid for tanks manufactured according to this prototype without modification.

211141-
211149

Section 5

Tests

Tanks and their equipment shall, either together or separately, undergo an initial inspection before being put into service. This inspection shall include a check that the tank conforms to the approved prototype, a check of the design characteristics, an external and internal examination, a hydraulic pressure test at the test pressure indicated on the data plate, and a check of satisfactory operation of the equipment. 211150

Appendix. B.1a

The hydraulic pressure test shall be carried out before the installation of such thermal insulation as may be necessary. If the shells and their equipment are tested separately, they shall be jointly subjected to a leakproofness test after assembly. 211150

Tanks shall undergo periodic inspections at fixed intervals. 211151

The periodic inspections shall include an external and internal examination and, as a general rule, a hydraulic pressure test.⁷ Sheathing for thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the shell's characteristics.

The maximum intervals between periodic inspections shall be six years.

In addition, a leakproofness test and a check of the satisfactory operation of all the equipment shall be carried out every three years.

The tests, inspections and checks in accordance with marginals 211150 and 211151 shall be carried out by the expert approved by the competent authority. Certificates shall be issued showing the results of these operations. 211152

When the safety of the shell or of its equipment may be impaired as a result of repairs, alterations or accident, an exceptional check shall be carried out by the competent authority or by the expert approved by that authority. 211153

211154-
211159

Section 6

Marking

Every shell shall be fitted with a corrosion-resistant metal plate permanently attached to the shell in a place readily accessible for inspection. The following particulars at least shall be marked on the plate by stamping or by any other similar method. These particulars may be engraved directly on the walls of the shell itself, if the walls are so reinforced that the strength of the shell is not impaired: 211160

⁶ «Hermetically closed shells» means shells whose openings are hermetically closed and which are not equipped with safety valves, frangible disc or other similar safety devices. Shells having safety valves preceded by a frangible disc shall be deemed to be hermetically closed.

⁷ In special cases, and with the agreement of the expert approved by the competent authority, the hydraulic pressure test may be replaced by a pressure test using another liquid or a gas, where such an operation does not entail any danger.

⁵ Save as may be otherwise provided in the case of shells intended for the carriage of certain crystallizable or highly viscous substances, of deeply refrigerated liquefied gases, or of powdery or granular substances.

Appendix B.1a

approval number;
 manufacturer's name or mark;
 manufacturer's serial number;
 year of manufacture;
 test pressure in kg/cm² cm (gauge pressure);
 capacity in litres - in the case of multiple-element shells,
 the capacity of each element;
 design temperature (only if above +50° C) or below -20°
 C);
 date (month and year) of initial test and most recent pe-
 riodic test; and
 stamp of the expert who carried out the tests.

In addition, the maximum working pressure allowed
 shall be inscribed on pressure-filled or pressure-discharge
 shells.

The following particulars shall be inscribed on the tank- 211161
 vehicle itself or on a plate:

name of operator;
 unladen weight; and
 permissible maximum weight.

In addition, tank-vehicles shall bear the prescribed
 danger labels.

Section 7

Operation

The thickness of the walls of the shell shall not, throu- 211170
 ghout its use, fall below the minimum figure prescribed in
 marginal 211127 (2).

Shells shall not be loaded with any dangerous 211171
 substances other than those for whose carriage they have
 been approved. Foodstuffs may not be carried in these
 shells unless the necessary measures have been taken to
 prevent any danger to public health.

The following degrees of filling shall not be exceeded in 211172
 shells intended for the carriage of liquids at ambient tem-
 peratures:

(1) (a) where inflammable substances not presenting ad-
 ditional risks (e.g. toxic or corrosive properties) are loaded
 in shells with a venting system, with or without safety
 valves:

$$\text{degree of filling} = \frac{100}{1 + \alpha(50 - t_f)} \quad \text{or} \quad \frac{100}{1 + 35\alpha} \quad \% \text{ of}$$

capacity;

Appendix B.1a

(b) where toxic or corrosive substances, whether or not 211172
 presenting a fire risk, are loaded in shells with a venting
 system, with or without safety valves:

$$\text{degree of filling} = \frac{98}{1 + \alpha(50 - t_f)} \quad \text{or} \quad \frac{98}{1 + 35\alpha} \quad \% \text{ of}$$

capacity;

(c) where low-concentration inflammable substances
 and low-concentration acids and lyes are loaded in closed
 shells:

$$\text{degree of filling} = \frac{97}{1 + \alpha(50 - t_f)} \quad \text{or} \quad \frac{97}{1 + 35\alpha} \quad \% \text{ of}$$

capacity;

(d) where high-concentration toxic substances and high-
 concentration acids and lyes are loaded in closed shells:

$$\text{degree of filling} = \frac{95}{1 + \alpha(50 - t_f)} \quad \text{or} \quad \frac{95}{1 + 35\alpha} \quad \% \text{ of}$$

capacity.

(2) In these formulae, α represents the mean coefficient
 of cubic expansion of the liquid between 15° and 50° C, i.e.
 for a maximum variation in temperature of 35° C.

$$a \text{ is calculated by the formula: } a = \frac{d_{15} - d_{50}}{35 \times d_{50}}$$

where d_{15} and d_{50} are the densities of the liquid at 15° C
 and 50° C respectively and t_f is the mean temperature of
 the liquid at the time of filling.

(3) The provisions of paragraph (1) above shall not
 apply to shells whose contents are, by means of a heating
 device, maintained at a temperature above 50° C during
 carriage. In such a case the degree of filling at the outset
 shall be such, and the temperature so regulated, that the
 shell is not full to more than 95 per cent of its capacity at
 any time during carriage, and that the filling temperature is
 not exceeded.

(4) Where hot substances are loaded, the temperature of
 the outer surface of the shell or of the thermal insulation
 shall not exceed 70° C during carriage.

Appendix B.1a

Where shells intended for the carriage of liquids⁸ are not 211173
 divided by partitions or surge-plates into sections of not
 more than 7.500 litres' capacity, they shall be filled to not
 less than 80 per cent of their capacity unless they are prac-
 tically empty.

Shells shall be closed in such a way that the contents 211174
 cannot run out uncontrolled. The leakproofness of the shell
 closures, particularly in the upper part of the dip-tube,
 shall be verified by the sender after the shell has been fil-
 led.

Where several closure systems are fitted in series, that 211175
 nearest to the substance being carried shall be closed first.

No dangerous residue shall adhere to the outside of 211176
 shells during carriage, whether they are full or empty.

To be accepted for carriage, empty shells must be 211177
 closed in the same manner and leakproof in the same
 degree as though they were full.

The connecting pipes between independent but inter- 211178
 connected shells of a transport unit shall be empty during
 carriage.

Flexible filling and discharge pipes which are not per-
 manently connected to the shell shall be empty during car-
 riage.

211179

Section 8

Transitional measures

Transitional measures

211180

Fixed tanks (tank-vehicles), demountable tanks and bat-
 teries of receptacles built before 1 October 1978 and not

⁸ For the purposes of this provision, substances whose efflux time
 at 20° C from a DIN cup with a 4-mm orifice does not exceed 10
 minutes (corresponding to an efflux time of less than 96 sec. at
 20° C from a No. 4 Ford cup, or to less than 2,680 centistokes)
 shall be deemed to be liquids.

conforming to the requirements of this Appendix may, if they were built in conformity with the requirements of ADR, be used during a period of six years from 1 October 1978. Fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles intended for the carriage of gases of Class 2 may however be used for 12 years from the same date if the periodic-test requirement is complied with.

On the expiry of this period the aforesaid units may be kept in service if the equipment of the shell meets the present requirements. The thickness of the shell wall, except in the case of shells intended for the carriage of gases of Class 2, 7° and 8°, shall be appropriate to a calculation pressure of not less than 4 kg/cm² (gauge pressure) in the case of mild steel and of not less than 2 kg/cm² (gauge pressure) in the case of aluminium and aluminium alloys. For other than circular cross-sections of tanks, the diameter to be used as a basis for calculation shall be that of a circle whose area is equal to that of the real cross-section of the tank.

Appendix B.1a

The periodic tests for fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles kept in service under these transitional provisions shall be conducted in accordance with the provisions of Section 5 and with the pertinent special provisions for the various Classes. Unless the earlier provisions prescribed a higher test pressure, a test pressure of 2 kg/cm² (gauge pressure) shall suffice for aluminium shells and aluminium-alloy shells.

Fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles which meet these transitional provisions may be used during a period of 15 years from 1 October 1978 for the carriage of the dangerous goods for which they have been approved. This transitional period shall not apply to fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles intended for the carriage of substances of Class 2, or to fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles whose wall thickness and items of equipment meet the requirements of this Appendix.

Appendix B.1a Chapter II

SPECIAL REQUIREMENTS SUPPLEMENTING OR MODIFYING THE REQUIREMENTS OF CHAPTER I Class 2

Gases: compressed, liquefied or dissolved under pressure

Section 1

General: scope: definitions

Section 2 Construction

Shells intended for the carriage of substances of 1o to 6° and 9° shall be made of steel. By derogation from marginal 211125(3), a minimum elongation at fracture of 14 per cent may be accepted in the case of weldless shells.

The requirements of Appendix B.1d, marginals 214250 to 214285, shall apply to the materials and construction of shells intended for the carriage of gases of 7o and 8o.

Shells intended for the carriage of chlorine or phosgene [3°(at)] shall be designed for a pressure of at least 22 Kg/cm (gauge pressure).

Section 3

Items of equipment

The discharge pipes of shells shall be capable of being closed not only by the devices prescribed in marginal 211131 but in addition by means of a blank flange or some other equally reliable device.

Shells intended for the carriage of liquefied gases may be provided with, in addition to the openings prescribed in marginal 211131, openings for the fitting of gauges, including pressure gauges, and thermometers and with bleed holes, as required for their operation and safety.

Safety devices shall meet the following requirements:

(1) Filling and discharge openings of shells intended for the carriage of liquefied inflammable and/or toxic gases shall be equipped with an instant-closing internal safety device which closes automatically in the event of an inadvertent movement of the tank. It must also be possible to close the device by remote control.

(2) All openings, other than those accommodating safety valves and than closed bleed holes, of shells intended for the carriage of liquefied inflammable and/or toxic gases shall, if their nominal diameter is more than 1.5 mm, be equipped with an internal shut-off device.

(3) By derogation from the provisions of paragraphs (1) and (2), shells intended for the carriage of deeply-refrigerated inflammable and/or toxic liquefied gases may be equipped with external devices in place of internal devices if the external devices afford protection at least equivalent to that afforded by the wall of the shell.

(4) If the shells are equipped with gauges, the latter shall not be made of a transparent material in direct contact with the substance carried. If there are thermometers, they shall not project directly into the gas or liquid through the shell wall.

(5) Shells intended for the carriage of chlorine or sulphur dioxide [3° (at)] or methyl mercaptan or hydrogen sulphide [3° (bt)] shall not have any opening below the surface level of the liquid. In addition, cleaning apertures (fist-holes) as referred to in marginal 211132 shall not be permitted.

(6) Filling and discharge openings situated in the upper part of shells shall be equipped not only with what is prescribed in paragraph (1), but in addition with a second, external, closing device. This device shall be capable of being closed by a blank flange or some other equally reliable device.

Safety valves shall meet the following requirements:

(1) Shells intended for the carriage of gases of 1° to 6° and 9° may be provided with not more than two safety valves whose aggregate clear cross-sectional area of passage at the seating or seatings shall be not less than 20 cm² per 30 m³ or part thereof of the receptacle's capacity. These valves shall be capable of opening automatically at a pressure of between 0.9 and 0.1 times the test pressure of the shell to which they are fitted. They shall be of such a type as to resist dynamic stresses, including liquid surge. The use of dead-weight or counter-weight valves is prohibited.

Shells intended for the carriage of gases of 1o to 9o harmful to the respiratory organs or entailing a poison risk⁹ shall not have safety valves unless the safety valves are preceded by a frangible disc. In the latter case the arrangement of the frangible disc and the safety valve shall be required to be satisfactory to the competent authority.

Where tank-vehicles are intended for carriage by sea, the provisions of this paragraph shall not prohibit the fitting of safety valves conforming to the regulations governing that mode of transport.

(2) Shells intended for the carriage of gases of 7o and 8o shall be equipped with two independent safety valves, each so designed as to allow the gases formed by evaporation during normal operation to escape from the shell in such a way that the pressure does not at any time exceed by more than 10 per cent the working pressure indicated on the shell. One of the two safety valves may be replaced by a frangible disc which shall be such as to burst at the test pressure. In the event of loss of the vacuum in a

⁹ Gases identified by the letter «b» in the list of substances are deemed to be gases harmful to the respiratory organs or entailing a poison risk.

double-walled shell, or of destruction of 20 per cent of the insulation of a single-walled shell, the safety valve and the frangible disc shall permit an outflow such that the pressure in the shell cannot exceed the test pressure.

(3) The safety valves of shells intended for the carriage of gases of 7° and 8° shall be capable of opening at the working pressure indicated on the shell. They shall be so designed as to function faultlessly even at their lowest working temperature. The reliability of their operation at that temperature shall be established and checked either by testing each valve or by testing a specimen valve of each design-type.

Thermal insulation

211234

(1) If shells intended for the carriage of liquefied gases of 3° and 4° are equipped with thermal insulation, such insulation shall consist of either:

- a sun shield covering not less than the upper third but not more than the upper half of the shell surface and separated from the shell by an air space at least 4 cm across; or

- a complete cladding, of adequate thickness, of insulating materials.

(2) Shells intended for the carriage of gases of 7° and 8° shall be thermally insulated. Thermal insulation shall be ensured by means of a continuous sheathing. If the space between the shell and the sheathing is exhausted of air (vacuum insulation), the protective sheathing shall be so designed as to withstand without deformation an external pressure of at least 1 kg/cm² (gauge pressure). By derogation from marginal 211102(2), external and internal reinforcing devices may be taken into account in the calculations. If the sheathing is so closed as to be gas-tight, a device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas-tightness of the shell or of its items of equipment. The device shall prevent the infiltration of moisture into the heat-insulating sheath.

(3) Shells intended for the carriage of liquefied gases having a boiling point below -182°C at atmospheric pressure shall not include any combustible material either in the thermal insulation or in the means of attachment to the frame.

The means of attachment of shells intended for the carriage of argon, nitrogen, helium or neon of 7°(a) or hydrogen of 7°(b) may, with the consent of the competent authority, contain plastic substances between the inner and the outer sheath.

For batteries of receptacles (see marginal 2212(1) (c))¹⁰ 211235 the following conditions shall be complied with:

(1) If one of the elements of a multiple-element shell is equipped with a safety valve and shut-off devices are provided between the elements, every element shall be so equipped.

(2) The filling and discharge devices may be affixed to a manifold.

10. The provisions of this Appendix are not applicable to frames of cylinders.

(3) Each element of a multiple-element shell intended for the carriage of compressed gases of 1° and 2° which are harmful to the respiratory organs or entail a poison risk⁹ or are inflammable, shall be capable of being isolated by a valve (cock).

(4) The elements of a multiple-element shell intended for the carriage of liquefied gases of 3o to 6o shall be so designed that they can be filled separately and can be kept isolated by a valve capable of being sealed.

(5) The following requirements shall apply to demountable tanks:

(a) they shall not be interconnected by a manifold; and

(b) if the demountable tanks can be rolled, the valves shall be provided with protective caps.

By derogation from the provisions of marginal 211131, 211236 shells intended for the carriage of deeply-refrigerated liquefied gases need not have an inspection aperture.

211237

211239

Section 4

Type approval

211240

(No special requirements)

211249

Section 5

Tests

The materials of shells intended for the carriage of 211250 gases of 7o and 8o shall be tested by the method described in Appendix V.1d, marginals 214275 to 214285.

The test-pressure levels shall be as follows:

211251

(1) For shells intended for the carriage of gases of 1o and 2o: the levels indicated in marginal 2219 (1) and (3).

(2) For shells intended for the carriage of gases of 3o and 4o:

(a) if the shells are not more than 1.5 m in diameter, the levels indicated in marginal 2220(2);

(b) if the shells are more than 1.5 m in diameter, the levels¹¹ indicated below:

11. 1. The prescribed test pressures are:

(a) if the shell is equipped with thermal insulation, at least equal to the vapour pressure, reduced by 1 kg/cm² of the liquid at 60°C, and not less than 10 kg/cm²;

(b) if the shell is not equipped with thermal insulation, at least equal to the vapour pressure, reduced by 1 kg/cm² of the liquid at 65°C, and not less than 10 kg/cm².

(2) In view of the high toxicity of phosgene [3o (a)], the minimum test pressure for this gas is fixed at 15 kg/cm² if the shell is equipped with thermal insulation and at 17 kg/cm² if it is not so equipped.

(3) The maximum values in Kg/litre prescribed for the degree of filling are calculated as follows: maximum weight of contents per litre of capacity = 0.95 × specific gravity of the liquid phase at 50°C.

| Description of substance | Item number | Minimum test pressure for shells | | Maximum weight of contents per litre of capacity kg |
|---|-------------|----------------------------------|--------------------|--|
| | | with thermal | without insulation | |
| | | kg/cm ² | kg/cm ² | |
| Bromochlorodifluoromethane (R 12 B1) | 3° (a) | 10 | 10 | 1.61 |
| Chlorodifluoromethane (R 22) | 3° (a) | 24 | 26 | 1.03 |
| Chloropentafluoroethane (R 115) | 3° (a) | 20 | 23 | 1.08 |
| 1-Chloro-2,2,2-trifluoroethane (R 133 a) | 3° (a) | 10 | 10 | 1.18 |
| Dichlorodifluoromethane (R 12) | 3° (a) | 15 | 16 | 1.15 |
| Dichlorofluoromethane (R 21) | 3° (a) | 10 | 10 | 1.23 |
| 1,2-Dichloro-1,2,2-tetrafluoroethane (R 114) | 3° (a) | 10 | 10 | 1.30 |
| Octafluorocyclobutane (RC 318) | 3° (a) | 10 | 10 | 1.34 |
| Ammonia | 3° (a t) | 26 | 29 | 0.53 |
| Methyl bromide | 3° (a t) | 10 | 10 | 1.51 |
| Chlorine | 3° (a t) | 17 | 19 | 1.25 |
| Hexafluoropropylene (R 216) | 3° (a t) | 17 | 19 | 1.11 |
| Hydrogen bromide | 3° (a t) | 50 | 55 | 1.20 |
| Nitrogen dioxide NO ₂ | 3° (a t) | 10 | 10 | 1.30 |
| Phosgene | 3° (a t) | 15 | 17 | 1.23 |
| Sulphur dioxide | 3° (a t) | 10 | 12 | 1.23 |
| Butane | 3° (b) | 10 | 10 | 0.51 |
| 1-Butene | 3° (b) | 10 | 10 | 0.53 |
| 1-Chloro-1,1-difluoroethane (R 142b) | 3° (b) | 10 | 10 | 0.99 |
| Cis-2-butene | 3° (b) | 10 | 10 | 0.55 |
| Cyclopropane | 3° (b) | 16 | 18 | 0.53 |
| 1,1-Difluoroethane (R 152a) | 3° (b) | 14 | 16 | 0.79 |
| Isobutane | 3° (b) | 10 | 10 | 0.49 |
| Isobutene | 3° (b) | 10 | 10 | 0.52 |
| Propane | 3° (3b) | 21 | 23 | 0.42 |
| Propylene | 3° (b) | 25 | 27 | 0.43 |
| Trans-2-butene | 3° (b) | 10 | 10 | 0.54 |
| 1,1,1-Trifluoroethane | 3° (b) | 28 | 32 | 0.79 |
| Dimethylamine | 3° (b t) | 10 | 10 | 0.59 |
| Dimethyl ether | 3° (b t) | 14 | 16 | 0.58 |
| Ethylamine | 3° (b t) | 10 | 10 | 0.61 |
| Ethyl Chloride | 3° (b t) | 10 | 10 | 0.80 |
| Hydrogen sulphide | 3° (b t) | 45 | 50 | 0.67 |
| Methylamine | 3° (b t) | 10 | 11 | 0.53 |
| Methyl chloride | 3° (b t) | 13 | 15 | 0.81 |
| Methyl mercaptan | 3° (b t) | 10 | 10 | 0.78 |
| Trimethylamine | 3° (b t) | 10 | 10 | 0.56 |
| 1,3-Butadiene | 3° (c) | 10 | 10 | 0.55 |
| Vinyl chloride | 3° (c) | 10 | 11 | 0.81 |
| Methyl vinyl ether | 3° (c t) | 10 | 10 | 0.67 |
| Trifluorochlorethylene (R 1113) | 3° (c t) | 15 | 17 | 1.13 |
| Vinyl bromide | 3° (c t) | 10 | 10 | 1.37 |
| Mixture F 1 | 4° (a) | 10 | 11 | 1.23 |
| Mixture F 2 | 4° (a) | 15 | 16 | 1.15 |
| Mixture F 3 | 4° (a) | 24 | 27 | 1.03 |
| Mixture of gases R 500 | 4° (a) | 18 | 20 | 1.01 |
| Mixture of gases R 502 | 4° (a) | 25 | 28 | 1.05 |
| Mixtures of 19 to 21 per cent by weight dichlorodifluoromethane (R 12) and 79 to 81 per cent by weight bromochlorodifluoromethane (R 12 B1) | 4° (a) | 10 | 11 | 1.50 |
| Mixtures of methyl bromide and chloropicrin | 4° (a t) | 10 | 10 | 1.51 |
| Mixture A (trade name: butane) | 4° (b) | 10 | 10 | 0.50 |
| Mixture A 0 (trade name: butane) | 4° (b) | 12 | 14 | 0.47 |
| Mixture A 1 | 4° (b) | 16 | 18 | 0.46 |
| Mixture B | 4° (b) | 20 | 23 | 0.43 |
| Mixture C (trade name: propane) | 4° (b) | 25 | 27 | 0.42 |
| Mixtures of hydrocarbons containing methane | 4° (b) | — | 225 | 0.187 |
| Mixtures of methyl chloride and methylene chloride | 4° (b t) | — | 300 | 0.244 |
| Mixtures of methyl chloride and chloropicrin | 4° (b t) | 13 | 15 | 0.81 |
| Mixtures of methyl bromide and ethylene bromide | 4° (b t) | 10 | 10 | 1.51 |
| Methylacetylene/propadiene and hydrocarbon mixtures | 4° (c) | 25 | 28 | 0.49 |
| Mixture P ₁ | 4° (c) | 22 | 23 | 0.47 |
| Ethylene oxide containing not more than 10 per cent carbon dioxide by weight | 4° (c t) | 24 | 26 | 0.73 |
| Ethylene oxide with nitrogen up to a total pressure of 10 kg/cm ² at 50° C | 4° (c t) | 15 | 15 | 0.78 |
| Dichlorodifluoromethane containing 12 per cent ethylene oxide by weight | 4° (c t) | 15 | 16 | 1.09 |

Appendix B.1a

(3) For shells intended for the carriage of gases of 5° and 6°:

211251
(contd)

(a) if the shells are not sheathed in thermal insulation: the levels indicated in marginal 2220 (3) and (4);
(b) if the shells are sheathed in thermal insulation: the levels indicated below:

| Description of substance | item number | Minimum test pressure Kg/cm ² | Maximum weight of contents per litre of capacity Kg |
|--|-------------|---|--|
| Bromotrifluoromethane (R 13 B 1) | 5° (a) | 120 | 1.50 |
| Carbon dioxide | 5° (a) | 190 | 0.73 |
| | | 225 | 0.78 |
| Chlorotrifluoromethane (R 13) | 5° (a) | 120 | 0.96 |
| | | 225 | 1.12 |
| Hexafluorethane (R 116) | 5° (a) | 160 | 1.28 |
| | | 200 | 1.34 |
| Nitrous oxide N ₂ O | 5° (a) | 225 | 0.78 |
| Sulphur hexafluoride | 5° (a) | 120 | 1.34 |
| Trifluoromethane (R 23) | 5° (a) | 190 | 0.92 |
| | | 250 | 0.99 |
| Xenon | 5° (a) | 120 | 1.30 |
| Hydrogen chloride | 5° (a t) | 120 | 0.69 |
| Ethane | 5° (b) | 120 | 0.32 |
| Ethylene | 5° (b) | 120 | 0.25 |
| | | 225 | 0.36 |
| 1,1-Difluoroethylene | 5° (c) | 120 | 0.66 |
| | | 225 | 0.78 |
| Vinyl fluoride | 5° (c) | 120 | 0.58 |
| | | 225 | 0.65 |
| Mixture of gases R 503 | 6° (a) | 31 | 0.11 |
| | | 42 | 0.21 |
| | | 100 | 0.76 |
| Carbon dioxide containing not more than 35 per cent ethylene oxide by weight | 6° (c) | 190 | 0.73 |
| | | 225 | 0.78 |
| Ethylene oxide containing more than 10 per cent but not more than 50 per cent carbon dioxide by weight | 6° (c t) | 190 | 0.66 |
| | | 250 | 0.75 |

Appendix B.1a

Where shells sheathed in thermal insulation are used which have been subjected to a test pressure lower than that shown in the table, the maximum weight of the contents per litre of capacity shall be such that the pressure reached in the shell by the substance in question at 55°C does not exceed the test pressure stamped on the shell. In such a case the maximum load allowed shall be prescribed by the expert approved by the competent authority.

(4) For shells intended for the carriage of ammonia dissolved under pressure [9o (a t)]:

| Description of substance | Item number kg/cm ² | Minimum test pressure | Maximum weight of contents per litre of capacity kg |
|--|-----------------------------------|-----------------------|--|
| Ammonia dissolved under pressure in water with more than 35 per cent but not more than 40 per cent ammonia by weight | 9o (a t) | 10 | 0.80 |
| with more than 40 per cent but not more than 50 per cent ammonia by weight | 9o (a t) | 10 | 0.77 |

(5) For shells intended for the carriage of gases of 7o and 8o: not less than 1.3 times the maximum permitted working pressure, as indicated on the shell, but not less than 3 kg/cm² (gauge pressure); for shells with vacuum insulation the test pressure shall be not less than 1.3 times the maximum permitted working pressure increased by 1 kg/cm².

The first hydraulic pressure test shall be carried out before the thermal insulation is placed in position.

the capacity of each shell intended for the carriage of gases of 3o to 6o and 9o shall be determined, under the supervision of an expert approved by the competent authority, by weighing of volumetric measurement of the quantity of water which fills the shell; any error in the measurement of shell capacity shall be of less than one per cent. Determination by a calculation based on the dimensions of the shell is not permitted. The maximum filling weights allowed in accordance with marginals 2220 (4) and 211251 (3) shall be prescribed by an approved expert.

Checking of the welds shall be carried out in accordance with the lambda-coefficient 1.0 requirements of marginal 211127 (7).

By derogation from the requirements of marginal 211151, the periodic tests shall take place:

(1) every three years

in the case of shells intended for the carriage of boron trifluoride [1o (a t)], town gas [2o (b t)], hydrogen bromide, chlorine, nitrogen dioxide, sulphur dioxide or phosgene [3o (a t)], hydrogen sulphide [3o (b t)], or hydrogen chloride [5o (a t)];

(2) every six years

in the case of shells intended for the carriage of other compressed and liquefied gases or of ammonia dissolved under pressure [9o (a t)]; and

(3) after six years' service and thereafter every twelve years

in the case of shells intended for the carriage of gases of 7o or 8o. A leakproofness check shall be performed by an approved expert six years after each periodic test.

Leakproofness tests of shells intended for the carriage of gases of 1o to 6o and 9o shall be performed at a pressure of not less than 4 kg/cm² (gauge pressure).

In the case of shells heat-insulated by vacuum, the hydraulic-pressure test and the check of the internal condition may, with the consent of the approved expert, be replaced by a leakproofness test and measurement of the vacuum. 211256

If apertures have been made, on the occasion of periodic inspections, in shells intended for the carriage of gases of 7o or 8o, the method by which they are hermetically closed before the shells are replaced in service shall be approved by the approved expert and shall ensure the integrity of the shell. 211257

211258
-211259

Section 6

Marking

The following additional particulars shall be marked by stamping or by any other similar method on the plate prescribed in marginal 211160, or directly on the walls of the shell itself if the walls are so reinforced that the strength of the shell is not impaired: 211260

(1) on shells intended for the carriage of only one substance:

the name of the gas in full.

This indication shall be supplemented in the case of shells intended for the carriage of compressed gases of 1o and 2o by an indication of the maximum filling pressure at 15°C allowed for the shell, and in the case of shells intended for the carriage of liquefied gases of 3o to 8o or of ammonia dissolved under pressure of 9o (a t) by an indication of the permissible maximum load in kg and of the filling temperature if below -20°C;

(2) on multi-purpose shells:

the names, in full, of the gases for whose carriage the shell is approved.

These particulars shall be supplemented by an indication of the permissible maximum load in kg for each gas;

(3) on shells intended for the carriage of gases of 7o or 8o: the working pressure; and

(4) on shells equipped with thermal insulation:

the inscription «thermally insulated» or «thermally insulated by vacuum».

The frame of a multiple-element shell shall bear near the filling point a plate specifying: 211261

the test pressure of the elements;

the maximum filling pressure at 15°C allowed for elements intended for compressed gases;

the number of elements;

the aggregate capacity of the elements in litres

the name of the gas in full;

and, in the case of liquefied gases:

the permissible maximum load per element, in kg.

In addition to the particulars prescribed in marginal 211161, the following shall be inscribed either on the tank-vehicle itself or on a plate: 211262

(a) either: «minimum filling temperature allowed: -20°C» or «minimum filling temperature allowed:....»;

(b) where the shell is intended for the carriage of one substance

the name of the gas in full;

for liquefied gas of 3o to 8o and for ammonia dissolved under pressure in water [9o (a t)], the permissible maximum load in kg

(c) where the shell is a multi-purpose shell:

the name in full of all the gases to whose carriage the shell is assigned, with an indication of the permissible maximum load in kg, for each gas;

(d) where the shell is equipped with thermal insulation: 211262

the inscription «thermally insulated» or «thermally insulated by vacuum», in an official language of the forwarding country and also in English, French or German, unless international road transport tariffs, if any, or agreements concluded between the countries concerned in the transport operation, provide otherwise.

211263

The plates on vehicles carrying demountable tanks as referred to in marginal 211235 (5) shall not bear the particulars prescribed in marginals 211161 and 211262.

211264

-211269

Section 7

Operation

A shell assigned at different times to the carriage of different liquefied gases of 3o to 8o (multi-purpose shell) may not carry substances other than those listed in one, and one only, of the following groups: 211270

Group 1: halogenated hydrocarbons of 3o (a) and 4o (a);

Group 2: hydrocarbons of 3o and 4o (b);

Groupe 3: ammonia [3o (a t)]; dimethyl ether, dimethylamine, ethylamine, methylamine and trimethylamine [3 (b t)]; and vinyl chloride [3o (c)];

Groupe 4: methyl bromide [3o (a t); ethyl chloride and methyl chloride [3o (b t)];

Groupe 5: mixtures of ethylene oxide with carbon dioxide and of ethylene oxide with nitrogen [4o (c t)];

Groupe 6: nitrogen, carbon dioxide, rare gases, nitrous oxide N₂O, and oxygen [7o (a)]; air, mixtures of nitrogen with rare gases, and mixtures of oxygen with nitrogen, also when they contain rare gases [8o (a)];

Groupe 7: ethane, ethylene, and methane [7o (b)]; and mixtures of methane with ethane, also when they contain propane or butane [8o (b)].

Shells which have been filled with a substance of group 1 or group 2 shall be emptied of liquefied gas before being loaded with another substance belonging to the same group. Shells which have been filled with a substance of groups 3 to 7 shall be completely emptied of liquefied gas and then blown down before being loaded with another substance belonging to the same group. 211271

The multiple use of shells for the carriage of liquefied gases of the same group shall be allowed if all the requirements prescribed for the gases to be carried in one and the same shell are observed. Such multiple use shall be subject to approval by an approved expert. 211272

The multiple use of shells for the carriage of gases of different groups shall be allowed if permitted by the approved expert. 211273

When shells are reassigned to gases of a different group, the shells shall be completely emptied of liquefied gases, then blown down and, lastly, degassed. The degassing of shells shall be verified and certified by the approved expert.

When loaded tanks or empty but uncleaned tanks are handed over for carriage, only the particulars specified in marginal 211262 applicable to the gas loaded of just 211274

discharged shall be visible; all particulars concerning other gases shall be covered up.

All the element of a multiple
-element shell shall contain only one and the same gas. In the case of a multiple-element shell intended for the carriage of liquefied gases, the elements shall be filled separately and be kept isolated by a sealed valve.

211275

The maximum filling pressure for compressed gases of 1o and 2o other than boron fluoride shall not exceed the values prescribed in marginal 2219 (2).

211276

For boron fluoride [1o (a)] the maximum filling weight per litre of capacity shall not exceed 0.86 kg.

The maximum filling weight per litre of capacity according to marginals 2220, (2), (3) and (4), and 211251, (2), (3) and (4), shall be abided by.

The degree of filling of shells intended for the carriage of gases of 7o (b) and 8o (b) shall remain below the level at which, if the contents were raised to the temperature at which the vapour pressure equalled the valve-opening pressure, the volume of the liquid would reach 95 per cent of the shell's capacity at that temperature. Shells intended for the carriage of gases of 7o (a) and 8o (a) may be filled to 98 per cent at the loading temperature and the loading pressure.

211277

On shells intended for the carriage of nitrous oxide and oxygen [7o (a)], air, or mixtures containing oxygen [8o (a)], substances containing grease or oil shall not be used to ensure leakproofness of the joints or for the maintenance of the closures.

211278

The requirement in marginal 211175 shall not apply to gases of 7o and 8o.

211279

211280

-211299

Appendix B.1a

Class 3

Inflammable liquids

Section 1

General scope; definitions

211300-

211319

Section 2

Construction

Shells intended for the carriage of carbon disulphide [1°(a)] shall be designed for a pressure of 10 kg/cm² (gauge pressure).

211320

211321-

211329

Section 3

Items of equipment

Shells which are fitted with a venting device not capable of being closed and which are intended for the carriage of inflammable liquids having a flash-point not exceeding 55°C shall have a flame-trap in the venting device.

211330

All openings of shells intended for the carriage of acrylaldehyde (acrolein), chloroprene (chlorobutadiene) and carbon disulphide [1°(a)] shall be above the surface level of the liquid. No piping or pipe connexions shall pass through the walls of the shell below the surface level of the liquid. The openings, other than those equipped with valves, shall be capable of being closed by leakproof closures, and the latter shall be capable of being protected

211331

by a locable cap. If the shells are equipped with safety valves, the latter shall be preceded by a frangible disc. In such a case the arrangement of the frangible disc and the safety valve shall be required to be satisfactory to the competent authority.

211332-
211339

Section 4

Type approval

(No special requirements)

211340-
211349

Appendix B.1a

Section 5

Tests

The minimum test pressure to which shells intended for the carriage of carbon disulphide [1°(a)] shall be subjected shall be 4 kg/cm² (gauge pressure). The minimum test pressure to which shells intended for the carriage of the other substances of the Class shall be subjected shall be equal to that, as defined in marginal 211123, used for their design.

211350

211351-
211359

Section 6

Marking

(No special requirements)

211360-
211369

Section 7

Operation

The following degrees of filling shall not be exceeded when shells filled with liquids having a vapour pressure of more than 1.75 kg/cm² (absolute) at 50°C are hermetically-closed shells:

211370

in the case of methyl formate [1°(a)] and other liquids having a coefficient of cubical expansion of more than 150×10^{-5} but not more than 180×10^{-5} :

211373
211399

.....91 per cent of capacity;

in the case of acetaldehyde [5°] and other liquids having a coefficient of cubical expansion of more than 180×10^{-5} but not more than 230×10^{-5} :90 per cent of capacity;

An aluminium-alloy shell shall not be used for the carriage of acetaldehyde [5°] unless the shell is assigned solely to such carriage and the acetaldehyde is free from acid.

211371

In the cold season (October to March), light distillates for cracking and other liquid hydrocarbons having a vapour pressure not exceeding 1.5 kg/cm² (absolute) at 50°C may be carried in shells of the type prescribed in marginal 211133.

211372

Appendix B.1a

Class 4.1

Inflammable solids

Class 4.2

Substances liable to spontaneous combustion

Class 4.3

Substances which give off inflammable gases on contact with water

Section 1

General; scope; definitions

211400-
211419

Section 2 Construction

Shells intended for the carriage of white or yellow phosphorus of marginal 2431 1°, or trichlorosilane (silicochloroform) of marginal 2471, 4°, shall be designed for a pressure of at least 10 kg/cm² (gauge pressure). 211420

Section 3 Items of equipment

Shells intended for the carriage of sulphur [2°(b)] or naphthalene [11°(c)] of marginal 2401 shall be equipped with thermal insulation made of materials which are not readily inflammable. They may be equipped with valves opening automatically inwards or outwards under the effect of a difference of pressure of 0.2 to 0.3 kg/cm². The discharge devices shall be capable of being protected by a lockable metal cap. 211421-211429 211430

Shells intended for the carriage of white or yellow phosphorus of marginal 2431, 1°, shall meet the following requirements: 211431

(1) The heating device shall not penetrate into, but shall be exterior to, the body of the shell. However, a pipe used for extracting the phosphorus may be equipped with a heating jacket. The device heating the jacket shall be so regulated as to prevent the temperature of the phosphorus from exceeding the filling temperature of the shell. Other piping shall enter the shell in its upper part; openings shall be situated above the highest permissible level of the phosphorus and be capable of being completely enclosed under lockable caps. In addition, the cleaning apertures (first-holes) referred to in marginal 211132 shall not be permitted.

Appendix B.1a

(2) The shell shall be equipped with a gauging system for verifying the level of the phosphorus and, if water is used as the protective agent, with a fixed gauge mark showing the highest permissible level of the water. 211431

The openings and orifices (valves, sleeves, manholes, etc.) of shells intended for the carriage of substances of marginal 2471, 1° (a), shall be protected by leakproof locable caps, and such shells shall be equipped with thermal insulation made of materials which are not readily inflammable. 211432

Section 4 Type approval

(No special requirements) 211433-211439 211440-211449

Section 5 Tests

Shells intended for the carriage of sulphur [2° (b)] or naphthalene [11° (c)] of marginal 2401 or white or yellow phosphorus of marginal 2431, 1°, and those intended for the carriage of trichlorosilane (silicochloroform) of marginal 2471, 4°, shall be tested at a pressure of 4 kg/cm² (gauge pressure). 211450 211451-211459

Section 6 Marking

(No special requirements) 211460-211469

Section 7 Operation

Shells intended for the carriage of sulphur [2°(b)] or naphthalene [11° (c)] of marginal 2401 shall be filled to not more than 98 per cent of their capacity. 211470

White or yellow phosphorus of marginal 2431, 1°, shall, if water is used as the protective agent, be covered with a depth of not less than 12 cm of water at the time of filling; the degree of filling at a temperature of 60°C shall not exceed 98 per cent. If nitrogen is used as the protective agent, the degree of filling at a temperature of 60° C shall not exceed 96 per cent. 211471

Appendix B.1a

The remaining space shall be filled with nitrogen in such a way that, even after cooling, the pressure at no time falls below atmospheric pressure. The shell shall be hermetically closed so that no leakage of gas occurs.

For the carriage of substances of marginal 2471, 1° (a), caps shall be locked in conformity with marginal 211432. 211472

In the case of trichlorosilane (silicochloroform) of marginal 2471, 4°, the degree of filling shall not exceed 1.14 kg per litre of capacity if filling is by weight or 85 per cent if filling is by volume. 211473

Shells which have contained phosphorus of marginal 2431, 1°, shall when handed over for carriage either: 211474
— be filled with nitrogen; the sender shall certify in the transport document that the shell, after closure, is gas-tight; or
— be filled with water to not less than 96 per cent and not more than 98 per cent of their capacity; between 1 October and 31 March this water shall contain one or more anti-freeze agents free from corrosive action, not liable to react with phosphorus, and in such concentration as to make it impossible for the water to freeze during carriage.

211475-211499

Class 5.1 Oxidizing substances Class 5.2 Organic peroxides Section 1 General; scope; definitions

211500-211519

Section 2 Construction

Shells intended for the carriage in the liquid state of substances referred to in marginal 51121 (1) shall be designed for a pressure of at least 4 kg/cm² (gauge pressure).

Shells, and their items of equipment, intended for the carriage of hydrogen peroxide or of aqueous solutions of hydrogen peroxide of marginal 2501, 1°, or of liquid organic peroxides of marginal 2551, 1°, 10°, 14°, 15° and 18°, shall be made of aluminium not less than 99.5 per cent pure or of suitable steel not liable to cause the hydrogen peroxide or the organic peroxides to decompose. 211521

| | | | |
|---|--------|---|--------|
| Appendix B.1a | | a pressure of 4 kg/cm ² (gauge pressure); | 211551 |
| Shells intended for the carriage of concentrated and hot aqueous solutions of ammonium nitrate of marginal 2501, 6° (a), shall be made of austenitic steel. | | | 211559 |
| | 211523 | Section 6 | |
| | 211529 | Marking | |
| Section 3 | | (No special requirements) | 211560 |
| Items of equipment | | | 211569 |
| Shells intended for the carriage of hydrogen peroxide and of aqueous solutions of hydrogen peroxide containing more than 70 per cent hydrogen peroxide, of marginal 2501, 1°, shall have their openings above the surface level of the liquid. In addition, cleaning apertures (fist holes) as referred to in marginal 211132 shall not be permitted. In the case of solutions containing more than 60 per cent but not more than 70 per cent hydrogen peroxide, openings below the surface level of the liquid shall be permissible. In this case the shell - discharge system shall be equipped with two mutually independent shut - off devices mounted in series, the first taking the form of a quick - closing internal stop - valve of an approved type and the second that of a sluice - valve, at each end of the discharge pipe - socket. A blank flange, or another device providing the same measure of security, shall also be fitted at the outlet of each external sluice - valve. The internal stop - valve shall be such that if the pipe is wrenched off the stop - valve will remain integral with the shell and in the closed position. | 211530 | Section 7 | |
| The connexions to the external pipe - sockets of shells shall be made of materials not liable to cause decomposition of hydrogen peroxide. | 211531 | Operation | 211570 |
| Shells intended for the carriage of hydrogen peroxide or of aqueous solutions of hydrogen peroxide of 1°, or of concentrated and hot aqueous solutions of ammonium nitrate of 6° (a), of marginal 2501 shall be fitted in their upper part with a shut - off device preventing any build - up of excess pressure inside the receptacle, any leakage of liquid, and any entry of foreign matter into the receptacle. The shut - off devices of shells intended for the carriage of concentrated and hot aqueous solutions of ammonium nitrate shall be so designed as to preclude obstruction of the devices by solidified ammonium nitrate during carriage. | 211532 | The inside of the shell, and all parts liable to come into contact with substances referred to in marginal 51121, shall be kept clean. No lubricant capable of combining dangerously with the substance carried shall be used for pumps, valves or other devices. | |
| Where shells intended for the carriage of concentrated and hot solutions of ammonium nitrate of marginal 2501, 6° (a), are sheathed in thermally - insulating material, the material shall be of an inorganic nature and entirely free from combustible matter. | 211533 | Shells intended for the carriage of liquids of marginal 2501, 1° to 3°, shall be filled to not more than 95 per cent of their capacity at a reference temperature of 15°C. | 211571 |
| Shells intended for the carriage of liquid organic peroxides of marginal 2551, 1°, 10°, 14°, 15° and 18°, shall be equipped with a venting device fitted with a flame - trap and followed in series by a safety valve opening at a gauge pressure of 1.8 to 2.2 kg/cm ² . | 211534 | Shells intended for the carriage of hot aqueous solutions of ammonium nitrate of marginal 2501, 6° (a), shall be filled to not more than 97 per cent of their capacity, and the maximum temperature after filling shall not exceed 140°C. | |
| Appendix B.1a | | Appendix B.1a | |
| Shells intended for the carriage of liquid organic peroxides of marginal 2551, 1°, 10°, 14°, 15° and 18°, shall be equipped with thermal insulation complying with the requirements of marginal 211234 (1). The covering and any uncovered part of the shell, or the outer sheathing of a complete lagging, shall be painted white and the paint shall be cleaned before each transport journey and renewed in case of yellowing or deterioration. The thermal insulation shall be free from combustible matter. | | Tanks used for the carriage of hot aqueous solutions of ammonium nitrate of marginal 2501, 6° (a), shall not be used for the carriage of other substances without being first carefully cleansed of any residues. | 211572 |
| | 211536 | | 211573 |
| | 211539 | Class 6.1 | 211599 |
| | | Toxic substances | |
| | | Section 1 | |
| | | General: scope: definitions | 211600 |
| | | | 211619 |
| | | Section 2 | |
| | | Construction | |
| | | Shells intended for the carriage of hydrocyanic acid solutions of 1° (b), or aqueous solutions of ethyleneimine and propyleneimine of 3°, or nickel carbonyl of 5° (a), shall be designed for a pressure of at least 15 kg/cm ² (gauge pressure). | 211620 |
| | | Shells intended for the carriage of other substances referred to in marginal 61121 (1), (a) and (b), shall be designed for a pressure of at least 10 kg/cm ² (gauge pressure). | 211621 |
| | | Shells intended for the carriage of substances referred to in marginal 61121 (1), (c), shall be designed for a pressure of at least 4 kg/cm ² (gauge pressure). | 211622 |
| | | Shells intended for the carriage of powdery or granular substances shall be designed in accordance with the requirements of the general section of this Appendix. | 211623 |
| | | | 211624 |
| | | | 211629 |
| | | Section 3 | |
| | | Items of equipment | |
| | | All openings of shells intended for the carriage of substances referred to in marginal 61121 (1), (a) and (b), shall be above the surface level of the liquid. No piping or pipe connexions shall pass through the walls of the shell below the surface level of the liquid. The openings shall be capable of being hermetically closed, and the closure shall be capable of being protected by a lockable cap. In addition, cleaning apertures (fist - holes) as referred to in marginal 211132 shall not be permitted for shells intended for the carriage of aqueous solutions of hydrocyanic acid [1° (b)]. | 211630 |
| | 211549 | | |
| | 211540 | | |
| | 211550 | Appendix B.1a | |
| | | (1) Shells intended for the carriage of substances referred to in marginal 61121 (1), (c) and (d), may be of the bottom - discharge type. | 211631 |
| | | (2) The bottom - discharge fittings of shells intended for the carriage of the substances referred to in marginal 61121 (1), (c), shall conform to the requirements of mar- | |
| Section 4 | | | |
| Type approval | | | |
| Section 5 | | | |
| (No special requirements) | | | |
| Tests | | | |
| Shells intended for the carriage of hydrogen peroxide or of aqueous solutions of hydrogen peroxide of 1°, or of concentrated and hot solutions of ammonium nitrate of 6° (a), of marginal 2501, or of liquid organic peroxides of marginal 2551, 1°, 10°, 14°, 15° and 18°, shall be tested at | | | |

ginal 211131, and in addition the discharge pipes of the shells shall be capable of being closed by a blank flange, a plug, or some other equally effective device.

(3) All openings of the shells referred to in paragraph (1) shall be capable of being hermetically closed.

If the shells are fitted with safety valves, the latter shall be preceded by a frangible disc. The arrangements of the frangible disc and the safety valve shall be required to be satisfactory to the competent authority.

Tanks fitted with safety valves and frangible discs and intended for carriage by sea shall conform to the regulations governing that mode of transport.

Protection of equipment

(1) Fittings and accessories mounted in the upper part of the shell

Such fittings and accessories shall be either inserted in a recessed housing; or equipped with an internal safety valve; or shielded by a cap, or by transverse and/or longitudinal members, or by other equally effective devices, so profiled that in the event of overturning the fittings and accessories will not be damaged.

(2) Fittings and accessories mounted in the lower part of the shell

Pipe - sockets, lateral shut - off devices, and all discharge devices shall either be recessed by at least 200 mm from the extreme outer edge of the shell or be protected by a rail having a coefficient of inertia of not less than 20 cm³ transversally to the direction of travel; their ground clearance shall be not less than 300 mm with the shell full.

(3) Fittings and accessories mounted on the rear face of the shell

All fittings and accessories mounted on the rear face shall be protected by the bumper prescribed in marginal 10216. Their height above the ground shall be such that they are adequately protected by the bumper.

Appendix B.1a

Section 4

Type approval

Tanks approved for the carriage of toxic substances shall not be approved for the carriage of foodstuffs, articles of consumption or animal feeding stuffs.

Section 5

Tests

Shells intended for the carriage of the substances referred to in marginal 61121 (1), (a) to (c), shall be tested initially and periodically at a pressure of 4 kg/cm² (gauge pressure).

The periodic tests shall be carried out at intervals of not more than three years in the case of shells intended for the carriage of substances of 14°.

Section 6

Marking

(No special requirements)

Section 7

Operation

The degree of filling of shells intended for the carriage of substances referred to in marginal 61121 (1), (a) to (d), shall conform to marginal 211172 (1) (d).

Shells intended for the carriage of substances of 5° (a) and 5° (b) shall be filled only to the extent of 1 kg of liquid per litre of capacity.

The openings of the shells shall be hermetically closed during carriage.

Tanks used for the carriage of toxic substances shall not be used for the carriage of foodstuffs, articles of consumption or animal feeding stuffs.

Class 7

Radioactive substances

Section 1

General; scope; definitions

Section 2

Construction

Shells intended for the carriage of the substances referred to in marginal 2703, Schedule 5, paragraph 11, shall be designed for a pressure of at least 4 kg/cm² (gauge pressure).

Where the radioactive substances are in solution or suspension in substances of other Classes and the calculation pressures prescribed for the shells of tanks intended for the carriage of the latter substances are greater, the latter pressures shall be applied.

Section 3

Items of equipment

Shells intended for the carriage of liquid radioactive substances⁸ shall have their openings above the surface level of the liquid. No piping or pipe connexion shall pass through the walls of the shell below the surface level of the liquid.

Section 4

Type approval

Tanks approved for the carriage of radioactive substances shall not be approved for the carriage of foodstuffs, articles of consumption, animal feeding stuffs, cosmetics or medicaments, or of substances used in the manufacture of these products.

Section 5

Tests

Shells intended for the carriage of the substances referred to in marginal 2703, Schedule 5, paragraph 11, shall be tested initially and periodically at a pressure of 4 kg/cm² (gauge pressure).

By derogation from the requirements of marginal 211151, the periodic internal inspection may be replaced by a check of the wall thickness by ultrasound, performed every three years.

Section 6

Marking

(No special requirements)

Section 7

Operation

The degree of filling at the reference temperature of 15°C shall not exceed 93 per cent of the total capacity of the shell.

Tanks which have been used for the carriage of radioactive substances shall not be used for the carriage of foodstuffs, articles of consumption, animal feeding stuffs, cosmetics or medicaments, or of substances used in the manufacture of these products.

Class 8

Corrosive substances

Section 1

General; scope; definitions

Section 2

Construction

Shells intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6°(a)], of aqueous solutions of hydrofluoric acid [6°(b)], or of bromine (14°) shall be designed for a pressure of at least 21 kg/cm² (gauge pressure). Shells intended for the carriage of bromine shall be equipped with a lead lining not less than 5 mm thick, or with an equivalent lining.

Shells intended for the carriage of substances of 1° (a), 211821
2° (a), 6° (c), 7° to 9°, 21° (a) and 23° shall be designed
for a pressure of at least 10 kg/cm² (gauge pressure).

Where the use of aluminium is necessary for shells
intended for the carriage of substances of 2° (a), such
shells shall be made of aluminium not less than 99.5 per
cent pure, in which case, by derogation from the subparagraph
above, the wall thickness need not exceed 15 mm.

Shells intended for the carriage of monochloroacetic
acid [21° (a)] shall be equipped with an enamel or equivalent
lining if the material of the shell is attacked by that
acid.

Shells intended for the carriage of the substances referred
to in marginal 81121 other than those listed in marginals
211820 and 211821 shall be designed for a pressure of
not less than 4 kg/cm² (gauge pressure). 211822

Shells intended for the carriage of aqueous solutions
of hydrogen peroxide (41°) shall meet the requirements
of marginal 211520. 211823

Section 3

Items of equipment

All openings in shells intended for the carriage of
substances of 6° and of bromine (14°) shall be above the
surface level of the liquid; no piping or pipe connexions
shall pass through the walls of the shell below the surface
level of the liquid. In addition, cleaning apertures (fish-
holes) as referred to in marginal 211132 shall not be
permitted. The closures shall be capable of being effectively
protected by a metal cap. 211824
211829

The following requirements shall apply to demountable
tanks intended for the carriage of hydrogen fluoride
(anhydrous hydrofluoric acid) [6° (a)] and of aqueous solutions
of hydrofluoric acid [6° (b)]: 211831

1. they shall not be interconnected by a manifold; and
2. if the demountable tanks can be rolled, the valves
shall be fitted with protective caps.

Shells intended for the carriage of stabilized sulphur
trioxide (9°) shall be thermally insulated and be fitted
with a heating device on the outside. Shells may be of the
bottom-discharge type. In this case the shell-discharge
system shall be equipped with two mutually independent
shut-off devices mounted in series, the first taking the
form of a quick-closing internal stop-valve of an approved
type and the second that of a sluice-valve fitted at the end
of the discharge pipe-socket. A blank flange or some other
equally reliable device shall also be fitted to the outlet of
each external sluice-valve. 211832

Shells and their service equipment intended for the
carriage of hypochlorite solutions (37°) and of aqueous
solutions of hydrogen peroxide (41°) shall be so designed
as to prevent the entry of foreign matter, the leakage of
liquid, and any build-up of dangerous excess pressure
inside the shell. 211833

Section 4 Type approval

(No special requirements)

Section 5 Tests

Shells intended for the carriage of hydrogen fluoride
(anhydrous hydrofluoric acid) [6° (a)] and of aqueous solutions
of hydrofluoric acid [6° (b)] shall undergo the initial
pressure test and the periodic tests at a pressure of 10
kg/cm² (gauge pressure), and those intended for the carriage
of the other substances referred to in marginal 81121, if those
substances are carried in the liquid phase, at a pressure of
4 kg/cm² (gauge pressure). 211850

The pressure test of shells intended for the carriage of
hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)]
and of aqueous solutions of hydrofluoric acid [6° (b)] shall
be repeated every six years and shall be accompanied by
an internal inspection of the shells and a check of their
items of equipment. In addition, every two years the resistance
of the shells to corrosion shall be checked by means 211851

of suitable instruments (e.g. by ultrasound) and the condition
of the equipment verified.

The pressure test of shells intended for the carriage of
stabilized sulphur trioxide (9°) shall be repeated every
three years. 211852

The condition of the lining of shells intended for the
carriage of bromine (14°) shall be checked every year by
an approved expert, who shall inspect the inside of the
shell. 211853

Section 6

Marking

Shells intended for the carriage of hydrogen fluoride
(anhydrous hydrofluoric acid) [6° (a)], of aqueous solutions
of hydrofluoric acid [6° (b)], or of bromine (14°), shall
bear, in addition to the particulars already prescribed in
marginals 211160 and 211161, an indication of the permissible
maximum net load in kilogrammes and the date (month, year)
of the most recent internal inspection of the shell. 211860

Section 7

Operation

Shells intended for the carriage of sulphuric acid [1°
(c)] shall be filled to not more than 95 per cent of their
capacity, those intended for the carriage of stabilized
sulphur trioxide (9°) to not more than 88 per cent, and
those intended for the carriage of bromine (14°) to not
less than 88 per cent and not more than 92 per cent or
to the extent of 2.86 kg per litre of capacity. Shells intended
for the carriage of hydrogen fluoride (anhydrous hydrofluoric
acid) [6° (a)] or of aqueous solutions of hydrofluoric acid
[6° (b)] shall not be filled to the extent of more
than 0.84 kg per litre of capacity. 211861
211869

Appendix B.1b

PROVISIONS CONCERNING TANK - CONTAINERS (DESIGN AND TESTING)

NOTE:

Chapter I sets out the requirements applicable to tank-
containers intended for the carriage of substances of all
Classes.

Chapter II contains particular requirements supplementing
or modifying the requirements of Chapter I.

Chapter I REQUIREMENTS APPLICABLE TO ALL CLASSES

Section 1

General; scope; definitions

These requirements shall apply to tank-containers of a
capacity of more than 0.45 cubic metre which are used
for the carriage of liquid, gaseous, powdery or granular
substances, and to their fittings and accessories. 212100

A tank-container shall comprise a shell and items of
equipment, including equipment to facilitate movement
without change of attitude. 212101

In the following requirements: 212102

(1) (a) «Shell» means the tank proper (including the openings
and their closures);

(b) «Service equipment» of the shell means filling and
emptying, venting, safety, heating and heat-insulating devices,
and measuring instruments; and

(c) «Structural equipment» means the reinforcing, fastening,
protective or stabilizing members external to the shell.

(2) (a) «Calculated pressure» means a theoretical pressure
at least equal to the test pressure which according to the
degree of danger exhibited by the substance being

carried may exceed the working pressure more or less substantially. It is used solely to determine the thickness of the walls of the shell, to the exclusion of any external or internal reinforcing device;

(b) «Maximum working pressure» means the highest of the following three pressures:

Appendix B.1b

1. The highest effective pressure allowed in the shell during filling («maximum filling pressure allowed»);

2. The highest effective pressure allowed in the shell during discharge («maximum discharge pressure allowed»); and

3. The effective pressure to which the shell is subjected by its contents (including such extraneous gases as it may contain) when the temperature reaches 50°C («total pressure»);

(c) «Test pressure» means the highest effective pressure which arises in the shell during the pressure test;

(d) «Filling pressure» means the maximum pressure actually built up in the shell when it is being filled by pressure.

(e) «Discharge pressure» means the maximum pressure actually built up in the shell when it is being filled by pressure.

(3) «Leakage test» means the test which consists of subjecting the shell to an effective internal pressure equal to the maximum working pressure, but not less than 0.2 kg/cm² (gauge pressure), by a procedure approved by the competent authority.

Section 2

Construction

Shells shall be made of ductile metallic materials. For welded shells only a material whose weldability has been fully demonstrated shall be used. Welds shall be skilfully made and afford complete safety. The materials of shells and of their protective linings which are in contact with the contents carried shall not contain substances liable to react dangerously with the latter to form dangerous compounds, or substantially to weaken the material.

Shells, their attachments and their service and structural equipment shall be designed to withstand at least the static and dynamic stresses in normal carriage without loss of contents.¹

Appendix B.1b

The pressure on which the dimensioning of the tank-container shell is based shall be not less than the calculated pressure, but the stresses referred to in marginal 212121 shall also be taken into account.

Except where special conditions laid down for the various classes provide otherwise, the following minimum requirements shall be taken into account in the design of shells:

(1) The shell of a gravity-discharge tank-container intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) or not more than 1.1 kg/cm² (absolute) shall be designed for a test pressure of twice the static pressure of the liquid to be carried, but not less than twice the static pressure of water;

(2) The shell of a pressure-filled or pressure-discharge tank-container intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of not more than 1.1 kg/cm² (absolute) shall be designed for a test pressure

¹ If there are degassing vents, this shall not apply to quantities of gas escaping through them.

ure equal to 1.3 times the filling or discharge pressure;

(3) The shell of a tank-container - whatever its filling or discharge system - intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of not less than 1.1 and not more than 1.75 kg/cm² (absolute) shall be designed for a test pressure of at least 1.5 kg/cm² (gauge pressure), or of 1.3 times the filling or discharge pressure if the filling or discharge pressure is higher;

(4) The shell of a tank-container - whatever its filling or discharge system - intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of more than 1.75 kg/cm² (absolute) shall be designed for a test pressure equal to the higher of the following two pressures; 1.5 times the total pressure at 50°C, less 1 kg/cm², subject to a minimum of 4 kg/cm² (gauge pressure); and 1.3 times the filling or discharge pressure.

Tank-containers intended to contain certain dangerous substances shall be provided with additional protection, which may take the form of additional thickness of the shell (such additional thickness being determined in the light of the dangers inherent in the substances concerned; see the relevant classes) or of a protective device.

At the calculated pressure or the test pressure whichever is the higher, the stress σ (sigma) at the most severely stressed point of the shell shall conform to the material-dependent limits prescribed below. In addition, in choosing the material and determining wall thickness the maximum and minimum filling and working temperatures should be taken into account, with particular reference to the risk of brittle fracture.

(1) For metals and alloys exhibiting a clearly-defined yield point or characterized by a guaranteed conventional yield stress R_e (generally 0.2 per cent of residual elongation):

(a) Where the ratio R_e/R_m is not more than 0.66 (R_e = apparent yield stress or 0.2 per cent proof stress; R_m = guaranteed minimum tensile strength)

$$\sigma \leq 0.75 R_e$$

(b) Where the ratio R_e/R_m exceeds 0.66

$$\sigma \leq 0.5 R_m$$

(2) For metals and alloys exhibiting no apparent yield stress and characterized by a guaranteed minimum tensile strength R_m :

$$\sigma \leq 0.43 R_m$$

(3) The elongation at fracture, ² in per cent, shall be not less than 1,000/ R_m , but shall be not less than 20 per cent in the case of steel and not less than 12 per cent in the case of aluminium alloys.

Tank-containers intended for the carriage of inflammable liquids having a flashpoint of not more than 55°C and for the carriage of inflammable gases shall be capable of being electrically earthed.

Tank-containers shall be capable of absorbing the forces specified in paragraph (1) and the wall thickness of the shells shall be as prescribed in paragraphs (2) - (4) below.

Appendix B.1b

(1) Tank-containers and their fastenings shall under

2. The specimens used to determine the elongation at fracture shall be taken transversely to the direction of rolling and be so secured that:

$L_0 = 5d$

where L_0 = length of the specimen before the test; and d = diameter.

the maximum permissible load be capable of absorbing the following forces;

- in the direction of travel: twice the total weight;
- horizontally at right angles to the direction of travel: the total weight; (where the direction of travel is not clearly determined, the maximum permissible load shall be twice the total weight);
- vertically upwards: the total weight! and
- vertically downwards: twice the total weight.

Under each of these forces the safety factors to be observed shall be the following:

- for metals having a clearly-defined yield point: a safety factor of 1.5 in relation to the apparent yield stress! or
- for metals with no clearly - defined yield point: a safety factor of 1.5 in relation to the guaranteed 0.2 per cent proof stress.

(2) The minimum wall thickness of the shell barrel shall be calculated by the following formula:

$$e = \frac{P \times D}{200 \times \sigma \text{ mm}}$$

where P = calculated pressure or test pressure, whichever is the higher in kg/cm²;

D = internal diameter of shell in mm; and

σ = permissible stress as defined in marginal 212205, paragraphs 1(a), 1(b) and 2, in kg/mm².

The thickness shall in no case be less than that prescribed in paragraphs (3) and (4) below.

(3) The barrels and ends of shells not more than 1.80 m in diameter shall be not less than 5 mm thick if of mild steel ³ (as specified in marginal 212125) or of equivalent thickness if of another metal. Where the diameter exceeds 1.80 m this thickness shall

are increased to 6 mm if the tank is of mild steel ³ (as specified in marginal 212 205) or to an equivalent thickness if the tank is of another metal. Whatever the metal used, the thickness of the shell wall shall in no case be less than 3 mm.

(4) Where additional protection of the shell against damage is provided, the competent authority may allow the aforesaid minimum thicknesses to be reduced in proportion to the protection provided; however, the said thicknesses shall be not less than 3 mm in the case of mild steel ³, or than an equivalent thickness in the case of other materials, for shells not more than 1.80 m in diameter. For shells with a diameter exceeding 1.80 m the aforesaid minimum thickness shall be increased to 4 mm in the case of mild steel ³ and to an equivalent thickness in the case of another metal.

Tank-containers shall be carried only on vehicles whose fastenings are capable, under the maximum permissible load on the tank-containers, of absorbing the forces specified in marginal 212 127 (1) above.

Section 3

Items of equipment

The items of equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during carriage and handling. If the connexion between the frame and the shell allows relative movement as between these sub-assemblies, the items of equipment shall be so fastened as to permit such movement without risk of damage to working parts.

The items of equipment shall exhibit a suitable degree of safety comparable to that of the shell.

In addition, particular conditions applicable to bottom-discharge tank-containers are prescribed, in marginal 212 131 below.

3. «Mild steel» means a steel having a breaking strength between 37 and 44 kg/mm².

Every bottom-discharge tank-container, and in the case of compartmented bottom-discharge tank-containers every compartment, shall be equipped with two mutually independent shut-off devices, the first being an internal stop-valve ⁴, fixed directly to the shell and the second being a sluice-valve or other equivalent device ⁵, mounted in series, one at each end of the discharge pipe. The internal stop-valve shall be operable from above or from below. If possible, the setting —open or closed— of the internal stop-valve shall be capable of being verified from the ground in both cases. Internal-stop-valve control devices shall be so designed as to prevent any unintended opening through impact or an inadvertent act.

The internal shut-off device shall continue to be effective in the event of damage to the external control device. In order to avoid any loss of contents in the event of damage to the external discharge fittings (pipes, lateral shut-off devices), the internal stop-valve and its seating shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to resist them. The filling and discharge devices (including flanges or threaded plugs) and protective caps (if any) shall be capable of being secured against any unintended opening.

A tank-container or each of its compartments shall save where it is intended for the carriage of deeply refrigerated gases, be provided with an opening large enough to enable the tank-container or compartment to be inspected.

A tank-container intended for the carriage of liquids having a vapour pressure of not more than 1.1 kg/cm² (absolute) at 50°C shall have a venting system and a safety device to prevent the contents from spilling out of the shell if the tank-container overturns, or shall conform to the requirements of marginal 212 134 or 212 135 below.

A tank-container intended for the carriage of liquids having a vapour pressure of not less than 1.1 and not more than 1.75 kg/cm² (absolute) at 50°C shall have a safety valve set at not less than 1.5 kg/cm² (gauge pressure) and such that it is fully open at a pressure not exceeding the test pressure; or shall conform to the requirements of marginal 212 135.

A tank-container intended for the carriage of liquids having a vapour pressure of not less than 1.75 and not more than 3 kg/cm² (absolute) at 50°C shall be equipped with a safety valve set at a gauge pressure of not less than 3 kg/cm² and such that it is fully open at a pressure not exceeding the test pressure; or shall be hermetically sealed.

Moving parts such as covers, closures, etc., which are liable to come into frictional or percussive contact with aluminium tank-containers intended for the carriage of inflammable liquids having a flashpoint of not more than 55°C or for the carriage of inflammable gases shall not be made of unprotected corrodable steel.

212 137
-212 139

Section 4

Type approval

The competent authority or a body designated by that authority shall issue in respect of each new type of tank-container a certificate attesting that the prototype tank-container, including fastenings, which it has surveyed is suitable for the purpose for which it is intended and meets the construction requirements of section 2 and the equipment requirements of section 3. If the tank-containers are serially manufactured without modification, this approval shall be valid for the entire series. The test results, the substances for the carriage of which the tank-container is

4, Save as may be otherwise provided in the case of shells intended for the carriage of certain crystallizable or highly viscous substances.

5. In the case of tank-containers of less than 1 m³ capacity, the sluice-valve or other equivalent device may be replaced by a blank flange.

approved, and an approval number shall be specified in a test report. The approval number shall consist of the distinguishing sign ⁶ of the State in whose territory the approval was granted, and a registration number.

212 141
-212 149

Section 5 Tests

Shells and their items of equipment shall either together 212 150 or separately undergo an initial inspection before being put into service and shall thereafter undergo periodic inspections. The initial inspection shall include a check of the design characteristics, an internal and external examination and a hydraulic pressure test. If the shells and their items of equipment are tested separately they shall after assembly be jointly subjected to a leakage test. The periodic inspections shall include an external and internal examination and, as a general rule, a hydraulic pressure test. Sheathing for thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the tank-container's characteristics. The initial and periodic pressure tests shall be carried out, by an expert approved by the competent authority, at the test pressure indicated on the data plate of the tank-container, except in cases where lower test pressures are authorized for the periodic tests. In special cases, and with the agreement of the competent authority, the hydraulic pressure test may be replaced by a pressure test using another liquid or a gas.

Tank-containers shall, before being put into service and 212 151 thereafter at intervals not exceeding five years, be tested in conformity with the provisions of marginal 212 150 above. Before tank-containers are put into service, and thereafter at intervals not exceeding two and one-half years, all the equipment shall be checked for leakproofness and satisfactory operation.

Certificates showing the results of these tests shall be 212 152 issued by the expert approved by the competent authority.

212 153
-212 159

Section 6 Marking

Each tank-container shall be fitted with a corrosion-resistant metal plate permanently attached to the shell in a place readily accessible for inspection. The following particulars at least shall be marked on the plate by stamping or by any other similar method. The particulars may be engraved directly on the walls of the shell itself if the walls are so reinforced that the strength of the shell is not impaired.

- Approval number;
- Manufacturer's name or mark;
- Manufacturer's serial number;
- Year of manufacture;
- Test pressure in kg/cm² (gauge pressure);
- Capacity in litres; in the case of multiple-element tank-containers: the capacity of each element;
- Design temperature (only if above 50°C or below -20°C);
- Month and year of initial test and of most recent periodic test;
- Stamp of the expert who carried out the tests.

On pressure-filled or pressure-discharge tank-containers the maximum working pressure allowed shall be inscribed in addition.

The following particulars shall be inscribed either on the tank-container itself or on a board:

- The names of the owner and of the operator;
- The capacity of the shell;
- The unladen (tare) weight;
- The maximum permissible laden weight; and

⁶. Distinguishing sign for use in international traffic prescribed by the Convention on Road Traffic (Vienna, 1968).

-The name of the substance being carried. ⁷
In addition, tank-containers shall bear the prescribed danger labels.

212 162
-212 169

Section 7 Operation

During carriage, tank-containers shall be fixed on the 212 170 carrying vehicle in such a way as to be adequately protected by the fittings of the carrying vehicle or of the tank-container itself against lateral and longitudinal impact and against overturning. ⁸ If the shells and the service equipment are so constructed as to withstand impact or overturning they need not be protected in this way.

Tank-containers shall not be loaded with any dangerous 212 171 substances other than those for whose carriage they have been approved.

The following degrees of filling shall not be exceeded 212 172 in tank-containers intended for the carriage of liquids at ambient temperatures:

Appendix B.1b

212172
(contd)

(1) - (a) Inflammable substances not exhibiting additional risks (e.g. not toxic or corrosive) in tank - containers with a venting system and with or without safety valves:

$$\text{degree of filling} \quad \frac{100}{1+a(50-t_f)} \quad \text{or} \quad \frac{100}{1+35a} \quad \% \text{ of capacity;}$$

(b) Toxic or corrosive substances, whether or not exhibiting an inflammability risk, in tank - containers with a venting system and with or without safety valves:

$$\text{degree of filling} \quad \frac{98}{1+a(50-t_f)} \quad \text{or} \quad \frac{98}{1+35a} \quad \% \text{ of capacity;}$$

(c) Low - concentration inflammable substances and low - concentrations acids and lyes in closed tank - containers:

$$\text{degree of filling} \quad \frac{97}{1+a(50-t_f)} \quad \text{or} \quad \frac{97}{1+35a} \quad \% \text{ of capacity;}$$

(d) High - concentration toxic substances and high - concentration acids and lyes in closed tank - containers:

$$\text{degree of filling} \quad \frac{95}{1+a(50-t_f)} \quad \text{or} \quad \frac{95}{1+35a} \quad \% \text{ of capacity;}$$

(2) In these formulae *a* is the mean coefficient of cubical expansion of the liquid between 15° and 50° C, i.e. for a maximum variation in temperature of 35° C.

7. A collective description or an index number may be given instead of the name.

8. Examples of protection of shells:

1. Protection against lateral impact may for example consist of longitudinal bars protecting the shell on both sides at the level of the median line.

2. Protection against overturning may for example consist of reinforcing rings or bars fixed transversally in relation to the frame.

3. Protection against rear impact may for example consist of a bumper or frame.

a is calculated by the formula:

$$\frac{d_{15}-d_{50}}{35 \times d_{50}}$$

in which d_{15} and d_{50} are the density of the liquid at 15°C and 50°C respectively. t_f is the mean temperature of the liquid during filling.

(3) The provisions of marginal 212172 (1) above shall not apply to tank - containers whose contents are maintained by means of a heating device at a temperature above 50°C during carriage. In such a case the degree of filling at the outset shall be such and the temperature shall be so regulated that the tank - container is not full to more than 95 per cent of its capacity at any time during carriage.

Appendix B.1b

If the shells of tank - containers intended for the carriage of liquids 9* are not divided by partitions or surge plates into sections of not more than 5,000 litres capacity, the said shells shall be filled to not less than 80 per cent of their capacity unless they are practically empty.

Tank-containers shall be closed so that the contents cannot run out uncontrolled.

Where several closure systems are fitted in a series, that nearest to the substance being carried shall be closed first.

No residue of the dangerous substance being carried shall adhere to the outside of a tank - container during carriage.

To be accepted for carriage, empty tank - containers shall be closed in the same manner and leakproof in the same degree as though they were full.

Section 8

Transitional measures

(1) Tank - containers of a capacity below 1,000 litres built before the entry into force of these requirements and not conforming to them may, if they were built in conformity with the requirements of ADR and RID concerning receptacles, be used during a period of three years immediately following the entry into force of these requirements for the carriage of liquid, gaseous, powdery or granular substances.

(2) Tank - containers of a capacity of not less than 1,000 litres may with the approval of the competent authority of the countries in which they are to be carried, be used during a period of five years immediately following the entry into force of these requirements for the carriage of liquid, gaseous, powdery or granular substances.

Appendix B.1b

Chapter II

PARTICULAR REQUIREMENTS SUPPLEMENTING OR MODIFYING THE REQUIREMENTS OF CHAPTER I

CLASS 2

Gases: compressed, liquefied or dissolved under pressure

Section 1

General; scope; definitions

Section 2

Construction

The shells of tank - containers intended for the carriage of substances of 1° to 6° and 9° shall not be made of aluminium or aluminium alloy.

The requirements of Appendix B.1d, marginals 214250 to 214285 shall apply to the materials and construction of the shells of tank - containers intended for the carriage of gases of 7° and 8°.

9* Substances whose efflux time at 20°C from a DIN cup with a 4 mm orifice is less than 10 minutes (corresponding to an efflux time of less than 96 sec. at 20°C from a No. 4 Ford cup, or less than 2,680 centistokes) shall be deemed to be liquids for the purposes of this provision.

Section 3

Items of equipment

In addition to being equipped with the devices prescribed in marginal 213131, the discharge pipes of tank - container shells shall be capable of being closed by blank flanges or some other equally reliable device.

The shells of tank - containers intended for the carriage of liquefied gases may be equipped, in addition to the filling, discharge and gas - pressure - equalizing orifices, with openings in which gauges, thermometers and manometers can be fitted.

Appendix B.1b

Safety valves shall meet the conditions prescribed in paragraphs (1), (2) and (3) below.

(1) The shells of tank - containers intended for the carriage of gases of 1° to 6° and 9° may be fitted with not more than two safety valves.

The safety valves shall be capable of opening automatically under a pressure of from 0.9 to 1.0 times the test pressure of the shell to which they are fitted. They shall in addition be constructed in such a way that in the event of total fire engulfment the pressure inside the shell does not exceed the test pressure. They shall be of such a type as to resist dynamic stresses, including liquid surge. The use of deadweight or counterweight valves is prohibited.

The shells of tank - containers intended for the carriage of gases of 1° to 9° harmful to the respiratory organs or entailing a poison risk (Gases identified by the letter "t" in the list of substances are deemed to be gases harmful to the respiratory organs or entailing a poison risk) shall not have safety valves unless the safety valves are preceded by a bursting disc. In the latter case the arrangement of the bursting disc and the safety valve shall be to the satisfaction of the competent authority.

(2) The shells of tank - containers intended for the carriage of gases of 7° (a) and 8° (a) which are not in constant communication with the outside air, and of those intended for the carriage of gases of 7° (b) and 8° (b) shall be fitted with two independent safety valves each so designed as to permit evacuation of the gases from the shell in such a way that the pressure does not at any time exceed the working pressure indicated on the tank - container by more than 10 per cent.

In addition, the shells of such tank - containers may be fitted with bursting discs in series with and preceding the safety valves. In such a case the arrangement of the bursting disc and the safety valve shall be to the satisfaction of the competent authority.

(3) The safety valves of the shells of tank - containers intended for the carriage of gases of 7° and 8° shall be capable of opening at the working pressure indicated on the tank - container. They shall be so designed as to function faultlessly even at the lowest working temperature. The reliability of their operation at that temperature shall be established and checked either by testing each valve or by testing a specimen valve of each type.

An internal flow restricting valve or equivalent device shall be fitted to every orifice more than 1.5 mm in diameter provided in the shell for the passage of gases or liquids, other than orifices carrying safety valves.

Appendix B.1b

Thermal insulation.

(1) If the shells of tank - containers intended for the carriage of liquefied gases of 3° to 4° are equipped with thermal insulation, such insulation shall be subject to the special provisions under (2) below either:

Consist of a sun shield covering not less than the upper third but not more than the upper half of the tank - containers's surface and separated from the shell by an air space about 4 cm across; or

Consist of a complete cladding, of adequate thickness, of insulating materials.

The thermal insulation shall be so designed as not to

hinder access to the filling and discharge devices.

(2) The shells of tank - containers intended for the carriage of 1,3 - butadiene [3° (c)], or of methyl vinyl ether, trifluorochloroethylene or vinyl bromide [3° (ct)], shall be protected by a sun - shield as defined above.

(3) The shells of tank - containers intended for the carriage of gases of 7° and 8° shall be thermally insulated. The thermal insulation shall be protected against impact by means of continuous metal sheathing. If the space between the shell and the metal sheathing is under vacuum (vacuum insulation), the protective sheathing shall be so designed as to withstand without deformation an external pressure of at least 1 kg/cm² (gauge pressure). If the sheathing is so closed as to be gas - tight, a device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas - tightness of the shell or of its items of equipment. The device shall prevent the infiltration of moisture into the heat - insulating sheath.

(4) The shells of tank - containers intended for the carriage of oxygen [7° (a)], or of air or mixtures of oxygen with nitrogen [8° (a)], shall not include any combustible material either in the thermal insulation or in the means of attachment to the frame.

In the case of multiple - element tank - containers, the following conditions shall be met. 212235

(1) If one of the elements of a multiple - element tank - container is fitted with a safety valve and shut - off devices are provided between the elements, every element shall be so fitted.

(2) The filling and discharge devices may be fitted to a manifold.

Appendix B.1b

(3) Each element of a multiple - element tank - container intended for the carriage of compressed gases of 1° and 2° harmful to the respiratory organs or entailing a poison risk 10* shall be capable of being isolated by a valve. 212235 (contd)

(4) The elements of a multiple - element tank - container intended for the carriage of liquefied gases of 3° to 5° harmful to the respiratory organs or entailing a poison risk 10* shall be so designed that they can be filled separately and be kept isolated by a valve capable of being sealed.

Section 4 Type approval

(No special requirements)

Section 5 Tests

The materials of the shells of tank - containers intended for the carriage of gases of 7° and 8° shall be tested by the method described in Appendix B.1d, marginals 214250 to 214285. 212236 212239

The test pressure shall be as follows:

(1) Tank - containers intended for the carriage of gases of 1° to 2°, in conformity with marginal 2219 (1); 212240 212249

10* The following are deemed to be liquefied gases harmful to the respiratory organs or entailing a poison risk: hydrogen bromide (anhydrous hydrobromic acid), hydrogen fluoride (anhydrous hydrofluoric acid), hydrogen sulphide (sulphuretted hydrogen), ammonia, chlorine, sulphur dioxide (anhydrous sulphurous acid), nitrogen dioxide (nitrogen peroxide; nitrogen tetroxide), T gas, methyl vinyl ether, chloromethane (methyl chloride), bromomethane (methyl bromide), phosgene (carbonyl chloride), vinyl bromide, methylamine (monomethylamine), dimethylamine, trimethylamine, ethylamine (monoethylamine), ethylene oxide, methanethiol (methyl mercaptan), mixtures of carbon dioxide with ethylene oxide and liquefied hydrogen chloride (anhydrous hydrochloric acid).

(2) Tank-containers intended for the carriage of gases of 3o and 4o, in conformity with marginal 2220 (2) if the shells are not more than 15mm diameter, and in conformity with marginal 211251 (2) (b) if the shells are more than 1.5 m in diameter; 212251

(3) Tank-containers intended for the carriage of gases of 5° and 6°, in conformity with marginal 2220 (3) and (4), and in conformity with marginal 211 251 (3) (b) in the case of multiple-element tank-containers whose elements are interconnected and form a battery, are not isolated from one another, and are encased in a thermal insulation;

(4) Tank-containers intended for the carriage of ammonia dissolved under pressure [9o (at)], in conformity with marginal 211251 (4);

(5) (a) Tank-containers fitted with safety valves and intended for the carriage of gases of 7° and 8°: 1.5 times the working pressure indicated on the shells, but not less than 3 kg/cm² (gauge pressure); for tank-containers with vacuum insulation the test pressure shall be 1.5 times the working pressure increased by 1 kg/cm².

(b) In the case of tank-containers without safety valves and intended for the carriage of gases of 7° (a) and 8°(a), the first test shall be performed at 2 kg/cm² (gauge pressure) and the periodic tests at 1 kg/cm² (gauge pressure).

The first hydraulic pressure test shall be carried out before thermal insulation is applied. 212252

The capacity of the shell of each tank-container intended for the carriage of gases of 3°, 4° and 9° shall be determined, under the supervision of an expert approved by the competent authority, by weighing or volumetric measurement of the quantity of water required in order to fill the shell. The measurement of shell capacity shall be accurate to within 1 per cent. Determination by a calculation based on the dimensions of the shell is not permitted. The maximum permissible weights of filling according to marginals 2220 (4) and 211251(3) shall be prescribed by an approved expert. 212253

All welds in the shell shall be non-destructively tested radiographically or ultrasonically. 212254

Notwithstanding the requirements of marginals 212150 and 212151, the periodic tests shall take place: 212255

(1) Every two and one-half years in the case of tank-containers intended for the carriage of boron trifluoride [1o(at)], town gas [2o (bt)] chlorine, hydrogen bromide, nitrogen dioxide, phosgene or sulphur dioxide [3o (at)], hydrogen sulphide [3o (bt)] or hydrogen chloride [5o (at)];

(2) After six years' service in the case of tank-containers, without safety valves, intended for carriage of gases of 7° (a) and 8° (a);

(3) After eight years' service and thereafter every 12 years in the case of tank-containers fitted with safety valves and intended for the carriage of gases of 7° (a) and 7° (b) and of tank-containers intended for the carriage of gases of 7o (b) and 8o (b). A leakproofness check may be performed, at the request of the competent authority, between any two successive tests.

At the periodic tests for tank-containers equipped with vacuum insulation and intended for the carriage of gases of 7° and 8°, the hydraulic test may be replaced by a leakage test performed either with the gases which the tank-containers are intended to contain or with an inert gas. 212256

If, at the time of periodic inspections, manholes are made in the shells of tank-containers intended for the carriage of gases 11° to 13°, the method by which they are hermetically closed before the tank-containers are returned to service shall be one approved by the approved expert and shall ensure the integrity of the shell. 212257

Section 6 Marking

In addition, the following particulars shall be marked by stamping or by any other equivalent method on the plate described in marginal 212160 or directly on the 212258 212259 212260

walls of the shell itself if the walls are so reinforced that the strength of the shell is not impaired.

(1) On tank -containers intended for the carriage of only one substance:

The name of the gas in full.

This shall be accompanied, in the case of tank-containers intended for the carriage of compressed gases of 1° and 2° by the tank-container's maximum permitted loading pressure and, in the case of tank-containers intended for the carriage of liquefied gases of 3° to 8° and of ammonia dissolved under pressure of 9° (at), by the permissible maximum load in kg.

(2) On multi-purpose tank containers:

The names, in full, of the gases for whose carriage the tank-container is approved followed by particulars of the permissible maximum load, in kg, for each of them.

(3) On tank-containers equipped with safety valves and intended for the carriage of gases of 7° (a), and 8° (a) and on tank-containers intended for the carriage of gases of 7° (b) and 8° (b):

The working pressure.

(4) On tank-containers equipped with thermal insulation the expression «thermally insulated» shall be inscribed in one of the official languages of ADR.

The frame of a multiple-element tank-container shall be fitted near the filling point with a plate specifying:

The test pressure of the elements;

The working pressure of elements intended for compressed gases;

The number of elements;

The aggregate capacity of the elements, in litres;

The name of the gas in full;

and, in the case of liquefied gases.

The permissible maximum load per element in kg.

Section 7

Operation

A tank-container assigned at different times to the carriage of different liquefied gases of 3° to 8° (multi-purpose tank-containers) may not carry substances other than listed in one, and one only, of the following groups:

Group 1: halogenated hydrocarbons of 3° (a) and 4° (a);

Group 2: hydrocarbons of 3° (b) and 4° (b);

Group 3: ammonia [3° (at)]; dimethyl ether, dimethylamine, ethylamine, methylamine and trimethylamine [3° (bt)]; and vinyl chloride [3° (c)];

Group 4: methyl bromide [3° (at)]; ethyl chloride and methyl chloride [3° (bt)];

Group 5: mixtures of ethylene oxide with carbon dioxide and of ethylene oxide with nitrogen [4° (ct)];

Group 6: gases of 7° (a) and mixtures of gases of 8° (a);

Group 7: ethane, ethylene and methane [7° (b)]; and mixtures of ethane with methane, also when they contain propane or butane [8° (b)].

Tank-containers which have been filled with a substance of group 1 or group 2 shall be emptied of liquefied gas before being loaded with another substance belonging to the same group. Tank-containers which have been filled with a substance of one of the groups 3 to 5 shall be completely emptied of liquefied gas and blown down before being loaded with another substance belonging to the same group.

The multiple use of tank-containers for the carriage of liquefied gases of the same group shall be allowed if all the requirements prescribed for the gases to be carried in one and the same tank-container are observed. Such multiple use shall be subject to approval by an approved expert.

The multiple use of tank-containers for the carriage of gases of different groups shall be allowed if permitted by the approved experts.

When loaded tank-containers or empty but uncleaned tank-containers are handed over for carriage, only the particulars applicable under marginal 211161 to the gas loaded or just discharged shall be visible; all particulars

concerning other gases shall be covered up.

All the elements of a multiple- element tank-container shall contain only one and the same gas. In the case of a multiple-element tank-container intended for the carriage of liquefied gases harmful to the respiratory organs or entailing a poison risk¹⁰, the elements shall be filled separately and be kept isolated by a sealed valve.

The maximum permissible degrees of filling in kg/litre prescribed in marginals 2219 (2), 2220, (3) and (4) 211251 (2), (3) and (4) shall

be adhered to.

The degree of filling of the shells of tank-containers fitted with safety valves and intended for the carriage of gases of 11o to 13o shall be such that at the «alert» temperature, at which the vapour pressure is equal to the valve-opening pressure, the volume of the liquid does not exceed the permissible degree of filling of the shell at that temperature, i.e. 95 per cent in the case of inflammable gases and 98 per cent in the case of other gases.

On the shells of tank-containers intended for the carriage of oxygen [7o (a)], or of air or mixtures of oxygen with nitrogen [8o (a)], substances containing grease or oil shall not be used to ensure leakproofness of the joints or for the maintenance of the closures.

Section 8

Transitional measures

CLASS 3

Inflammable liquids

Section 1

General; scope; definitions

Section 2

Construction

The shells of tank-containers intended for the carriage of carbon disulphide [1o (a)] shall be designed for a calculated pressure of 10 kg/cm² (gauge pressure).

Appendix B.1b

Section 3

Items of equipment

Tank containers which are fitted with a venting system with no shut-off device, and which are intended for the carriage of inflammable liquids having a flashpoint not exceeding 55° C, and tank-containers fitted with a safety valve shall have a flame-trap in the venting system.

All openings in the shells of tank-containers intended for the carriage of acrylaldehyde (acrolein), chloroprene (chlorobutadiene) and carbon disulphide (1° (a)) shall be above the surface level of the liquid. No piping or pipe connexions shall pass through the walls of the shell below the surface level of the liquid. The openings shall be capable of being hermetically closed and the closure shall be capable of being protected by a lockable cap.

Section 4

Type approval

(No special requirements)

Section 5

Tests

(No special requirements)

Section 6

Marking

(No special requirements)

Section 7

Operation

In the case of liquids having a vapour pressure of more than 1.75 kg/cm² (absolute) at 50° C, the following degrees of filling of hermetically closed shells shall not be exceeded: for methyl formate (1° (a)) and other liquids having a coefficient of cubical expansion of more than 150×10^{-5} but not more than 180×10^{-5} 91

per cent of capacity; for acetaldehyde (5°) and other liquids having a coefficient of cubical expansion of more than 180×10^{-5} but not more than 230×10^{-5} 90 per cent of capacity.

Appendix B.1b

An aluminium shell shall not be used for the carriage of acetaldehyde (5°) unless the shell is reserved solely for such carriage and the acetaldehyde is free from acid. 212371

In the cold season (October to March), light distillates for cracking and other liquid hydrocarbons having a vapour pressure not exceeding 1.5 kg/cm² (absolute) at 50° C may be carried in shells of the type prescribed in marginal 212133. 212372

Carbon disulphide (1° (a)) shall not be carried otherwise than in hermetically closed shells or in shells equipped with valves set at not less than 3 kg/cm² (gauge pressure). 212373

Section 8

Transitional measures

CLASS 4.1

Inflammable solids

CLASS 4.2

Substances liable to spontaneous combustion

CLASS 4.3

Substances which give off inflammable gases on contact with water

Section 1

General; scope; definitions

Section 2

Construction

The shells of tank-containers intended for the carriage of white or yellow phosphorus of marginal 2431, 1°, and of trichlorosilane (silicochloroform) of marginal 2471, 4°, shall be designed for a calculated pressure of 10 kg/cm² (gauge pressure). 212420

The shells of tank-containers intended for the carriage of aluminium alkyls, and of halides and hydrides of aluminium alkyls, of marginal 2431, 3°, shall be designed for a pressure of not less than 21 kg/cm² (gauge pressure). 212421

Appendix B.1b

Section 3

Items of equipment

The shells of tank-containers intended for the carriage of sulphur of marginal 2401, 2° (b), and of naphthalene of marginal 2401, 11° (c), shall be equipped with thermal insulation so made of materials which are not readily inflammable that the temperature on the outer surface cannot rise above 50° C during carriage. They may be equipped with valves opening automatically inwards or outwards under the effect of a difference of pressure of 0.2 to 0.3 kg/cm². The discharge devices shall be capable of being protected by a lockable metal cap. 212430

The shells of tank-containers intended for the carriage of white or yellow phosphorus of marginal 2431, 1°, shall meet the following requirements: 212431

(1) The heating device shall not penetrate into the body of the shell but be fitted outside it. Other piping shall enter the shell in its upper part; openings shall be above the highest permissible level of the phosphorus and be capable of being completely enclosed under lockable caps.

(2) The shell shall be equipped with a gauging system for verifying the level of the phosphorus and, if water is used as the protective agent, with a fixed gauge mark showing the highest permissible level of water.

The openings and orifices (valves, ducts, manholes, etc.) in the shells of tank-containers intended for the carriage of substances of marginal 2471, 1° (a), shall be equipped with leakproof lockable caps, and such shells shall be equipped with thermal insulation so made of materials which are not readily inflammable that the tem- 212432

perature on the outer surface cannot rise above 50° C during carriage.

The shells of tank-containers intended for the carriage of aluminium alkyls, and of halides and hydrides of aluminium alkyls, of marginal 2431, 3°, shall not have openings or connexions, even if closable, below the surface level of the liquid. Openings, including their fittings and accessories, in the upper part of the shell shall be capable of being protected by a protective cap. 212433

Section 4

Type approval

(No special requirements)

Appendix B.1b

Section 5

Tests

The shells of tank-containers intended for the carriage of sulphur of marginal 2401, 2° (the filling temperature must additionally be taken into account in the case of shells made of aluminium), naphthalene of marginal 2401, 11°, white or yellow phosphorus of marginal 2431, 1°, and trichlorosilane (silicochloroform) of marginal 2471, 4°, shall be tested at a pressure of 4 kg/cm² (gauge pressure). 212450

The shells of tank-containers intended for the carriage of aluminium alkyls, and of halides and hydrides of aluminium alkyls, of marginal 2431, 3°, shall undergo an initial pressure test, and periodic tests every five years, performed at a pressure of 10 kg/cm² (gauge pressure) with a liquid which does not react with the substance to be carried. 212451

Section 6

Marking

(No special requirements)

Section 7

Operation

The shells of tank-containers intended for the carriage of sulphur of marginal 2401, 2°, shall be filled to not more than 98 per cent of their capacity. 212470

White or yellow phosphorus of marginal 2431, 1°, shall if water is used as the protective agent be covered with a depth of not less than 12 cm of water at the time of filling; the degree of filling at a temperature of 60° C shall not exceed 98 per cent. If nitrogen is used as the protective agent, the degree of filling at a temperature of 60° C shall not exceed 96 per cent. The remaining space shall be filled with nitrogen in such a way that, even after cooling, the pressure at no time falls below the atmospheric pressure. The shell shall be hermetically closed so that no leakage of gas occurs. 212471

For the carriage of substances of marginal 2471, 1° (a), caps shall be locked in conformity with marginal 212432 and the temperature of the outside surface of the shell shall not exceed 50° C. 212472

In the case of trichlorosilane (silicochloroform) of marginal 2471, 4°, the degree of filling shall not exceed 1.14 kg per litre of capacity if filling is by weight, or 85 per cent if filling is by volume. 212473

The shells of tank-containers which have contained phosphorus of marginal 2431, 1°, shall when handed over for carriage either: 212474

— be filled with nitrogen the sender must certify in the transport document that the tank, after closure, is gastight; or

— be filled with water to not less than 96 per cent and not more than 98 per cent of their capacity; between 1 October and 31 March this water shall contain one or more anti-freeze agents free from corrosive action, not liable to react with phosphorus, and sufficiently concentrated to prevent the water freezing during carriage. 212475

212479

| | | | |
|--|--------|--|---------------|
| Section 8 Transitional measures | | peroxide, of marginal 2501, 1° or of liquid organic peroxide of marginal 2551, 10°, 14° and 15°, shall be tested at a pressure of 4 kg/cm ² (gauge pressure). | |
| CLASS 5.1 | 212480 | | |
| Oxidizing substances | 212499 | | 212551-212559 |
| CLASS 5.2 | | | |
| Organic peroxides | | | |
| Section 1 | | | |
| General; scope; definitions | 212500 | Section 6 Marking (No special requirements) | |
| | 212519 | | 212560-212569 |
| Section 2 | | | |
| Construction | | | |
| The shells of tank-containers, and their items of equipment, intended for the carriage of hydrogen peroxide or of aqueous solutions of hydrogen peroxide of marginal 2501, 1°, or for the carriage of liquid organic peroxides of marginal 2551, 10°, 14° and 15° shall be made of aluminium not less than 99.5 per cent pure or of suitable alloy steel not liable to cause the hydrogen peroxide or the organic peroxides to decompose. | 212520 | Section 7 Operation | |
| | 212521 | | 212570 |
| | 212529 | The inside of the shell of the tank container, and all metal parts liable to come into contact with hydrogen peroxide of marginal 2501, 1°, shall be kept clean. No lubricant capable of combining dangerously with the substance carried shall be used for pumps, valves or other devices. | |
| Appendix B.1b | | The shells of tank-containers intended for the carriage of liquids of marginal 2501, 1° to 3°, shall be filled to not more than 95 per cent of their capacity at a reference temperature of 15°C. The shells of tank-containers intended for the carriage of liquid organic peroxides of marginal 2551, 10°, 14° and 15°, shall be filled to not more than 80 per cent of their capacity. Shells shall be free from impurities at the time of filling. | 212571 |
| Section 3 | | | |
| Items of equipment | | | |
| The shells of tank-containers intended for the carriage of aqueous solutions of hydrogen peroxide containing more than 70 per cent hydrogen peroxide and of hydrogen peroxide of marginal 2501, 1°, shall have their openings above the surface level of the liquid. In the case of solution containing more than 60 per cent but not more than 70 per cent hydrogen peroxide, openings below the surface level of the liquid shall be permissible. In this case the shell-discharge system shall include two mutually independent shut-off devices, the first being a quick-closing internal stop-valve of an approved type and the second a sluice-valve, mounted in series, one at each end of the discharge pipe. A blank flange or some other equally reliable device shall also be fitted to the outlet of each external sluice-valve. The internal stop-valve shall be such that it remains rigidly locked to the shell and in the closed position if the pipe is wrenched off. | 212530 | | 212572-212579 |
| | | Section 8 Transitional measures | 212580-212599 |
| The connexion to the external pipe-outlets of tank-containers shall be coated with a suitable plastics material. | 212531 | | |
| The shells of tank-containers intended for the carriage of liquid organic peroxides of marginal 2551, 10°, 14° and 15°, shall be equipped with a venting device fitted with a flame-trap and followed in series by a safety valve opening automatically at a pressure of 1.8 to 2.2 kg/cm ² (gauge pressure). The materials of which closures liable to come into contact with the liquid or its vapour are made shall not have a catalytic effect (spring-loaded safety valve made of aluminium-silicon alloy (silumin) or of V2A stainless steel or of a material of equivalent quality). | 212532 | CLASS 6.1 Toxic substances | |
| | | Section 1 | |
| The shells of tank-containers intended for the carriage of liquid organic peroxides of marginal 2551, 10°, 14° and 15°, shall be equipped with thermal insulation in accordance with the requirements of marginal 212234 (1). The covering and the uncovered part of the shell shall be painted white. | 212533 | General; scope; definitions | 212600-212619 |
| | | Appendix B.1b | |
| | | Section 2 | |
| | | Construction | |
| | | | |
| | | The shells of tank-containers intended for the carriage of substances of marginal 2601, 2°(a), 3°, 4°(a), 11°(a), 13°(b), 14°, 23°, 61°(a), 61°(e), 61°(f), 81° and 82°, shall if these substances are liquid at +40°C (except carbon tetrachloride, chloroform and methylene chloride) be designed for a calculated pressure of 10 kg/cm ² (gauge pressure). | 212620 |
| | | | 212621 |
| | | The shells of tank-containers intended for the carriage of substances referred to in marginal 61121 (3) other than those enumerated in marginal 212620 above shall be so constructed that they can be discharged at a pressure of not less than 3 kg/cm ² (gauge pressure). | |
| | 212534 | | 212622 |
| | 212539 | | 212629 |
| Section 4 | | | |
| Type approval | | | |
| (No special requirements) | 212540 | | |
| | 212549 | | |
| Appendix B.1b | | Section 3 | |
| Section 5 | | Items of equipment | |
| Tests | | | |
| The shells of tank-containers intended for the carriage of hydrogen peroxide or of aqueous solutions of hydrogen | 212550 | (1) All openings in the shells of tank-containers intended for the carriage of substances referred to in marginal 61121 (3) shall be above the surface level of the liquid. | 212630 |
| | | (2) No piping or pipe connexions shall pass through the walls of the shell below the surface level of the liquid. | |

The openings shall be capable of being hermetically closed and the closure shall be capable of being protected by a lockable cap. In addition the shells of such tank-containers may be fitted with bursting discs mounted in series preceding the safety valves. In such a case the arrangement of the bursting disc and the safety valve shall be to the satisfaction of the competent authority.

212631-
212639

Section 4
Type approval
(No special requirements)

Section 5
Tests

Tank-containers intended for the carriage of substances of marginal 2601 2° (a), 3°, 4° (a), 11° (a), 13° (b), 14°, 23°, 61° (a), 61° (e), 61° (f), 81° and 82° shall if these substances are liquid at +40°C be tested initially and periodically at a pressure of 4 kg/cm² (gauge pressure).

Appendix B.1b

Section 6
Marking
(No special requirements)

Section 7
Operation

The shells of tank-containers intended for the carriage of substances of marginal 2601, 2° (a), 2° (b), 4° (a), 11° (a), 12° (a), 13° (a), 13° (b) and 81° to 83°, shall be filled to not more than 93 per of their capacity.

The shells of tank-containers intended for the carriage of aqueous-solutions of ethyleneimine (3°) and of substances of marginal 2601, 14°, shall be filled to not more than 95 per cent of their capacity.

Section 8
Transitional measures

CLASS 7
Radioactive substances
Section 1
General; scope; definitions

Section 2
Construction

Tank-containers intended for the transport of the substances referred to in Schedule 5, with the exception of uranium hexafluoride, shall be designed for a calculation pressure of at least 4 kg/cm². In the case of tank-containers intended for the transport of uranium hexafluoride,

the calculation pressure shall be fixed at 10 kg/cm². When the radioactive substance is in solution or suspension in hazardous substances of other Classes and when the calculation pressures required for the tank-containers intended for the transport of the latter substances are greater, these pressures shall be applied.

212721-
219729

Appendix B.1b
Section 3
Equipment

The openings of tank-containers intended for the transport of liquid radioactive substances 9) shall be above the level of the liquid and no piping or pipe connexion shall pass through the walls of the shell below the surface level of the liquid.

212731-
212739

Section 4
Type approval

Tank-containers approved for the transport of radioactive substances shall not be approved for the transport of any other substance.

212741-
212749

Section 5
Tests

The tank-containers shall undergo, at least once every five years, a hydraulic pressure test at a pressure of 4 kg/cm². Notwithstanding marginal 212150, the periodic internal inspection may be replaced by an ultrasonic test of the wall thickness conducted every two-and-a-half years.

212751-
212759

Section 6
Marking
(No special requirements)

212760-
212769

Section 7
Operation

The degree of filling at the reference temperature of 15°C shall not exceed 93 per cent of the total shell capacity. Tank-containers which have been used for the transport of radioactive substances shall not be used for the transport of other substances.

212771-
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Appendix B.1b
Section 8
Transitional provisions

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CLASS 8
Corrosive substances
Section 1
General; scope; definitions

Section 2 Construction

The shells of tank-containers intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6°(a)], of aqueous solutions of hydrofluoric acid [6°(b)], or of bromine (14°), shall be designed for a pressure of not less than 21 kg/cm² (gauge pressure).

Appendix B.1b

The shells of tank-containers intended for the carriage of substances of 1°, (a) and (b); 2°, (a) and (b); 6° (c); 7° to 9°; 21° (a); and 23°, shall be designed for a pressure of not less than 10 kg/cm² (gauge pressure).

The shells of tank-containers intended for the carriage of substances referred to in marginal 81121 (2), other than those listed in marginals 218200 and 218201, shall be designed for a calculated pressure of 4 kg/cm² (gauge pressure) and shall be so constructed that they can be discharged at a pressure of not less than 3 kg/cm² (gauge pressure).

The shells of tank-containers intended for the carriage of aqueous solutions of hydrogen peroxide (41°) shall meet the requirements of marginal 216200.

Section 3 Items of equipment

All openings in the shells of tank-containers intended for the carriage of substances of 6° or of bromine (14°) shall be above the surface level of the liquid. No piping or pipe connexions shall pass through the walls of the shell below the surface level of the liquid. The closures shall be capable of being effectively protected by a metal cap.

The shells of tank-containers intended for the carriage of stabilized sulphur trioxide (9°) shall be thermally insulated and be fitted with a heating device on the outside. Shells may be of the bottom-discharge type. In this case the shell-discharge system shall include two mutually independent shut-off devices, the first being a quick-closing internal, stop-valve of an approved type and the second a sluice-valve, mounted in series, one at each end of the discharge pipe. A blank flange or some other equally reliable device shall also be fitted to the outlet of each external sluice-valve.

The shells of tank-containers intended for the carriage of hypochlorite solutions (37°) and of aqueous solutions of hydrogen peroxide (41°) shall be so designed as to prevent the entry of foreign matter, the leakage of liquid, and the development of any dangerous excess pressure in the shell.

Section 4 Type approval (No special requirements)

Section 5 Test

The shells of tank - containers intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)],

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212819

or of aqueous solutions of hydrofluoric acid of 6° (b), shall undergo the initial pressure test and the periodic tests at a pressure of 10 kg/cm² (gauge pressure), and those intended for the carriage of the other substances referred to in marginal 81 121 (2), at a pressure of 4 kg/cm² (gauge pressure).

The pressure test of tank - containers intended for the carriage of stabilized sulphur trioxide (9°) shall be repeated every two and one - half years.

The condition of the lead lining of the shells of tank - containers intended for the carriage of bromine (14°) shall be checked every year by an approved expert, who shall inspect the inside of the shell.

In addition to the tests prescribed in Section 5, the corrosion resistance of tank 6 containers intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)], or of aqueous solutions of hydrofluoric acid of 6° (b), shall be checked by means of suitable instruments (e.g. by ultrasound methods); and the condition of the items of equipment verified, every two and one - half years.

Section 6 Marking

In addition to the particulars prescribed in marginals 212 160 and 212 161, the following particulars shall be marked on tank - containers intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)], of aqueous solutions of hydrofluoric acid of 6° (b), or bromine (14°): the permissible maximum net load in kg, and the date (month and year) of the most recent internal inspection of the shell.

Section 7 Operation

The shells of tank - containers intended for the carriage of sulphuric acid [1° (c)] shall be filled to not more than 95 per cent of their capacity, those intended for the carriage of stabilized sulphur trioxide (9°) to not more than 88 per cent, and those intended for the carriage of bromine (14°) to not less than 88 per cent and not more than 92 per cent or to the extent of 2.86 kg per litre of capacity. Shells intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)] and of aqueous solutions of hydrofluoric acid [6° (b)] shall not be filled to the extent of more than 0.84 kg per litre of capacity.

Section 8

Transitional measures

Appendix B. 1c

PROVISIONS CONCERNING FIXED TANKS AND DEMOUNTABLE TANKS IN REINFORCED PLASTICS

Notes

—This Appendix applies to fixed tanks and demountable tanks; it does not apply to batteries of receptacles, to tank - containers, or to receptacles.

—For receptacles, see the requirements concerning them in Annex A (packages).

—It is recalled that marginal 10 121 (1) prohibits the carriage of dangerous substances in tanks except where such carriage is expressly authorized. This Appendix is therefore confined to provisions applicable to fixed tanks and demountable tanks in reinforced plastics used for transport operations which are expressly authorized.

Section 1

General provisions concerning the construction of fixed tanks and demountable tanks

The tanks must satisfy the following requirements of Appendix B. 1a:

(1) General provisions applicable to tanks used for carriage of substances of all Classes:

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212879

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213 099

Marginals 211 120, (4), (5) and (6); 211 121, (1) and (2); 211 122; 211 124; 211 126; 211 127, (5); 211 128; 211 130; 211 132; 211 137; 211 140; 211 150 to 211 153; 211 160 and 211 161; 211 171; 211 172, (1) and (2); and 211 173 to 211 178.

(2) Provisions applicable to tanks for carriage of substances of Class 3: marginal 211 330.

The leakproofness test and the internal inspection shall be performed every three years.

(3) Special provisions applicable to tanks used for carriage of substances of Class 8: Marginal 211 833.

The walls of the tank must present no material defect 213 101 causing a reduction in safety.

The walls of the tank must have a lasting resistance to 213 102 the mechanical, thermal and chemical stresses to which they are subjected.

Tank openings 213 103

(1) Where the tank has one or more discharge openings below the level of the liquid, any pipe or valve fitted to such opening or openings shall be protected either by being recessed into the tank shell or by any other means approved by the competent authority and providing equivalent protection.

(2) The use of screwed plugs is strictly prohibited. Valves shall be of a model approved by the competent authority.

(3) Filling apertures shall be closed by a hermetic device. If the device projects outwards from the tank shell it shall be protected by a cap capable of withstanding wrenching stresses occurring through accidental overturning of the tank.

213 104
213 119

Section 2

Materials used for the walls of the tank

The walls of tanks may be made of the following materials: 213 120

(1) Synthetic resin

— non — saturated polyester resins;

— epoxide resins;

— other resins with similar characteristics, provided that the safety of the wall is demonstrated.

(2) Fibre reinforcements

Glass fibres (glass of types E and C) 1/ with an appropriate coating, for example with a silane base or similar products. The glass fibres may be used in the form of cut or uncut rovings including prestressed continuous rovings or filaments, mats, surface mats or woven fabric.

(3) Additives

(a) Additives necessary for the treatment of resins, for example, catalysts, accelerators, monomers, hardeners, thixotropic substances, in accordance with instructions by the manufacturer of the resin.

(b) Extenders, pigments, colorants and other products enabling the required properties to be obtained, for example, the increase of fire — resistant properties, provided that they cause no reduction in the safety of use of the walls of the tank.

213 121
213 129

Section 3

Structure of the walls of the tank

The external surface layer of the walls of the tank must be resistant to atmospheric effects and also to brief contact with the substance to be carried. 213 130

The walls of the tank and the sealed joints must satisfy the mechanical resistance requirements listed in section 4. 213 131

The internal surface layer of the walls must be resistant to the lasting effects of the substance to be carried. This layer must be made of reinforced resin having a minimum thickness of 1 mm. The fibres used must not reduce the chemical resistance of the layer. The inner part of the layer must be rich in resins and must have a minimum thickness of 0.2 mm. 213 132

1/ Glass of types E and C is defined in Table 1.

The requirements detailed in marginals 213 140 (6) and 213 142 (2) of section 4 must be satisfied.

The finished walls must satisfy the requirements detailed 213 133 in marginal 213 140 (3) of section 4.

The minimum thickness of the wall shall be 213 134

— 3.5 mm if the capacity of tank does not exceed 3,000 litres

— 5.0 mm if the capacity of the tank is more than 3,000 litres.

213 135—
213 139

Section 4

Test methods and qualities required

Tests and qualities required for materials 213 140

for prototype tank

(1) Taking of specimens

The specimens required for the test must wherever possible be taken from the walls of the tank. For this purpose cut — out parts resulting from the making of apertures etc. may be used.

(2) Percentage of glass fibre

The test must be conducted in accordance with the methods prescribed in ISO Recommendation R1172 1970.

The glass content of the specimen must be higher than 25 per cent and lower than 75 per cent by weight.

(3) Degree of polymerization

(a) Wall in polyester resins

The residual styrene content may not be higher than 2 per cent, calculated on the total quantity of resins. The test shall be conducted in accordance with a suitable method. 2/

(b) Wall in epoxide resins

The acetone extract may not be higher than 2 per cent calculated on the total quantity of resins. The test shall be conducted in accordance with a suitable method 3/

(4) Bending and tensile strength

The mechanical properties must be determined:

— for the shell, in the axial and circumferential directions;

— for the ends and walls of compartments, in any direction.

If the principal directions of the reinforcement do not coincide with the axial and circumferential directions (for example in the case of biaxial winding), the strength must be determined in the principal directions of the reinforcement and calculated for the axial and circumferential directions by applying the following formulae:

Tensile

$$\sigma_{T,c} = 2\sigma_{T,H} \sin^2 \alpha$$

$$\sigma_{T,a} = 2\sigma_{T,H} \cos^2 \alpha$$

Bending

$$\sigma_{F,c} = 2\sigma_{F,H} \sin^2 \alpha$$

$$\sigma_{F,a} = 2\sigma_{F,H} \cos^2 \alpha$$

T = tensile

c = circumferential

a = axial

H = helicoidal

F = bending

α = preferential winding angle

The tensile strength must be tested in accordance with the methods prescribed in document ISO/ TC61/ WG2/ TG «Tests of glass reinforced plastics» No 4 of February 1971.

The bending strength must be tested in accordance with the methods prescribed in Recommendation ISO/TC61 No 1540 of April 1970.

Requirements

New tanks must meet the following safety factors against rupture:

Safety factor for static loading: 7.5

Safety factor for dynamic loading: 5.5.

The acceleration values to be applied in computing the dynamic load are as follows:

2/ The method prescribed in standard DIN 16945 of June 1969, paragraph 6.4.3 is regarded as suitable.

3/ The method prescribed in standard DIN 16945 of June 1969, paragraph 6.4.2 is regarded as suitable.

- 2 g in direction of travel;
- 1 g at right angles to direction of travel;
- 1 g vertically upwards; and
- 2 g vertically downwards.

As the characteristics of a reinforced plastics laminate may vary according to its structure, minimum values are not prescribed for bending and tensile strength but for loads:

$A = e\sigma_t$ where σ_t is the tensile strength at break;

$B = e^2\sigma_f$ where σ_f is the bending strength at break; where e is the thickness of the wall.

The minimum values for forces A and B are:

For bending

Capacity of tank $\leq 3,000$ litres

– circumferential direction $B = 600 \text{ daN}$

– axial direction $B = 300 \text{ daN}$

Capacity of tank $> 3,000$ litres

– circumferential direction $B = 600 \text{ daN}$

– axial direction $B = 600 \text{ daN}$

For tensile:

– circumferential direction $A = 100 \text{ daN/mm}$

– axial direction $A = 70 \text{ daN/mm}$

Module E on bending is measured at -40°C and at $+60^\circ\text{C}$. The two values may not differ by more than 30 per cent from the value obtained at 20°C . Behaviour of wall material during a tensile test lasting more than 1,000 hours.

The test tension is $\frac{\sigma T}{7.5}$

During the test the factor $K = \frac{\epsilon 1000}{\epsilon_0}$ may, not be

higher than 1.6.

ϵ = elongation of loaded specimen at beginning of test

$\epsilon 1000$ = elongation of loaded specimen at end of test

(5) Impact behaviour

(a) Nature of test

Impact behaviour is determined on a sample of laminate corresponding to the structural material used for the construction of the tank. The test is carried out by dropping a 5 kg steel weight onto the surface of the laminate corresponding to the external surface of the tank;

(b) Apparatus

The apparatus consists of a 5 kg steel weight, a guidance device for this weight and a specimen-bearing chassis. A general diagram of the apparatus is given in diagram 1. The weight is in the form of a steel cylinder provided with two guide channels, the lower extremity being spherically shaped, 90 mm diameter.

The guidance device is fitted vertically to a wall.

The specimen-bearer is composed of two angle-bars of $100 \times 100 \times 25$ mm and 300 mm long, welded to a 400×400 mm metal support. The gap between the two bars is 175 mm. The specimen-bearer, fixed to the ground, is provided with a 50 mm deep cavity to allow flexion of the specimen.

(c) Preparation of specimens.

From the sample, three specimens are taken, each measuring 200×200 mm \times thickness of the sample.

(d) Operating method

The specimen is placed symmetrically on the specimen-bearer; if possible it rests on the support following two basic straight lines of the surface, in such a way that the weight strikes the centre of the face of the specimen corresponding to the external surface of the tank.

The weight is allowed to fall from a determined height, care being taken to ensure that it does not rebound and strike the specimen a second time.

The test must be conducted at ambient temperature.

the height to which the weight is raised in the guidance device is noted.

The other two specimens are tested in the same way.

(e) Requirement

The drop height for a 5 kg weight shall be 1 metre; the specimen must not allow leakage of more than 1 litre per 24 hours when subjected to a column of water of 1 m.

(6) Resistance to chemical agents.

Flat reinforced plastics test plates, prepared in the laboratory, are subjected to attack by the dangerous substance at a temperature of 50°C for 30 days in accordance with the following procedure:

(a) Description of the test apparatus (and shown in diagram 2).

The test apparatus comprises a glass cylinder, diameter 140×150 mm, 150 mm high with two nozzles positioned at 135° one fitted with an NS 29 joint to take an intermediate pipe for a reflux condenser (1), the other nozzle fitted with an NS 14.5 joint to take a thermometer (2), an intermediate pipe for a reflux condenser and a reflux condenser not shown in the diagram. The glass part of the apparatus shall be in glass resistant to changes of temperature.

The specimens taken from the test plates form the base and the top of the glass cylinder. They are sealed to the sides of the cylinder by a PTEE collar. The cylinder with the two specimens is clamped between two pressure plates in corrosion-resistant steel with six threaded bolts tightened by means of wing nuts. An asbestos washer must be placed between the pressure plates and the specimens. These washers are not shown in diagram 2. Heating is effected from outside by means of an automatically controlled sleeve heater. The temperature is measured in the chamber containing the liquid.

(b) Operation of the test apparatus.

The test apparatus allows only flat plates of uniform thickness to be tested. The test plates should, if possible, be 4 mm thick. Should these plates be covered with a gel coating, they must be tested in condition as for practical use. Six hexagonal specimens, each side measuring 100 mm are cut from the test plate.

For each test, three specimens are prepared per apparatus. One of these samples is used as a reference and the other two are used for checking in the liquid zone, and vapour zone of the device respectively.

(c) Test procedure

The specimens to be tested are placed on the apparatus with the surface which may be gel-coated facing inwards. 1,200 ml of test liquid is poured into the glass cylinder. The apparatus is then heated to the test temperature. A constant temperature is maintained during the test. After the test the apparatus is cooled to the ambient temperature and the test liquid removed. The specimens tested are immediately washed with distilled water. Liquids which are not soluble in water are removed with a solvent which does not attack the specimens. Mechanical cleaning of the plates cannot be performed because of the danger of damaging the surface of the specimens.

(d) Evaluation

A visual examination is made:

– if the visual examination reveals excessive attack (cracks, bubbles, pores, peeling off, swelling, or roughness), the test is conclusive negatively;

– if the visual examination reveals no abnormality, bending tests are made by the methods specified in marginal 213140 (4) on the two specimens subjected to chemical attack and on the reference specimen. In this case the bending strength shall not be more than 20 per cent lower than the value ascertained for the test plate not subjected to any stress.

Test and quality required for the prototype unit

213141

The prototype tank shall be subjected to a hydraulic pressure test conducted by an expert approved by the competent authorities of a Contracting Party.

If the prototype tank is divided into compartments either by bulkheads or by baffle plates, the test shall be conducted on a unit made for this purpose with the same external ends as the entire tank and which represents the part of the tank subjected, under normal conditions of use, to the greatest stresses.

This test should not be conducted if there has already been a successful test on another prototype unit of the same section or a section with larger dimensions, geometrically similar to that of the prototype unit in question, even if

that unit has a different internal surface layer.

This test must demonstrate that the prototype unit has, under normal conditions of use, a factor of not less than 7.5 so far as rupture is concerned.

It must be proved, e.g. by calculation, that safety factors against fracture given in marginal 213140 (4) are complied with for each section of the tank.

Rupture occurs when the test liquid escapes from the tank in the form of jets. Consequently, before this rupture, the presence of delaminations and losses of liquid through these delaminations in the form of droplets is permitted. The prototype unit shall be submitted to a hydraulic pressure.

$$H=7.5 \times d \times h$$

where H is the height of the column of water

h is the height of the tank

d is the density of the substance to be carried.

If a rupture occurs with a water-column height H_1 less than H, there must still be

$$H_1 \geq 7.5 \times d \times (h - h_1)$$

where h_1 is the height of the highest point where the first jet of liquid appears.

Should the flow of liquid at point h_1 be too great, it is essential to make a temporary repair and temporary local strengthening to enable the test to continue to height H.

Conformity check on tanks produced in series

213142

(1) The inspection of conformity on tanks produced in series shall be carried out by conducting one or more of the tests listed in marginal 213140.

However, the measurement of the degree of polymerization is replaced by Barcol hardness measurement.

(2) Barcol hardness

The test must be conducted in accordance with suitable procedures⁴. Barcol hardness measured on the internal surface of the finished tank shall not be less than 75 per cent of the value obtained in the laboratory on pure hardened resin.

(3) The percentage of glass fibre must be within the limits prescribed in marginal 213140 (2) and, in addition, must not deviate by more than 10 per cent of the figure for the prototype tank.

Tests and qualities required for all tanks before being put into service 213143

Leakproofness test

The leakproofness test shall be conducted in accordance with the provisions of marginals 211150 and 211151 of ADR and the expert's stamp shall be applied to the tank.

213144

-213149

Section 5

Special provisions for tanks used for the carriage of substances with a flash point of 55°C or lower

The tank must be constructed so as to ensure the elimination of static electricity from the various component parts so as to avoid the accumulation of dangerous electric charges. 213150

All metal parts of the tank and the transport unit and also wall layers conducting electricity must be interconnected. 213151

The resistance between each conducting part and the chassis must not be higher than 10^6 ohms. 213152

Elimination of hazards due to charges generated by friction

The surface resistance and the discharge resistance to earth of the entire surface of the tank shall conform with the requirements of marginal 213154. 213153

4. The procedures prescribed in standard ASTM-D 2583-67 are regarded as suitable.

The surface resistance and discharge resistance to earth measured in accordance with marginal 213155 must satisfy the following requirements. 213154

(1) Walls not equipped with electrically conducting elements:

(a) Surfaces upon which one can walk:

The discharge resistance to earth shall not be higher than 10^8 ohms.

(b) Other surfaces:

The surface resistance shall not be higher than 10^9 ohms.

(2) Walls equipped with electrically conducting elements:

(a) Surfaces on which one can walk:

The discharge resistance to earth shall not be higher than 10^8 ohms.

(b) Other surfaces:

213 154

Conductance shall be considered as sufficient if the maximum thickness of non-conducting layers on conducting elements, for example conducting sheets, metal netting or other appropriate material, connected to the earthing connexion, does not exceed 2 mm, and that in the case of a metal netting, the surface area of the mesh does not exceed 64 cm².

(3) Any measurement of surface resistance or discharge resistance to earth required to be carried out on the tank itself shall be replaced at intervals of not more than one year to ensure that the specified resistances are not exceeded.

Test Methods

213 155

1. Surface Resistance (R_{100}) – (insulating resistance) in ohms, electrodes of conducting paint in accordance with figure 3 of Recommendation IEC 167 of 1964, measured in the standard 23/50 atmosphere according to Recommendation ISO R291, paragraph 3.1, of 1963.

2. The discharge resistance to earth in ohms is the ratio between the direct voltage measured between an electrode described below in contact with the surface of the tank of the vehicle and the earthed chassis of the vehicle, and the total current.

The conditioning of the specimens is the same as in paragraph 1. The electrode is a disc with a surface area of 20 cm² and a diameter of 50 mm. Its close contact with the surface of the tank must be ensured, for example by using damp paper or a damp sponge or any other suitable substance. The earthed chassis of the vehicle is used as the other electrode. A direct voltage in the range of 100 volts - 500 volts shall be applied. The measurement shall be carried out after the test voltage has been applied for one minute. The electrode may be placed on any point of the internal or external surface of the tank.

If measuring is impossible on the tank, it may also be carried out, under the same conditions, in the laboratory, on a specimen of the material.

Elimination of hazards due to charges generated during filling

Metallic components bonded to earth shall be provided and so disposed that at any stage of the filling or emptying process there is an area of not less than 0.04 sq. metres of earthed metal in contact with the product per cubic meter of product contained in the tank at that instant, and that no part of the product shall be more than 2.0 metres from the nearest earthed metal component. Such metallic components may take the form of: 213 156

(a) A metal foot valve, pipe outlet, or plate provided the total area of metal in contact with the liquid is not less than that specified, or

(b) A metallic grill with wire thickness not less than 1 mm diameter and hole area not greater than 4 sq. centimetres, provided that the total area of the grill in contact with the liquid is not less than that specified.

Marginal 213 156 shall not apply to reinforced-plastics tanks equipped with any other system for eliminating the hazard from charges generated during filling, provided it has been demonstrated by a practical comparative test in accordance with marginal 213 158 that the relaxation time 213 157

of the charge generated within the tank during filling is equivalent to that obtained for a metal tank of comparable dimensions.

Comparative test

(1) A comparative test of the electrostatic charge relaxation time in accordance with the conditions of test described in paragraph (2) shall be carried out on a prototype reinforced-plastics tank and steel tank in the following manner (see diagram 3).

(a) The reinforced-plastics tank shall be mounted in the same manner as it would be in use, for example, on a steel support simulating a vehicle's chassis, and shall be filled to not less than 75 per cent capacity with automotive diesel fuel, a proportion of which is passed through a suitable microfilter in such a manner that the charge density of the total flow is approximately 100^{μ} c/m^3 .

(b) The field strength in the tank vapour space shall be measured by a suitable continuous reading field meter mounted with its axis vertical and placed at least 20 cm from the vertical fill pipe.

(c) A similar test shall be carried out on a steel tank whose width, length, breadth, and volume are within 15 per cent of those of the reinforced-plastics tank, or on a reinforced-plastics tank of similar dimensions, coated internally with metal foil connected to earth.

(2) The following conditions of test shall be met:

(a) The test shall be carried out in a covered area in conditions of relative humidity less than 80 per cent.

(b) The automotive diesel fuel used in the test shall have a rest conductivity at the temperature of measurement between 3 and 5 $\text{p}^{\text{S}}/\text{m}$. This shall be measured in a cell in which VT/d^2 is less than or equal to 2.5×10^6

where V = applied voltage

d = spacing between electrodes in metres

T = duration of measurement in seconds

The rest conductivity measured on samples of the product taken from the test tank after filling shall not differ in successive tests on plastics and metal tanks by more than 0.5 $\text{p}^{\text{S}}/\text{m}$.

(c) Filling shall be at a constant rate within the range 1 to 2 m^3/min and shall be the same for the reinforced-plastics tank and for the steel tank. At the end of filling, the flow should be stopped in a time which is short compared with the relaxation time for the charge in the steel tank.

(d) The charge density shall be measured by a suitable continuous reading meter (for example, a field mill type) immersed in the product and placed as close as possible to the filling pipe.

213 158

(e) The supply pipes and the vertical filling pipe shall be of 10 cm internal diameter and shall terminate in a "T" type filling pipe outlet.

(f) A suitable microfilter,* with an adjustable by-pass enabling the proportion of flow passing through it to be regulated, shall be fitted not more than 5 m from the filling pipe outlet.

(g) The liquid level shall not reach the bottom of the filling pipe or the field meter.

Comparison of relaxation times

(3) The initial value of the field strength shall be that recorded at the earliest point of time after the cessation of flow of the fuel when a smooth decay curve has been established. The relaxation time in both tests shall be expressed as the time taken for the field strength to decay from the initial value to 0.37 of the initial value.

(4) The relaxation time of the reinforced-plastics tank shall not exceed that of the steel tank.

213 159

-213 999

Table 1.
COMPOSITION OF GLASS

Glass E:

Composition by weight:

| | | |
|-----------------|--|---------------------|
| Silica | (SiO_2) | 52 to 55 per cent |
| Alumina | (Al_2O_3) | 14 to 15.5 per cent |
| Lime | (CaO) | 16.5 to 18 per cent |
| Magnesia | (MgO) | 4 to 5.5 per cent |
| Boric Oxide | (B_2O_3) | 6.5 to 21 per cent |
| Fluorine | (F) | 0.2 to 0.6 per cent |
| Ferric Oxide | (Fe_2O_3) | < 1 per cent |
| Titanium Oxide | (TiO_2) | < 1 per cent |
| Alkaline Oxides | ($\text{Na}_2\text{O} + \text{K}_2\text{O}$) | |

Glass C:

Composition by weight:

| | | |
|-----------------|-----------------------------|---------------------|
| Silica | (SiO_2) | 63.5 to 65 per cent |
| Alumina | (Al_2O_3) | 4 to 4.5 per cent |
| Lime | (CaO) | 14 to 14.5 per cent |
| Magnesia | (MgO) | 2.5 to 3 per cent |
| Boric Oxide | (B_2O_3) | 5 to 6.5 per cent |
| Iron | (Fe_2O_3) | 0.3 per cent |
| Sodium Oxide | (Na_2O) | 7 to 9 per cent |
| Potassium Oxide | (K_2O) | 7 to 9 per cent |

* A Rellumit 5 has been found to be suitable.

Diagram 1.
Device for measuring impact resistance
by means of a spherically-ended falling weight

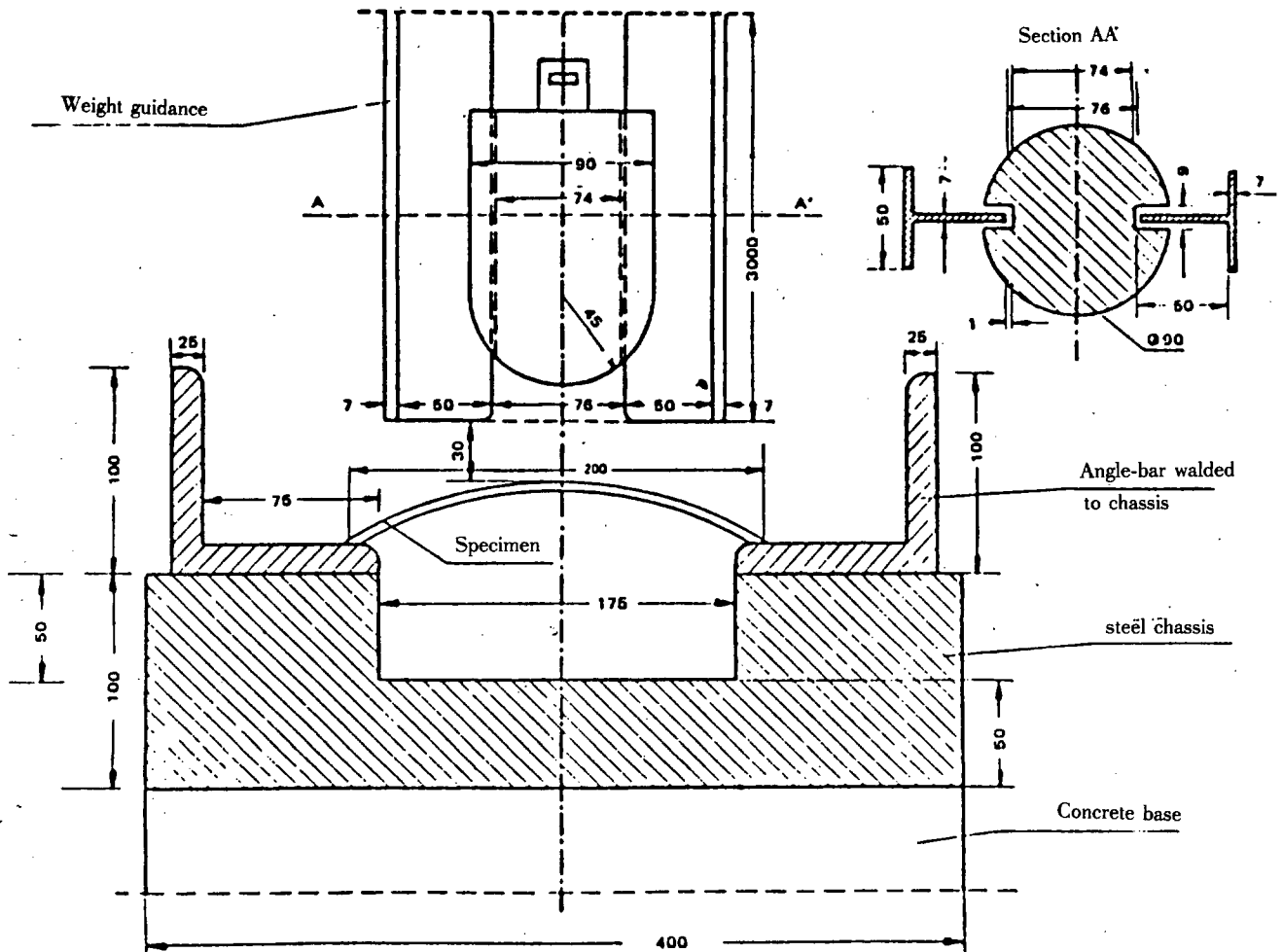


Diagram 2.
Device to test resistance to chemical agents.

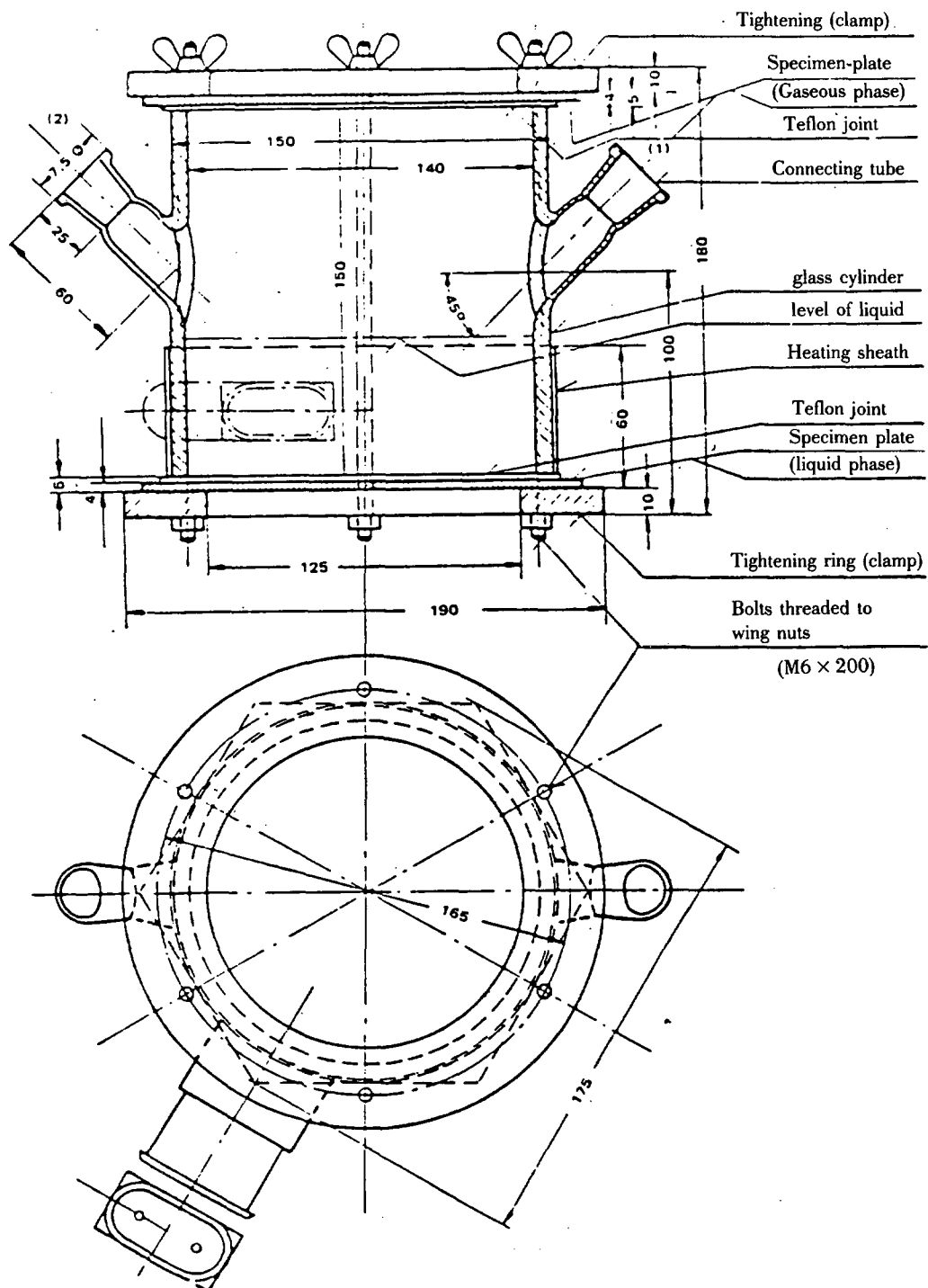
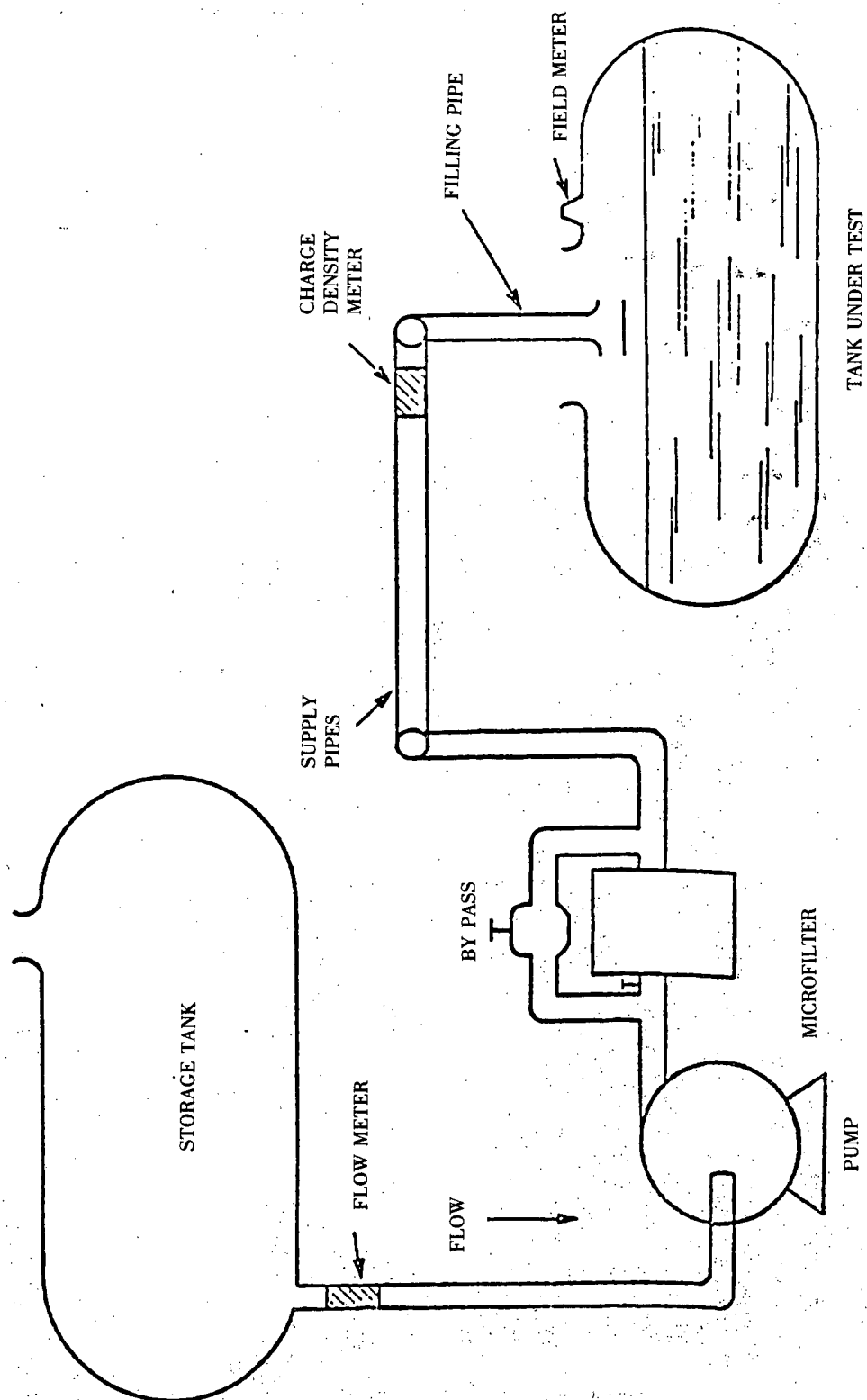


Diagram 3.
Schematic layout of rig for comparative test.



Appendix B.1d

REQUIREMENTS CONCERNING THE MATERIALS
AND CONSTRUCTION OF
FIXED TANKS, OF DEMOUNTABLE TANKS, AND OF
SHELLS OF
TANK-CONTAINERS, INTENDED FOR THE CAR-
RIAGE OF
DEEPLY-REFRIGERATED LIQUEFIED GASES OF
CLASS 2

214000
214249
214250

(1) Receptacles, tanks and shells shall be made of steel, aluminium, aluminium alloy, copper or copper alloy, e.g. brass. However, receptacles, tanks and shells made of copper or copper alloy shall be allowed only for gases containing no acetylene; ethylene may however contain not more than 0.005 per cent acetylene.

(2) Only materials appropriate to the lowest working temperature of the receptacles, tanks and shells and of their fittings and accessories may be used.

The following materials shall be allowed for the manufacture of receptacles, tanks and shells:

(a) steels not subject to brittle fracture at the lowest working temperature (see marginal 214265).

The following may be used:

1. fine-grained unalloyed steels, down to a temperature of -60°C ;

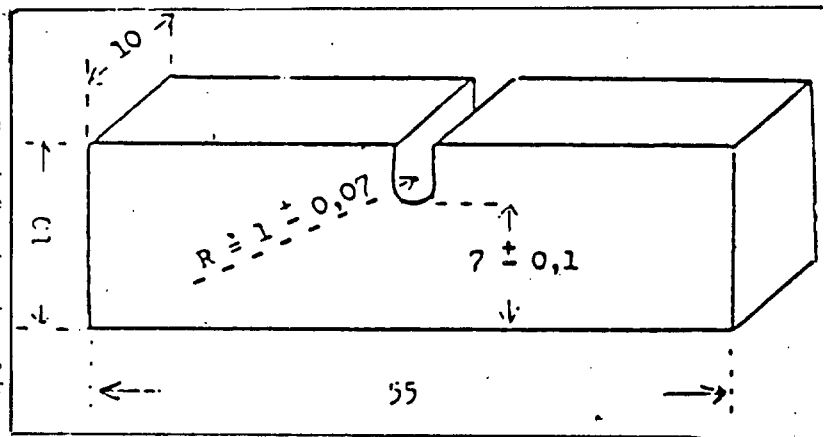
2. nickel steels (with a nickel content of 0.5 to 9 per cent), down to a temperature of -196°C , depending on the nickel content;

3. austenitic chrome-nickel steels, down to a temperature of -270°C ;

(b) aluminium not less than 99.5 per cent pure, or aluminium alloys (see marginal 214266);

(c) deoxidized copper not less than 99.9 per cent pure, or copper alloys having a copper content of over 56 per cent (see marginal 214267).

214251



(1) Receptacles, tanks and shells shall be either seamless or welded.

(2) Receptacles under marginal 2207 made of austenitic steel, of copper or of copper alloy may alternatively be hard-soldered.

The fittings and accessories may either be screwed to the receptacles, tanks and shells or be secured there to as follows:

(a) receptacles, tanks and shells made of steel, aluminium or aluminium alloy: by welding;

(b) receptacles, tanks and shells made of austenitic steel, of copper or of copper alloy: by welding or hard-soldering.

The construction of receptacles, tanks and shells and their attachment to the vehicle, to the underframe or in the container frame shall be such as to preclude with certainty any such reduction in the temperature of the load-bearing components as would be likely to render them brittle. The means of attachment of receptacles, tanks and shells shall themselves be so designed that even when the receptacle, tank or shell is at its lowest working temperature they still possess the necessary mechanical properties.

214252

214253

214254

214255

214264

1. Materials, receptacles, tanks and shells

(a) Steel receptacles, tanks and shells

The materials used for the manufacture of receptacles, tanks and shells, and the weld beads, shall at their lowest working temperature meet at least the following requirements as to impact strength.

The tests may be conducted with test-pieces having either a U-shaped or a V-shaped notch.

| Material | Impact strength ^{1,2} of sheet metal and weld beads at lowest working temperature kgm/cm ² , ³ kgm/cm ² , ⁴ | |
|-----------------------------------|---|-----|
| Unalloyed killed steel | 3.5. | 2.8 |
| Ferritic alloy steel Ni < 5% | 3.5. | 2.2 |
| Ferritic alloy steel 5% ≤ Ni ≤ 9% | 4.5. | 3.5 |
| Austenitic Cr-Ni steel | 4.0 | 3.2 |

¹ Impact strengths determined with different test-pieces are not mutually comparable.

² See marginals 214275 to 214277.

³ The values relate to test-pieces with a U-shaped notch as illustrated below.

⁴ The values relate to test-pieces with a V-shaped notch conforming to ISO R 148.

In the case of austenitic steels, only the weld bead need be subjected to an impact-strength test.

For working temperatures below -196°C the impact-strength test is not performed at the lowest working temperature, but at -196°C .

(b) Receptacles, tanks and shells made of aluminium or aluminium alloy

The seams of receptacles, tanks and shells shall at ambient temperature meet the following requirements as to bending coefficient:

214266

| Thickness of sheet in mm | Bending coefficient ^k ₁ for the seam | |
|--------------------------|--|----------------------|
| | Root in compression zone | Root in tension zone |
| ≤ 12 | ≥ 15 | ≥ 12 |
| > 12 to 20 | ≥ 12 | ≥ 10 |
| > 20 | ≥ 9 | ≥ 8 |

¹ See marginal 214 285.

(c) Receptacles, tanks and shells made of copper or copper alloy

It is not necessary to carry out tests to determine whether the impact strength is adequate.

214267

214268-

214274

2. Tests

(a) Impact-strength tests

The impact strengths indicated in marginal 214265 relate to test-pieces measuring 10×10 mm and having a U-shaped or a V-shaped notch.

Notes:

1. With regard to the shape of the test-piece, see marginal 214265 (table), footnotes³ and⁴.

2. For sheets less than 10 mm but not less than 5 mm thick, test-pieces with a cross-section of 10 × e mm, where «e» represents the thickness of the sheet, shall be used. Such impact-strength tests generally yield higher values than do such tests on standard test-pieces.

3. No impact-strength test shall be carried out on sheets less than 5 mm thick, or on their seams.

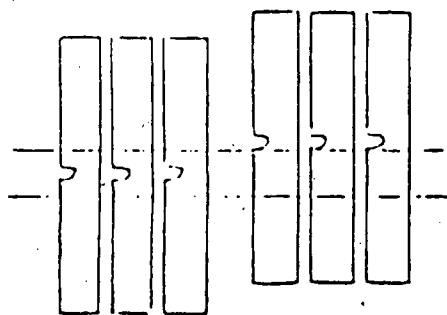
(1) For testing sheets the impact strength shall be determined on three test-pieces. Test-pieces with a U-shaped notch shall be taken at right angles to the direction of rolling and test-pieces with a V-shaped notch in the direction of rolling.

Appendix B.1d

(2) For testing seams the test -pieces shall be taken as follows:
e ≤ 10

three test-pieces from the centre of the weld;

three test-pieces from the zone of deformation created by the weld (the notch shall be completely outside the melted area but as near to it as possible);



i.e. six test-pieces in all.



Centre of weld



Zone of deformation

The test-pieces shall be so machined as to have the maximum possible thickness.

10 < e ≤ 20

three test-pieces from the centre of the weld;

three test-pieces from the zone of deformation;

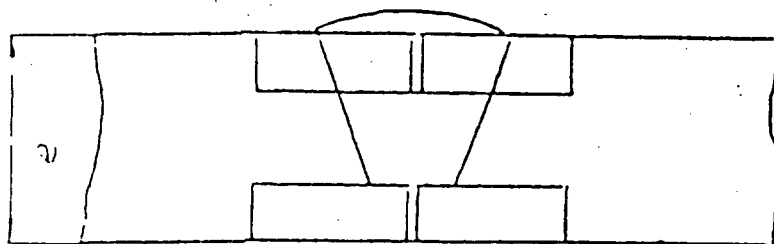


Zone of deformation

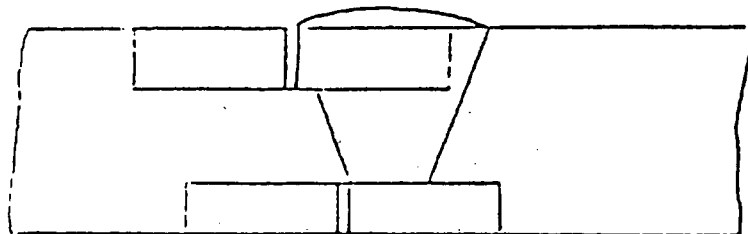
i.e. six test-pieces in all.

e > 20

Two sets of three test-pieces (one set on the upper face, one set on the lower face) at each of the points indicated below:



Centre of weld



Zone of deformation

i.e. twelve test-pieces in all.

(1) For sheets, the average of the three tests shall meet the minimum values indicated in marginal 214265; none of the values may be more than 30 per cent below the minimum shown.

(2) For welds, the average values obtained from the test-pieces taken at the different points, centre of weld and zone of deformation, shall correspond to the minimum values indicated. None of the values may be more than 30 per cent below the minimum indicated.

214278

(b) Determination of bending coefficient

214284

(1) The bending coefficient k referred to in marginal 214285 214286 is defined as follows:

$$k = 50 \frac{e}{r},$$

where e = thickness of the sheet in mm; and r = mean radius of curvature in mm of the test-piece when the first crack appears in the tension zone.

(2) The bending coefficient k shall be determined for the seam. The width of the test piece shall be equal to 3 e.

(3) Four tests shall be performed on the seam, two with the root in the compression zone (fig. 1) and two with the root in the tension zone (fig. 2) all individual values obtained shall meet the minimum -value requirements of marginal 214266.

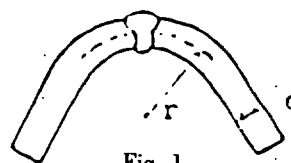


Fig. 1

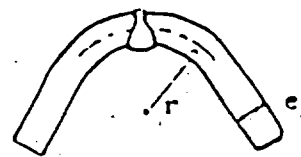
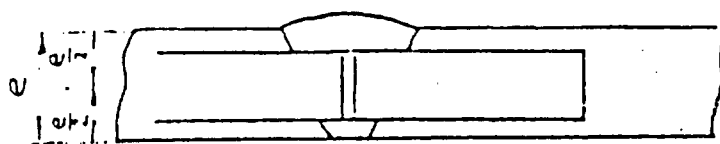


fig. 2



Centre of weld

214286

219999

Appendix B.2 ELECTRICAL EQUIPMENT

220000

- (1) The lighting of vehicles shall be electrical
(2) The electrical equipment of vehicles shall meet the following requirements:

Requirements applicable to the electrical equipment as a whole

(a) Wiring: Conductors shall be generously dimensioned to prevent overheating. They shall be appropriately insulated. Circuits shall be protected against excess current by fuses or automatic cut - outs. The wiring shall be firmly attached and so placed that the conductors are protected against impacts, projected stones and heat emitted by the exhaust system

(b) Storage batteries: A switch for breaking all the electric circuits shall be placed as close to the battery as possible. A direct or remote control system shall be installed in the driving cab and outside the vehicle. It shall be easily accessible and distinctively marked. The switch shall be openable while the engine is running without causing a dangerous surge. The electrical supply to the tachograph may, however, be provided by a circuit connected direct to the battery. This apparatus and its installation shall be intrinsically safe in a mixture consisting of 20 per cent hydrogen and 80 per cent air. If the batteries are situated elsewhere than under the engine bonnet, they shall be secured in a vented case of metal or another material of equivalent strength, with insulating inner walls.

Requirements applicable to the part of the electrical equipment situated behind the driver's cab

(c) The whole of this equipment shall be so designed, installed and protected as not to be able to cause ignition or short circuiting in normal conditions of use of the vehicles and as to reduce to a minimum the risk of either occurrence in the event of impact or distortion.

In particular:

1. Wiring

Conductors [see 2 (a)] shall consist of cables protected by seamless and rust - proof casings.

2. Lighting

Screw - cap bulbs shall not be used. If the lamps in the body of the vehicle are not fixed in parts of the walls or ceiling so strengthened as to protect them against any mechanical damage, they should be protected by a strong cage or grid.

220001

Appendix B.2

220002 The inflammable gases and articles of Class 2 whose carriage is not exempted by the provisions of marginal 21251 from the application of the requirements of marginal 220000 are the following

(a) Compressed gases

Hydrogen [1° (b)]

Methane [1° (b)]

Carbon monoxide [1° (bt)]

Mixtures of gases of 2° (b)

Synthetic gases [2° (bt)]

Town gas [2° (bt)]

Water gas [2° (bt)]

(b) Liquefied gases

Butane [3° (b)]

Butylene [3° (b)]

Cyclopropane [3° (b)]

Isobutane [3° (b)]

Isobutylene [3° (b)]

Propane [3° (b)]

Propylene [3° (b)]

Ethyl chloride [3° (bt)]

Methyl chloride [3° (bt)]

Dimethyl ether [3° (bt)]

Ethylamine [3° (bt)]

Hydrogen sulphide [3° (bt)]

Methylamine [3° (bt)]

Methyl mercaptan [3° (bt)]

Trimethylamine [3° (bt)]

Butadiene [3° (c)]

Vinyl chloride [3° (c)]

Appendix B.2

20002
(contd)

Vinyl bromide [3° (ct)]

Cyanogen chloride [3° (ct)]

Ethylene oxide [3° (ct)]

Gaseous mixtures A, AO, A1, B or C [4° (b)]

Ethane [5° (b)]

Ethylene [5° (b)]

(c) Deeply - refrigerated liquefied gases

The gases of 7° (b) and 8° (b)

(d) Gases dissolved under pressure

Acetylene [9° (c)]

(e) Articles containing gas

Aerosol dispensers of 10°, (b) and (bt)

220003
229999

Appendix B.3

(see marginal 10182)

230000
239999

CERTIFICATE OF APPROVAL FOR VEHICLES CARRYING CERTAIN DANGEROUS GOODS

1. CERTIFICATE NO.

2. testifying that the vehicle specified below fulfils the conditions prescribed by the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) for its acceptance for the international carriage of dangerous goods by road.

3. Valid until

4. This certificate must be returned to the issuing service when the vehicle is taken out of service; if the vehicle is transferred to another owner; on expiry of the validity of the certificate; and if there is a material change in one or more essential characteristics of the vehicle.

5. Type of vehicle: closed vehicle, open vehicle, tank - vehicle with / without closed / open trailer / semi - trailer (strike out words which do not apply)

6. Name and business address of carrier (owner) ...

7. Registration number (if none: chassis number) ...

8. The vehicle described above has undergone at the inspection prescribed by ADR, Annex B, marginal 10182 and fulfils the conditions required for its acceptance for the international carriage by road of dangerous goods of Classes

item numbers

9. Remarks

10.19.....

11. Signature and
stamp of issuing
service at

Appendix B.3

12. The validity of this certificate is extended until ..

13. Signature and
stamp of

issuing service at .

14. The validity of this certificate is extended until ..

15. Signature and
stamp of

issuing service at .

16. The validity of this certificate is extended until ..

17. Signature and
stamp of

issuing service at .

Notes:

1. The dimensions of the certificate shall be 210 × 297 mm (format A 4). Both front and back shall be used. The colour shall be white, with a pink diagonal stripe.

2. Every trailer shall be the subject of a separate certificate unless it is covered by the certificate of the vehicle to which it is coupled.

3. Where a certificate is issued pursuant to article 4, paragraph 2, of the Agreement to a vehicle whose construction does not entirely conform to the requirements laid down in Annex B, the certificate's validity shall not extend beyond the duration of the derogation granted by the said article 4, subject where appropriate to the provisions of marginals 11605, 21605, 31605 and 61605; and the text of paragraph 8 of the certificate of approval shall be replaced by the following «The vehicle described above does not entirely* to the benefit of the provisions of article 4, paragraph 2, of the Agreement».

Appendix B.4

Tables concerning the carriage of dangerous substances of CLASS 7;
Label to be placed on vehicles carrying these substances.

Appendix B.4

| Total sum of the packages of the category | | Total sum of the transport index | Journey or storage duration, in hours | | | | | | | | |
|---|------------|----------------------------------|---------------------------------------|-----|-----|-----|-----|----|-----|-----|---|
| YEL-LOW III | YEL-LOW II | | 1 | 2 | 4 | 10 | 24 | 28 | 120 | 240 | |
| | | | Minimum distances in metres | | | | | | | | |
| | | | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 1 | 2 | 3 |
| | | 0.5 | 0.5 | 0.5 | 1 | 1 | 2 | 3 | 5 | | |
| | 1 | 1 | 0.5 | 0.5 | 1 | 1 | 2 | 3 | 5 | 7 | |
| | 2 | 2 | 0.5 | 1 | 1 | 1 | 1.5 | 3 | 4 | 9 | |
| | 4 | 4 | 1 | 1 | 1.5 | 3 | 4 | 6 | 9 | 13 | |
| | 8 | 8 | 1 | 1.5 | 2 | 4 | 6 | 8 | 13 | 18 | |
| 1 | 10 | 10 | 1 | 2 | 3 | 4 | 7 | 9 | 14 | 20 | |
| 2 | 20 | 20 | 1.5 | 3 | 4 | 6 | 9 | 13 | 20 | 30 | |
| 3 | 30 | 30 | 2 | 3 | 5 | 7 | 11 | 16 | 25 | 35 | |
| 4 | 40 | 40 | 3 | 4 | 5 | 8 | 13 | 18 | 30 | 40 | |
| 5 | 50 | 50 | 3 | 4 | 6 | 9 | 14 | 20 | 32 | 45 | |

The minimum distances indicated in the table below between radioactive substances and areas on vehicles reserved for the driving and accompanying personnel are compatible with the provisions of marginal 3659(8)

240000-
240009

Appendix B.4

The label to be affixed to the walls of vehicles pursuant to the provisions of marginal 3659(6) shall conform to the model reproduced below:

| Total sum of transport index | Minimum distances in metres, no shielding material intervening, from living accommodations or regularly occupied working space |
|------------------------------|--|
| | Applicable data in the case of exposure time not exceeding 250 hours per annum |
| Less than 2 | 1.0 |
| 2 to 4 | 1.5 |
| 4 to 8 | 2.5 |
| 8 to 12 | 3.0 |
| 12 to 20 | 4.0 |
| 20 to 30 | 5.0 |
| 30 to 40 | 5.5 |
| 40 to 50 | 6.5 |



(Minimum length of side: 15 cm)
Symbol and inscription black
on white ground

the minimum safety distances referred to in marginal 3657 for the loading and storage of packages which bear a label «FOTO» together with packages of Category II - YELLOW or Category III - YELLOW are given in the following table.

Separation distances for the loading and the storage of packages which bear a label with the word FOTO together with packages of Categories II - YELLOW or III - YELLOW

*Conform to the requirements laid down in Annex B, but is entitled.

240011-
249999

Appendix B.5
LIST OF SUBSTANCES MENTIONED UNDER
MARGINAL 10500 (2)

NOTE

— The first figure in the hazard - identification number indicates the primary hazard as follows:

2. Gas
3. Inflammable liquid
4. Inflammable solid
5. Oxidizing substance or organic peroxide
6. Toxic substances
8. Corrosive

The second and third figures indicated secondary hazards:

0. no meaning
1. explosion risk
2. gas may be given off
3. inflammable risk

5. oxidizing risk
6. toxic risk
8. corrosive risk
9. risk of violent reaction from spontaneous decomposition or self-polymerization

— Where the first and second figures are the same, an intensification of the primary hazard is indicated, viz. 33 means a highly inflammable liquid (flash - point below 21 °C); 66 indicates a very dangerous toxic substance; 88 means a very dangerous corrosive substance. Where the first two figures are 22, a refrigerated gas is indicated. The combination 42 indicates a solid which may give off a gas on contact with water.

— Where the hazard - identification number is preceded by the letter «X», this indicates an absolute prohibition of the application of water to the product.

The substances mentioned under marginal 10500 (2) 250000 are listed below:

Appendix B.5

| Name of Substance (a) | Class and item number (b) | Hazard Identification No (upper part) (c) | Substance Identification No (lower part) (d) |
|---|---------------------------------|---|--|
| A | | | |
| Acetal (1, 1-diethoxyethane) | 3, 1°(a) | 33 | 1088 |
| Acetaldehyde | 3, 5° | 33 | 1089 |
| Acetic acid, glacial (and its aqueous solutions containing more than 80% pure acid) | 8, 21°(c) | 83 | 1842 |
| Acetic anhydride | 8, 21°(e) | 83 | 1715 |
| Acetic ester (see ethyl acetate) | | | |
| Acetone | 3, 5° | 33 | 1090 |
| Acetone cyanohydrin (see 2-cyanopropan-2-ol) | | | |
| Acetonitrile | 6.1, 2°(b) | 633 | 1648 |
| Acetyl Chloride | 8, 22° | 83 | 1717 |
| Acrylaldehyde | 3, 1°(a) | 336 | 1092 |
| Acrylonitrile | 6.1, 2°(a) | 633 | 1093 |
| Air | 2, 8°(a) | 22 | 1003 |
| Alcohol (see ethanol) | | | |
| Allyl alcohol | 6.1, 13°(a) | 63 | 1098 |
| Allyl chloride | 6.1, 4°(a) | 633 | 1100 |
| Ammonia | 2, 3°(at) | 268 | 1005 |
| Ammonia, dissolved in water, with more than 35% but not more than 40% ammonia by weight | 2, | 268 | 2073 |
| Ammonia, dissolved in water, with more than 40% but not more than 50% ammonia by weight | 2, 9°(at) | 268 | 2073 |
| Amyl acetate (see pentyl acetate) | | | |
| Amyl alcohols (other than tertiary) | 3, 3° | 30 | 1105 |
| Amyl alcohol, tertiary | 3, 1°(a) | 33 | 1105 |

Appendix B.5

| (a) | (b) | (c) | (d) |
|---------------------------------------|-------------|-----|------|
| Aniline | 6.1, 11°(b) | 60 | 1547 |
| Antimony pentachloride | 8, 11°(a) | 80 | 1730 |
| Argon (refrigerated) | 2, 7°(a) | 22 | 1951 |
| B | | | |
| Benzaldehyde | 3, 4° | 30 | 1990 |
| Benzene | 3, 1°(a) | 33 | 1114 |
| Benzoyl chloride | 8, 22° | 83 | 1736 |
| Bromine | 8, 14° | 886 | 1744 |
| 1,3 Butadiene | 2, 3°(c) | 239 | 1010 |
| Butane | 2, 3°(b) | 23 | 1011 |
| Butan-1-ol (butyl alcohol, normal) | 3, 3° | 30 | 1120 |
| Butan-2-ol (sec-butyl alcohol) | 3, 3° | 30 | 1121 |
| Butanol, tertiary | 3, 5° | 33 | 1122 |
| n-Butyl acetate | 3, 3° | 30 | 1123 |
| sec-Butyl acetate | 3, 1°(a) | 33 | 1124 |
| n-Butyl alcohol (see butan-1-ol) | | | |
| sec-Butyl alcohol (see butan-2-ol) | | | |
| Butylamine | 3, 5° | 338 | 1125 |
| n-Butyl chloride (see 1-chlorobutane) | | | |
| 1-Butylene | 2, 3°(b) | 23 | 1012 |
| Butyraldehyde | 3, 1°(a) | 33 | 1129 |
| C | | | |
| Calcium chlorate solution | 5.1, 4°(a) | 50 | 2429 |
| Carbon dioxide | 2, 5°(a) | 20 | 1013 |
| Carbon dioxide, liquid (refrigerated) | 2, 7°(a) | 22 | 2187 |
| Carbon disulphide | 3, 1°(a) | 336 | 1131 |
| Carbonyl chloride (see phosgene) | | | |
| Chlorine | 2, 3°(at) | 266 | 1017 |
| Chlorobenzene | 3, 3° | 30 | 1134 |

Appendix B.5

| (a) | (b) | (c) | (d) |
|---|-------------|-----|------|
| 1-Chlorobutane (butyl chloride) | 3, 1°(a) | 33 | 1127 |
| Chlorodifluoromethane (R22) | 2, 3°(a) | 20 | 1018 |
| 1-Chloro-2, 3-epoxypropane (epichlorohydrin) | 6.1, 12°(a) | 663 | 2023 |
| 2-Chloroethanol (see glycol chlorohydrin) | | | |
| Chloroprene | 3, 1°(a) | 336 | 1991 |
| Chlorosulphonic acid | 8, 11°(a) | 88 | 1754 |
| Chlorotrifluoromethane (R13) | 2, 5°(a) | 20 | 1022 |
| Cresols | 6.1, 22°(a) | 60 | 2076 |
| Cumene | 3, 3° | 30 | 1918 |
| Cyanides, inorganic, solutions of | 6.1, 31°(b) | 66 | 1935 |
| 2-Cyanopropan-2-ol (acetone cyanohydrin) | 6.1, 11°(a) | 66 | 1541 |
| Cyclohexane | 3, 1°(a) | 33 | 1145 |
| Cyclohexanole | 3, 3° | 30 | 1915 |
| Cyclohexane | 3, 1°(a) | 33 | 2256 |
| Cyclopentane | 3, 1°(a) | 33 | 1146 |
| Cyclopropane | 2, 3°(b) | 23 | 1027 |
| D | | | |
| Decahydronaphthalene | 3, 3° | 30 | 1147 |
| Diacetone alcohol, technical | 3, 5° | 33 | 1148 |
| 1,2-Diaminoethane (ethylene diamine) | 8, 35° | 83 | 1604 |
| 1,6-Diaminohexane (hexamethylene diamine) | 8, 35° | 80 | 1783 |
| Dichlorodifluoromethane (R12) | 2, 3°(a) | 20 | 1028 |
| 1,2-Dichloroethane | 3, 1°(a) | 336 | 1184 |
| Dichlorofluoromethane (R21), | 2, 3°(a) | 20 | 1029 |
| Dichloromonofluoromethane (see dichlorofluoromethane) | | | |

Appendix B.5

| (a) | (b) | (c) | (d) |
|---|-------------|-----|------|
| Dichloropropene | 3, 3° | 36 | 2047 |
| 1,2-Dichloro-1, 1,2 | 2, 3°(a) | 20 | 1958 |
| 2-tetrafluoroethane (R.114) | | | |
| 1,1-Diethoxyethane (see acetal) | | | |
| Diethylamine | 3, 5° | 338 | 1154 |
| diethyl benzene | 3, 4° | 30 | 2049 |
| Diethyl ether (sulphuric ether) | 3, 1°(a) | 33 | 1155 |
| Di-isopropyl ether | 3, 1°(a) | 33 | 1159 |
| 2,2-Dimethyl benzyl hydroperoxide | 5.2, 10° | 539 | 2116 |
| Dimethyl carbonate | 3, 1°(a) | 33 | 1161 |
| Dimethyl ether | 2, 3°(bt) | 23 | 1033 |
| Dimethyl sulphate | 6.1, 13°(b) | 663 | 1595 |
| Dioxane | 3, 5° | 336 | 1165 |
| Disulphur dichloride | 8, 11°(a) | 886 | 1828 |
| E | | | |
| Epichlorohydrin (see 1-chloro-2,3-epoxypropane) | | | |
| Ethanethiol (ethyl mercaptan) | 3, 1°(a) | 336 | 2363 |
| Ethanol (ethyl alcohol, alcohol) | 3, 5° | 33 | 1170 |
| Ethoxyethyl acetate | 3, 3° | 30 | 1172 |
| Ethyl acetate (acetic ester) | 3, 1°(a) | 33 | 1173 |
| Ethyl acrylate | 3, 1°(a) | 339 | 1917 |
| Ethyl alcohol (see ethanol) | | | |
| Ethyl benzene | 3, 1°(a) | 33 | 1175 |
| Ethyl chloride | 2, 3°(bt) | 23 | 1037 |
| Ethylene | 2, 5°(b) | 23 | 1962 |
| Ethylene, (refrigerated) | 2, 7°(b) | 223 | 1038 |
| Ethylene diamine (see 1,2-diaminoethane) | | | |
| Ethyl formate | 3, 1°(a) | 33 | 1190 |
| Ethyl silicate (see tetraethyl silicate) | | | |
| Ethyl mercaptan (see ethanethiol) | | | |

Appendix B.5

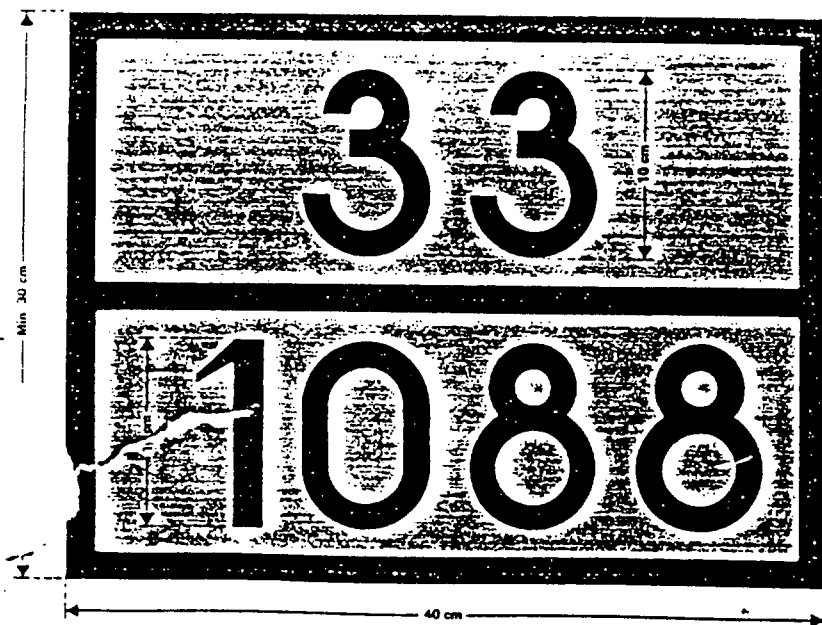
| (a) | (b) | (c) | (d) |
|---|-------------|-----|------|
| F | | | |
| Fluoboric acid (aqueous solutions containing not more than 78% pure acid) | 8, 7° | 88 | 1775 |
| Formic acid (containing not less than 70% pure acid) | 8, 21°(b) | 80 | 1779 |
| Furfural | 3, 4° | 36 | 1199 |
| G | | | |
| Glycol chlorohydrin (2-chloroethanol) | 6.1, 12°(b) | 66 | 1135 |
| H | | | |
| Hexamethylene diamine (see 1,6-diaminohexane) | | | |
| Hydrazine in aqueous solutions containing not more than 72% hydrazine: | | | |
| -solutions containing more than 64% | 8, 34° | 86 | 2029 |
| -solutions containing not more than 64% | 8, 34° | 86 | 2030 |
| Hydrobromic acid, anhydrous (see hydrogen bromide) | | | |
| Hydrobromic acid, solutions of | 8, 5° | 88 | 1788 |
| Hydrocarbons, liquid, pure or in mixtures, not otherwise specified in this Appendix: | | | |
| -with a flash point below 21° C | 3, 1°(a) | 33 | 1203 |
| -with a flash point between 21° C and 55° C | 3, 3° | 30 | 1223 |
| with a flash point above 55° C | 3, 4° | 30 | 1202 |
| Hydrocarbon gas mixtures, A, AO, A1, B and C (liquefied) | 2, 4°(b) | 23 | 1965 |
| Hydrochloric acid, anhydrous (see Hydrogen chloride, liquefied) | | | |
| Hydrochloric acid, solutions of | 8, 5° | 88 | 1789 |
| Hydrocyanic acid solutions (containing not more than 20% hydrocyanic acid) | 6.1, 1°(b) | 66 | 1613 |
| Hydrofluoric acid, aqueous solutions containing more than 85 per cent pure acid | 8, 6°(b) | | |
| Hydrofluoric acid, aqueous solutions containing more than 60 per cent but not more than 85 per cent pure acid | 8, 6°(c) | 886 | 1790 |
| Hydrofluoric acid, aqueous solutions containing not more than 60 per cent pure acid | 8, 6°(d) | | |
| Hydrofluoric acid, anhydrous (see hydrogen fluoride) | | | |
| Hydrogen bromide | 2, 3°(at) | 286 | 1048 |
| Hydrogen chloride | 2, 5°(at) | 286 | 1050 |
| Hydrogen fluoride (anhydrous hydrofluoric acid) | 8, 6°(a) | 886 | 1052 |
| Hydrogen peroxide solutions | | | |
| - containing more than 40% but not more than 60% hydrogen peroxide | 8, 41°(a) | 85 | 2014 |
| - containing more than 6% but not more than 40% hydrogen peroxide | 8, 41°(b) | 85 | 2014 |
| Hydrogen peroxide and solutions of hydrogen peroxide containing more than 60% hydrogen peroxide | 5.1, 1° | 559 | 2015 |
| Hypochlorite solutions | | | |
| - containing more than 50 gm available chlorine per litre | 8, 37°(a) | 85 | 1791 |
| - containing not more than 50 gm available chlorine per litre | 8, 37°(b) | 85 | 1791 |
| I | | | |
| Isobutane | 2, 3°(b) | 23 | 1969 |
| Isobutyl acetate | 3, 1°(a) | 33 | 1213 |
| Isobutylene | 2, 3°(b) | 23 | 1055 |
| isoprene cmethyl butadienes | 3, 1°(a) | 339 | 1218 |
| Isopropanol (see propan-2-ol) | | | |
| Isopropyl acetate | 3, 1°(a) | 33 | 1220 |
| Isopropyl alcohol (see propan-2-ol) | | | |
| Isopropylamine | 3, 5° | 338 | 1221 |
| L | | | |
| Laughing gas (see nitrous oxide) | | | |
| Lead alkyls, mixtures with halogenated organic compounds e.g. ethyl fluid | 6.1, 14° | 663 | 1649 |
| M | | | |
| p-Menthanyl hydroperoxide (with peroxide content not exceeding 95%) | 5.2, 14° | 539 | 2125 |

| | | | |
|---|-------------|------|------|
| Methane (refrigerated) | 2, 7°(b) | 223 | 1972 |
| Methanol (methyl alcohol, wood spirit) | 3, 5° | 336 | 1230 |
| Methoxymethane (see dimethyl ether) | | | |
| Methyl acetate | 3, 1°(a) | 33 | 1231 |
| Methyl acrylate | 3, 1°(a) | 339 | 1919 |
| Methylal | 3, 1°(a) | 33 | 1234 |
| Methyl alcohol (see methanol) | | | |
| Methylamine | 2, 3°(bt) | 263 | 1061 |
| Methylamyl alcohol | 3, 3° | 30 | 2053 |
| Methyl bromide (bromotethane) | 2, 3°(at) | 263 | 1062 |
| Methyl butadiene (see isoprene) | | | |
| Methyl chloride (chloromethane) | 2, 3°(bt) | 236 | 1063 |
| Methyl ethyl ketone | 3, 1°(a) | 33 | 1193 |
| Methyl formate | 3, 1°(a) | 33 | 1243 |
| Methyl isobutyl ketone | 3, 1°(a) | 33 | 1245 |
| Methyl methacrylate | 3, 1°(a) | 339 | 1247 |
| Methyl propionate | 3, 1°(a) | 33 | 1248 |
| Methyl vinyl ether | 2, 3°(ct) | 239 | 1087 |
| Methyl vinyl ketone | 3, 1°(a) | 33 | 1251 |
| Mixed nitrating acids (sulphuric and nitric acids) | | | |
| – containing more than 30% pure nitric acid | 8, 3°(a) | 856 | 1796 |
| – containing not more than 30% pure nitric acid | 8, 3°(b) | 886 | 1796 |
| Mixtures A, A0, A1, B and C (see hydrocarbon gas mixtures, liquefied) | | | |
| Monochlorodifluoromethane (see chlorodifluoromethane) | | | |
| Monomethylamine (see methylamine) | | | |
| Monomethylamine, aqueous solutions | 3, 5° | 336 | 1235 |
| N | | | |
| Naphthalene in the melted state | 4.1, 11°(c) | 44 | 2304 |
| Natural gas (refrigerated) | 2, 8°(b) | 223 | 2043 |
| Nitric acid | | | |
| – containing more than 70% pure acid | 8, 2°(a) | 856 | 2032 |
| – containing more than 55% but not more than 70% pure acid | 8, 2°(b) | 886 | 2031 |
| Nitrobenzene | 3, 4° | 36 | 1662 |
| Nitrogen (refrigerated) | 2, 7°(a) | 22 | 1977 |
| Nitrogen dioxide No ₂ (nitrogen peroxide, nitrogen tetroxide N ₂ O ₄) | 2, 3°(at) | 265 | 1067 |
| Nitrogen peroxide (see nitrogen dioxide) | | | |
| Nitrogen tetroxide (see nitrogen dioxide) | | | |
| Nitrous oxide N ₂ O | 2, 5°(a) | 25 | 1070 |
| O | | | |
| Oleum | 2, 7°(a) | 225 | 1073 |
| Oxygen (refrigerated) | | | |
| P | 3, 1°(a) | 33 | 1264 |
| Paraldehyde | 8, 1°(a) | 886 | 1831 |
| Pentyl acetate (amyl acetate) | 3, 3° | 30 | 1104 |
| Perchloric acid, in aqueous solutions: | | | |
| – containing more than 50% but not more than 72.5% perchloric acid | 5.1, 3° | 588 | 1873 |
| – containing not more than 50% pure acid | 8, 4° | 85 | 1802 |
| Phenol | 6.1, 13°(c) | 68 | 1671 |
| Phosgene | 2, 3°(at) | 266 | 1076 |
| Phosphorus oxychloride (see phosphoryl chloride) | | | |
| Phosphorus trichloride | 8, 11°(a) | 88 | 1809 |
| Phosphorus, white or yellow | 4.2, 1° | 436 | 1381 |
| Phosphoryl chloride (phosphorus oxychloride) | 8, 11°(a) | 88 | 1810 |
| Potash lye | 8, 32° | 88 | 1814 |
| Potassium | 4.3, 1°(a) | X423 | 2257 |
| Potassium chlorate solution | 5.1, 4°(a) | 50 | 2427 |
| Propane | 2, 3°(b) | 23 | 1978 |
| n-Propanol (propyl alcohol) | 3, 5° | 33 | 1274 |
| Propan-2-ol (isopropyl alcohol) | 3, 5° | 33 | 1219 |
| Propionaldehyde | 3, 1°(a) | 33 | 1275 |
| Propyl acetate | 3, 1°(a) | 33 | 1276 |
| Propyl alcohol (see n-propanol) | | | |
| Propylene | 2, 3°(b) | 23 | 1077 |
| Propylene diamine | 8, 35° | 83 | 2258 |
| Propylene oxide | 3, 1°(a) | 336 | 1280 |
| Pyridine | 3, 5° | 36 | 1282 |

| | | | |
|--|-------------|------|------|
| R | | | |
| R12 (see dichlorodifluoromethane) | | | |
| R13 (see chlorotrifluoromethane) | | | |
| R21 (see dichlorofluoromethane) | | | |
| R22 (see chlorodifluoromethane) | | | |
| R114 (see dichlorotetrafluoroethane) | | | |
| S | | | |
| Silicon tetrachloride | 8, 11°(a) | 88 | 1818 |
| Soda lye | 8, 32° | 88 | 1824 |
| Sodium | 4.3, 1°(a) | X423 | 1428 |
| Sodium chlorate solution | 5.1, 4°(a) | 50 | 2428 |
| Sodium chlorite solution | 5.1, 4°(c) | 50 | 1908 |
| Styrene | 3, 3° | 30 | 2055 |
| Sulphur dioxide | 2, 3°(at) | 26 | 1079 |
| Sulphuric acid | | | |
| – containing more than 85% pure acid | 8, 1°(a) | 88 | 1830 |
| – containing more than 75% but not more than 85% pure acid | 8, 1°(b) | 88 | 1830 |
| – containing not more than 75% pure acid | 8, 1°(c) | 88 | 1830 |
| – waste, completely denitrated | 8, 1°(d) | 88 | 1832 |
| Sulphuric and nitric acids (see mixed nitrating acids) | | | |
| Sulphuric ether (see diethyl ether) | | | |
| Sulphur in the melted state | 4.1, 2°(b) | 44 | 2448 |
| Sulphurous acid, anhydrous (see sulphur dioxide) | | | |
| Sulphur trioxide | 8, 9° | 885 | 1829 |
| Sulphuryl chloride | 8, 11°(a) | 88 | 1834 |
| T | | | |
| Tetraethyl lead | 6.1, 14° | 663 | 1649 |
| Tetraethyl silicate (ethyl silicate) | 3, 3° | 30 | 1292 |
| Tetrahydrofuran | 3, 5° | 33 | 2056 |
| Tetramethyl lead | 6.1, 14° | 663 | 1649 |
| Thionyl chloride | 8, 11°(a) | 88 | 1836 |
| Titanium tetrachloride | 8, 11°(a) | 88 | 1838 |
| Toluene | 3, 1°(a) | 33 | 1294 |
| Triethylamine | 3, 5° | 336 | 1296 |
| Triethylene tetramine | 8, 35° | 80 | 2259 |
| Trimethylamine | 2, 3°(bt) | 236 | 1083 |
| Trimethylamine, solutions of | 3, 5° | 336 | 1297 |
| 266-trimethyl norpinanyl hydroperoxide with a peroxide content not exceeding 95% | 5.2, 15° | 539 | 2162 |
| Tripropylamine | 8, 35° | 83 | 2260 |
| Turpentine | 3, 3° | 30 | 1299 |
| V | | | |
| Vinyl acetate | 3, 1°(a) | 33 | 1301 |
| Vinyl chloride | 2, 3°(c) | 239 | 1086 |
| W | | | |
| Wood spirit (see methanol) | | | |
| X | | | |
| Xylenes | 3, 3° | 30 | 1307 |
| Xylenols | 6.1, 22°(b) | 60 | 2261 |

Appendix B.5

Identification numbers shall be shown on the plate as 250001 indicated below:



Identification number of danger (2 or 3 figures).

Identification number of substance (4 figures).

Background orange.

Border, horizontal line and figures black, 15 mm thickness.

250002
250999

ΟΙΚΟΝΟΜΙΚΗ ΕΠΙΤΡΟΠΗ ΓΙΑ ΤΗΝ ΕΥΡΩΠΗ
ΕΠΙΤΡΟΠΗ ΜΕΤΑΦΟΡΩΝ ΕΣΩΤΕΡΙΚΟΥ

Ευρωπαϊκή Συμφωνία
Για τη Διεθνή Οδική Μεταφορά Επι-
κίνδυνων Εμπορευμάτων (ADR)
και Πρωτόκολλο Υπογραφής
Υπογράφηκε στη Γενεύη την 30 Σεπτεμβρίου 1957

ΤΟΜΟΣ Ι

(Συμφωνία, Πρωτόκολλο Υπογραφής και Παράρτημα Α)

ΗΝΩΜΕΝΑ ΕΘΝΗ

1978

Π Ρ Ο Λ Ο Γ Ο Σ

Το παρακάτω κείμενο περιλαμβάνει, επιπροσθέτως της Συμφωνίας και του Πρωτοκόλλου Υπογραφής, τα Παραρτήματα με τη μορφή με την οποία τέθηκαν σε ισχύ την 29ην Ιουλίου 1968 καθώς και τις τροποποιήσεις τους μέχρι της 1ης Οκτωβρίου 1978.

ΕΥΡΩΠΑΪΚΗ ΣΥΜΦΩΝΙΑ ΓΙΑ ΤΗ ΔΙΕΘΝΗ ΟΔΙΚΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝ-
ΔΥΝΩΝ ΕΜΠΟΡΕΥΜΑΤΩΝ (ADR)

ΤΑ ΣΥΜΒΑΛΛΟΜΕΝΑ ΜΕΡΗ,

ΕΠΙΘΥΜΟΥΝΤΑ να αυξήσουν την ασφάλεια της διεθνούς
οδικής μεταφοράς,

ΣΥΜΦΩΝΗΣΑΝ τα παρακάτω:-

Άρθρο I

Για την εφαρμογή της παρούσας Συμφωνίας,

- (α) με τον όρο "οχήμα" νοούνται τα αυτοκίνητα, αρθρωτά ο-
χήματα, ρυμουλκούμενα οχήματα (TRAILERS) και ημι-
ρυμουλκούμενα (SEMI-TRAILERS), όπως ορίζεται στο άρθρο
4 της Σύμβασης Περί Οδικής Κυκλοφορίας της 19ης Σεπτεμ-
βρίου 1949, εκτός των οχημάτων που ανήκουν ή τελούν υπό
τις διαταγές των ενόπλων δυνάμεων του Συμβαλλόμενου
Μέρους·
- (β) με τον όρο "επικίνδυνα εμπορεύματα" νοούνται οι ύλες
και τα είδη των οποίων η διεθνής οδική μεταφορά απαγο-
ρεύεται από, ή επιτρέπεται μόνον υπό ωρισμένους όρους
από τα Παραρτήματα Α και Β·
- (γ) με τον όρο "διεθνής μεταφορά" νοείται οποιαδήποτε επι-
χείρηση μεταφοράς, εκτελούμενη στην εδαφική περιοχή
(επικράτεια) δύο τουλάχιστον Συμβαλλόμενων Μερών με
οχήματα που ορίζονται στη πιο πάνω παράγραφο (α).

Άρθρο 2

- Ι.- Υπό την επιφύλαξη των διατάξεων του άρθρου 4, παράγρα-
φος 3, επικίνδυνα εμπορεύματα η μεταφορά των οποίων
αποκλείεται από το Παράρτημα Α δεν θα γίνονται δεκτά

για διεθνή μεταφορά.

2.- Η διεθνής μεταφορά άλλων επικίνδυνων εμπορευμάτων θα εξουσιοδοτείται υπό την επιφύλαξη της τηρήσεως των

(α) όρων του Παραρτήματος Α για τα ~~επ~~ θέμα. εμπορεύματα, ειδικότερα όσον αφορά τη συσκευασία και ετικετοποίησή τους, και των

(β) όρων του Παραρτήματος Β, ειδικότερα όσον αφορά τη κατασκευή, εξοπλισμό και λειτουργία του οχήματος του μεταφέροντος τα ~~επ~~ θέμα. εμπορεύματα, υπό την επιφύλαξη των διατάξεων του άρθρου 4, παράγραφος 2.

Άρθρο 3

Τα Παραρτήματα της παρούσας Συμφωνίας θα αποτελούν αναπόσπαστο τμήμα αυτής.

Άρθρο 4

1.- Κάθε Συμβαλλόμενο Μέρος θα έχει το δικαίωμα να ρυθμίζει ή απαγορεύει, για λόγους εκτός της ασφαλείας διαρκούσης της μεταφοράς, την εισαγωγή επικίνδυνων εμπορευμάτων στην εδαφική του περιοχή (επικράτεια).

2.- Οχήματα ~~σε~~ υπηρεσία στην επικράτεια του Συμβαλλόμενου Μέρους όταν τεθεί σε ισχύ η παρούσα Συμφωνία ή τιθέμενα σε υπηρεσία στην επικράτεια αυτή εντός δύο μηνών από της θέσεώς της σε ισχύ θα επιτρέπεται, για χρονική περίοδο τριών ετών από της θέσεώς της σε ισχύ, να εκτελούν τη διεθνή μεταφορά επικίνδυνων εμπορευμάτων ακόμη και εάν η κατασκευή και ο εξοπλισμός τους δεν είναι ολωσδιδόλου σύμφωνα με τις διατάξεις του Παραρτήματος Β για

την εν λόγω επιχείρηση μεταφοράς. Δυνάμει ειδικών άρθρων του Παραρτήματος Β, όμως, η περίοδος αυτή μπορεί να μειωθεί.

3.- Τα Συμβαλλόμενα Μέρη θα έχουν το δικαίωμα να κανονίζουν, με ειδικές διμερείς ή πολυμερείς συμφωνίες, όπως ορισμένα από τα επικίνδυνα εμπορεύματα τα οποία σύμφωνα με τη παρούσα Συμφωνία αποκλείονται από όλες τις διεθνείς μεταφορές μπορούν, υπό την επιφύλαξη ορισμένων όρων, να γίνονται δεκτά για διεθνή μεταφορά στις επικράτειές τους, ή όπως επικίνδυνα εμπορεύματα τα οποία σύμφωνα με τη παρούσα Συμφωνία γίνονται δεκτά για διεθνή μεταφορά μόνον υπό ειδικούς όρους μπορούν να γίνονται δεκτά για διεθνή μεταφορά στις επικράτειές τους υπό όρους λιγώτερο αυστηρούς από εκείνους των Παραρτημάτων της παρούσας Συμφωνίας. Οι διμερείς ή πολυμερείς ειδικές συμφωνίες οι αναφερόμενες στη παρούσα παράγραφο θα ανακοινώνονται στο Γενικό Γραμματέα των Ηνωμένων Εθνών, ο οποίος θα ανακοινώνει αυτές στα Συμβαλλόμενα Μέρη τα οποία δεν έχουν υπογράψει τις συμφωνίες αυτές.

Άρθρο 5

Οι επιχειρήσεις μεταφοράς στις οποίες η παρούσα Συμφωνία έχει εφαρμογή θα παραμένουν υπό την επιφύλαξη των εθνικών ή διεθνών κανονισμών που ισχύουν γενικά στην οδική κυκλοφορία, στη διεθνή οδική μεταφορά και στο διεθνές εμπόριο.

Άρθρο 6

I.- Χώρες-μέλη της Οικονομικής Επιτροπής για την Ευ-

ρώπη και χώρες πούγιναν δεκτές στην Επιτροπή με συμβουλευτική ιδιότητα κατά τη παράγραφο 8 των όρων παραπομπής της Επιτροπής μπορούν να γίνουν Συμβαλλόμενα Μέρη της παρούσας Συμφωνίας

(α) υπογράφοντας αυτήν

(β) επικυρώνοντας αυτήν μετά την υπογραφή της υπό την την επιφύλαξη της επικυρώσεως

(γ) προσχωρώντας σ' αυτήν.

2.- Χώρες που μπορούν να μετάσχουν σε ορισμένες δραστηριότητες της Οικονομικής Επιτροπής για την Ευρώπη σύμφωνα με τη παράγραφο II των όρων παραπομπής της Επιτροπής μπορούν να γίνουν Συμβαλλόμενα Μέρη της παρούσας Συμφωνίας με τη προσχώρησή τους σ' αυτή αφού τεθεί σε ισχύ.

3.- Η Συμφωνία θα είναι ανοικτή για υπογραφή μέχρι της 15ης Δεκεμβρίου 1957. Μετά θα είναι ανοικτή για προσχώρηση.

4.- Επικύρωση ή προσχώρηση θα πραγματοποιείται με την κατάθεση εγγράφου στο Γενικό Γραμματέα των Ηνωμένων Εθνών.

Άρθρο 7

I.- Η παρούσα Συμφωνία θα τεθεί σε ισχύ ένα μήνα μετά την ημερομηνία κατά την οποία ο αριθμός των χωρών των αναφερόμένων στο άρθρο 6, παράγραφος I, οι οποίες υπόγραψαν αυτή χωρίς επιφύλαξη επικυρώσεως ή οι οποίες κατέθεσαν τα έγγραφα επικυρώσεως ή προσχωρήσεώς τους ανέλθει συνολικά σε πέντε. Όμως, τα Παραρτήματα αυτής δεν θα έχουν εφαρμογή μέχρι έξι μήνες από της θέσεως σε ισχύ της Συμφωνίας.

Για οποιαδήποτε χώρα που επικυρώνει ή προσχωρεί στη παρούσα Συμφωνία μετά την υπογραφήν αυτής χωρίς επιφύλαξη επικυρώσεως ή την κατάθεση των εγγράφων επικυρώσεως ή προσχωρήσεως των πέντε χωρών των αναφερόμενων στο άρθρο 6, παράγραφος Ι, η παρούσα Συμφωνία θα τεθεί σε ισχύ ένα μήνα αφότου η χώρα αυτή καταθέσει το έγγραφό της επικυρώσεως ή προσχωρήσεως και τα Παραρτήματα αυτής θα έχουν εφαρμογή για τη χώρα αυτή είτε την αυτήν ημερομηνίαν, εάν είναι ήδη σε ισχύ μέχρι της ημερομηνίας αυτής, είτε, εάν δεν είναι σε ισχύ μέχρι της ημερομηνίας αυτής, την ημερομηνία κατά την οποία θα ισχύουν σύμφωνα με τις διατάξεις της παραγράφου Ι του παρόντος άρθρου.

Άρθρο 8

Ι.- Οποιοδήποτε Συμβαλλόμενο Μέρος μπορεί να καταγγείλει τη παρούσα Συμφωνία ειδοποιώντας σχετικά τον Γενικό Γραμματέα των Ηνωμένων Εθνών.

2.- Η καταγγελία θα τίθεται σε ισχύ δώδεκα μήνες μετά την παραλαβή από τον Γενικό Γραμματέα της γνωστοποίησης της καταγγελίας.

Άρθρο 9

Ι.- Η παρούσα Συμφωνία θα παύσει να ισχύει εάν, αφού τεθεί σε ισχύ, ο αριθμός των Συμβαλλομένων Μερών είναι μικρότερος των πέντε κατά τη διάρκεια δώδεκα συναπτών μηνών.

2.- Στη περίπτωση που θα συναφθεί παγκόσμια συμφωνία για τη ρύθμιση της μεταφοράς επικίνδυνων εμπορευμάτων, οποιαδήποτε διάταξη της παρούσας Συμφωνίας είναι αντίθετη προς οποιαδήποτε διάταξη της παγκόσμιας αυτής συμφωνίας,

από της ημερομηνίας κατά την οποία η τελευταία θα τεθεί σε ισχύ, θα παύει αυτομάτως να έχει εφαρμογή στις σχέσεις μεταξύ των Συμβαλλομένων της παρούσας Συμφωνίας Μερών που γίνονται συμβαλλόμενα μέρη της παγκόσμιας συμφωνίας, και αυτομάτως θα αντικαθίστανται από τη σχετική διάταξη της παγκόσμιας αυτής συμφωνίας.

Άρθρο ΙΟ

Ι.- Οποιαδήποτε χώρα μπορεί, κατά την υπογραφή της παρούσας Συμφωνίας χωρίς επιφύλαξη επικυρώσεως ή την κατάθεση του εγγράφου της επικυρώσεως ή προσχωρήσεως ή οποτεδήποτε μετέπειτα, να δηλώσει με γνωστοποίηση απευθυνόμενη στο Γενικό Γραμματέα των Ηνωμένων Εθνών ότι η παρούσα Συμφωνία θα επεκταθεί σε όλες ή οποιεσδήποτε από τις επικράτειες για τις διεθνείς σχέσεις των οποίων είναι υπεύθυνη. Η Συμφωνία και τα Παραρτήματα αυτής θα επεκτείνονται στην επικράτεια ή επικράτειες που κατονομάζονται στη γνωστοποίηση ένα μήνα μετά τη παραλαβή αυτής από τον Γενικό Γραμματέα.

2.- Οποιαδήποτε χώρα που προέβη σε δήλωση, σύμφωνα με τη παράγραφο Ι του παρόντος άρθρου, ότι επεκτείνει την παρούσα Συμφωνία σε οποιαδήποτε επικράτεια για τις διεθνείς σχέσεις της οποίας είναι υπεύθυνη, μπορεί να καταγγείλει τη Συμφωνία χωριστά για την επικράτεια αυτή σύμφωνα με τις διατάξεις του Άρθρου 8.

Άρθρο ΙΙ

Ι.- Οποιαδήποτε διαφορά μεταξύ δύο ή περισσότερων Συμβαλλομένων Μερών σχετική με την ερμηνεία ή την εφαρμο-

γή της παρούσας Συμφωνίας θα τακτοποιείται εφόσον είναι δυνατόν με μεταξύ τους διαπραγματεύσεις.

2.- Οποιαδήποτε διαφορά που δεν τακτοποιείται με διαπραγμάτευση θα παραπέμπεται σε διαιτησία εάν οποιαδήποτε από τα έχοντα τη διαφορά Συμβαλλόμενο Μέρος το ζητήσει και κατά συνέπεια θα παραπέμπεται σε ένα ή περισσότερους διαιτητές που θα επιλέγονται κατόπιν συμφωνίας των εχόντων τη διαφορά Μερών. Εάν εντός τριών μηνών από της ημερομηνίας της αιτήσεως διαιτησίας τα έχοντα τη διαφορά Μέρη αδυνατούν να συμφωνήσουν στην επιλογή διαιτητού ή διαιτητών, οποιοδήποτε των Μερών αυτών μπορεί να ζητήσει από τον Γραμματέα των Ηνωμένων Εθνών να διορίσει ένα διαιτητή στον οποίο θα παραπεμφθεί η διαφορά για την έκδοση αποφάσεως.

3.- Η απόφαση του διαιτητή ή διαιτητών των διορισθέντων σύμφωνα με τη παράγραφο 2 του παρόντος άρθρου θα είναι δεσμευτική για τα έχοντα τη διαφορά Συμβαλλόμενα Μέρη.

Άρθρο Ι2

1.- Κάθε Συμβαλλόμενο Μέρος μπορεί, κατά την υπογραφή, επικύρωση, ή προσχώρηση στην παρούσα Συμφωνία, να δηλώσει ότι δεν θεωρεί εαυτό δεσμευμένο από το άρθρο ΙΙ. Άλλα Συμβαλλόμενα Μέρη δεν θα δεσμεύονται από το άρθρο ΙΙ εάν σχεσει με οποιοδήποτε Συμβαλλόμενο Μέρος το οποίο διατύπωσε τέτοια επιφύλαξη.

2.- Οποιοδήποτε Συμβαλλόμενο Μέρος που διατύπωσε την επιφύλαξη που προβλέπεται στη παράγραφο Ι του παρόντος άρθρου μπορεί οποτεδήποτε να αποσύρει την επιφύλαξη αυτή

γνωστοποιώντας σχετικά στον Γενικό Γραμματέα των Ηνωμένων Εθνών.

Άρθρο Ι3

Ι.- Μετά τη τριετή ισχύ της παρούσας Συμφωνίας, οποιοδήποτε Συμβαλλόμενο Μέρος μπορεί, με γνωστοποίηση προς τον Γενικό Γραμματέα των Ηνωμένων Εθνών, να ζητήσει όπως συγκληθεί διάσκεψη προς τον σκοπό της αναθεώρησης του κειμένου της Συμφωνίας. Ο Γενικός Γραμματέας οφείλει να γνωστοποιήσει σ' όλα τα Συμβαλλόμενα Μέρη την αίτηση και διάσκεψη αναθεώρησης θα συγκληθεί από τον Γενικό Γραμματέα εάν, εντός περιόδου τεσσάρων μηνών από της ημερομηνίας της γνωστοποίησης από τον Γενικό Γραμματέα, όχι λιγότερα του ενός τετάρτου των Συμβαλλομένων Μερών γνωστοποιήσουν εις αυτόν ότι συμφωνούν με την αίτηση.

2.- Εάν διάσκεψη συγκληθεί σύμφωνα με τη παράγραφο Ι του παρόντος άρθρου, ο Γενικός Γραμματέας οφείλει να γνωστοποιήσει αυτό σ' όλα τα Συμβαλλόμενα Μέρη και να προσκαλέσει αυτά να υποβάλουν εντός περιόδου τριών μηνών τις προτάσεις που μπορεί να επιθυμούν να συζητηθούν στη Διάσκεψη. Ο Γενικός Γραμματέας οφείλει να κυκλοφορήσει σ' όλα τα Συμβαλλόμενα Μέρη τη προσωρινήν ημερήσια διάταξη της διασκέψεως, μαζί με τα κείμενα των προτάσεων αυτών, τρεις μήνες τουλάχιστο προ της ημερομηνίας της διεξαγωγής της διασκέψεως.

3.- Ο Γενικός Γραμματέας οφείλει να προσκαλέσει σε διάσκεψη, συγκληθείσα σύμφωνα με το παρόν άρθρο, όλες τις χώρες τις αναφερόμενες στο άρθρο 6, παράγραφος Ι, και χώρες που γίνηκαν Συμβαλλόμενα Μέρη δυνάμει του άρθρου 6, παράγραφος 2.

Άρθρο Ι4

Ι.- Ανεξάρτητα της διαδικασίας αναθεώρησης της προβλεπομένης από το Άρθρο Ι3, Συμβαλλόμενο Μέρος μπορεί να προτείνει μία ή περισσότερες τροποποιήσεις των Παραρτημάτων της παρούσας Συμφωνίας. Προς τον σκοπό αυτόν οφείλει να διαβιβάσει το κείμενο αυτών στον Γενικό Γραμματέα των Ηνωμένων Εθνών. Ο Γενικός Γραμματέας μπορεί επίσης να προτείνει τροποποιήσεις των Παραρτημάτων της παρούσας Συμφωνίας προς τον σκοπό της εξασφάλισης συμφωνίας (αρμονίας) μεταξύ των Παραρτημάτων αυτών και λοιπών διεθνών συμφωνιών σχετικών με την μεταφοράν επικίνδυνων εμπορευμάτων.

2.- Ο Γενικός Γραμματέας οφείλει να διαβιβάσει οποιαδήποτε πρόταση που υποβλήθηκε σύμφωνα με τη παράγραφο Ι του παρόντος άρθρου σ' όλα τα Συμβαλλόμενα Μέρη και να πληροφορήσει σχετικά τις λοιπές χώρες τις αναφερόμενες στο άρθρο 6, παράγραφος Ι.

3.- Οποιαδήποτε προταθείσα τροποποίηση των Παραρτημάτων θα θεωρείται ότι έγινε δεκτή εκτός εάν, εντός τριών μηνών από της ημερομηνίας κατά την οποία ο Γενικός Γραμματέας την κυκλοφορήσει, το ένα-τρίτο τουλάχιστο των Συμβαλλομένων Μερών, ή πέντε τούτων εάν το ένα-τρίτο υπερβαίνει τον αριθμό αυτό, έχει δώσει στο Γενικό Γραμματέα γραπτή γνωστοποίηση της αντιρρήσεώς του προς την προταθείσα τροποποίηση. Εάν η τροποποίηση θεωρηθεί ότι έγινε δεκτή, θα τεθεί σε ισχύ για όλα τα Συμβαλλόμενα Μέρη, είτε στη λήξη συμπληρωματικής περιόδου τριών μηνών είτε, σε περιπτώσεις όπου παρόμοιες τροποποιήσεις έγιναν

ή ενδέχεται να γίνουν στις λοιπές διεθνείς συμφωνίες τις αναφερόμενες στη παράγραφο I του παρόντος άρθρου, στη λήξη περιόδου η διάρκεια της οποίας θα καθορισθεί από τον Γενικό Γραμματέα κατά τρόπο ώστε να επιτραπεί, οπουδήποτε είναι δυνατό, η ταυτόχρονη θέση σε ισχύ της τροποποίησης και εκείνων που έγιναν ή ενδέχεται να γίνουν στις λοιπές αυτές συμφωνίες· η περίοδος αυτή, , δεν θα είναι μικρότερης διάρκειας από ένα μήνα.

4.- Ο Γενικός Γραμματέας οφείλει, το ταχύτερο δυνατό, να γνωστοποιήσει σ' όλα τα Συμβαλλόμενα Μέρη και σ' όλες τις χώρες τις αναφερόμενες στο άρθρο 6, παράγραφος I, οποιαδήποτε αντίρρηση σε προτεινόμενη τροποποίηση που μπορεί να ληφθεί από τα Συμβαλλόμενα Μέρη.

5.- Εάν η προτεινόμενη τροποποίηση των Παραρτημάτων δεν θεωρείται ότι έγινε δεκτή, αλλά εάν τουλάχιστο ένα Συμβαλλόμενο Μέρος, εκτός του Συμβαλλομένου Μέρους που πρότεινε την τροποποίηση έχει δώσει στον Γενικό Γραμματέα γραπτή γνωστοποίηση της συμφωνίας του με την πρόταση, συνέλευση όλων των Συμβαλλομένων Μερών και όλων των χωρών των αναφερομένων στο άρθρο 6, παράγραφος I, θα συγκληθεί από τον Γενικό Γραμματέα εντός τριών μηνών από της λήξης της περιόδου των τριών μηνών εντός της οποίας, συμφώνως προς την παράγραφο 3 του παρόντος άρθρου, γνωστοποίηση πρέπει να δοθεί της αντιρρήσεως προς την τροποποίηση. Ο Γενικός Γραμματέας μπορεί επίσης να προσκαλέσει στη συνέλευση αυτή εκπροσώπους των:-

(α) διακρατικών οργανισμών που ενδιαφέρονται για

ζητήματα μεταφοράς·

- (β) διεθνών μη-κρατικών οργανισμών οι δραστηριότητες των οποίων σχετίζονται απ'ευθείας με τη μεταφορά επικίνδυνων εμπορευμάτων στις επικράτειες των Συμβαλλομένων Μερών.

6.- Τροποποίηση που υιοθετήθηκε από περισσότερα του μισού του συνολικού αριθμού των Συμβαλλομένων Μερών σε συνέλευση συγκληθείσα σύμφωνα με τη παράγραφο 5 του παρόντος άρθρου θα τίθεται σε ισχύ για όλα τα Συμβαλλόμενα Μέρη σύμφωνα με τη διαδικασία την συμφωνηθείσα στη συνέλευση αυτή από τη πλειοψηφία των παριστάμενων στη συνέλευση Συμβαλλόμενων Μερών.

Άρθρο 15

Επιπροσθέτως των γνωστοποιήσεων των προβλεπόμενων από τα άρθρα 13 και 14, ο Γενικός Γραμματέας των Ηνωμένων Εθνών οφείλει να γνωστοποιήσει στις χώρες τις αναφερόμενες στο άρθρο 6, παράγραφος 1, και στις χώρες που έγιναν Συμβαλλόμενα Μέρη δυνάμει του άρθρου 6, παράγραφος 2,

- (α) τις υπογραφές, επικυρώσεις και προσχωρήσεις σύμφωνα με το άρθρο 6·
- (β) τις ημερομηνίες στις οποίες η παρούσα Συμφωνία και τα Παραρτήματα αυτής τέθηκαν σε ισχύ σύμφωνα με το άρθρο 7·
- (γ) τις καταγγελίες σύμφωνα με το άρθρο 8·
- (δ) τη λήξη της Συμφωνίας σύμφωνα με το άρθρο 9·
- (ε) κοινοποιήσεις και καταγγελίες που λήφθηκαν σύμ-

φωνα με το άρθρο 10.

(στ) δηλώσεις και γνωστοποιήσεις που λήφθηκαν σύμφωνα με το άρθρο 12, παράγραφοι 1 και 2.

(ζ) την αποδοχή και την ημερομηνία θέσεως σε ισχύ των τροποποιήσεων σύμφωνα με το άρθρο 14, παράγραφοι 3 και 6.

Άρθρο 16

1.- Το Πρωτόκολλο Υπογραφής της παρούσας Συμφωνίας θα έχει την αυτή ισχύ, αποτέλεσμα και διάρκεια όπως η Συμφωνία, της οποίας θα θεωρείται σαν αναπόσπαστο τμήμα.

2.- Ουδεμία θα επιτρέπεται επιφύλαξη για τη παρούσα Συμφωνία, πλην εκείνων που διατυπώθηκαν στο Πρωτόκολλο Υπογραφής και εκείνων που έγιναν σύμφωνα με το άρθρο 12.

Άρθρο 17

Μετά την 15ην Δεκεμβρίου 1957, το πρωτότυπο της παρούσας Συμφωνίας θα κατατεθεί στον Γενικό Γραμματέα των Ηνωμένων Εθνών, ο οποίος οφείλει να διαβιβάσει επικυρωμένα αληθή αντίγραφα αυτού σε κάθε μία από τις χώρες που αναφέρονται στο άρθρο 6, παράγραφος 1.

ΣΕ ΠΙΣΤΩΣΗ ΤΩΝ ΟΠΟΙΩΝ οι υπογεγραμμένοι, εξουσιοδοτημένοι δεδόντως προς τούτο, υπόγραψαν την παρούσα Συμφωνία.

ΚΑΤΑΡΤΙΣΤΗΚΕ στη Γενεύη, σήμερα τη τριακοστή Σεπτεμβρίου, Χίλια Εννιακόσια Πενήντα Επτά, σε ένα αντίγραφο στην Αγγλική και Γαλλική γλώσσα για το κείμενο της κυρίας Συμφωνίας, και στη Γαλλική γλώσσα για τα Παραρτήματα, κάθε δε κείμενο είναι εξ ίσου αυθεντικό κείμενο της κυρίας Συμφωνίας.

Ο Γενικός Γραμματέας των Ηνωμένων Εθνών παρακαλείται να ετοιμάσει επίσημη μετάφραση των Παραρτημάτων στην Αγγλική γλώσσα και επισυνάψει αυτήν στα επικυρωμένα αληθή αντίγραφα τα αναφερόμενα στο άρθρο Ι7.

ΠΡΩΤΟΚΟΛΛΟ ΥΠΟΓΡΑΦΗΣ

ΤΗΣ ΕΥΡΩΠΑΪΚΗΣ ΣΥΜΦΩΝΙΑΣ ΓΙΑ ΤΗ ΔΙΕΘΝΗ ΟΔΙΚΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΕΜΠΟΡΕΥΜΑΤΩΝ (ADR)

Προβαίνοντας στην υπογραφή της Ευρωπαϊκής Συμφωνίας για τη Διεθνή Οδική Μεταφορά Επικινδύνων Εμπορευμάτων (ADR) ο υπογεγραμμένος, δέοντως εξουσιοδοτημένος)

Ι.- ΘΕΩΡΩΝΤΑΣ ότι οι δροί οι διέποντες την θαλάσσια μεταφορά επικινδύνων εμπορευμάτων προς ή από το Ηνωμένο Βασίλειο διαφέρουν βασικά από εκείνους που περιέχονται στο Παράρτημα Α της ADR και ότι είναι αδύνατο να τροποποιηθούν ώστε να συμφωνούν με το τελευταίο στο εγγύς μέλλον·

ΛΑΜΒΑΝΟΝΤΑΣ ΥΠΟΨΗ την υποσχηση τη δοθείσα από το ΗΝΩΜΕΝΟ ΒΑΣΙΛΕΙΟ να υποβάλει σαν τροποποίηση του πιο πάνω αναφερθέντος Παραρτήματος Α ειδικό παράρτημα περιέχον ειδικές διατάξεις για οδική-θαλάσσια μεταφορά επικινδύνων εμπορευμάτων μεταξύ της Ηπείρου και του Ηνωμένου Βασιλείου·

ΣΥΜΦΩΝΗΣΑ ότι, μέχρι της θέσεως σε ισχύ του πιο πάνω αναφερθέντος ειδικού παραρτήματος, επικινδύνων εμπορεύματα μεταφερόμενα δυνάμει της ADR προς ή από το

Ηνωμένο Βασίλειο, θα συμμορφούται προς τις διατάξεις του Παραρτήματος Α της ADR καθώς και προς τους όρους του Ηνωμένου Βασιλείου για τη θαλάσσια μεταφορά επικινδύνων εμπορευμάτων.

- 2.- ΛΑΜΒΑΝΩ ΣΗΜΕΙΩΣΗ της δηλώσεως του αντιπροσώπου της Γαλλίας κατά την οποία η Κυβέρνησις της Γαλλικής Δημοκρατίας επιφυλάσσει του δικαιώματος, κατά παρέκβαση των διατάξεων του άρθρου 4, παράγραφος 2, να αρνηθεί να επιτρέψει όπως οχήματα σε υπηρεσία στην επικράτεια άλλου Συμβαλλομένου Μέρους, οποιαδήποτε κι' αν ήταν η ημερομηνία που τέθηκαν σε υπηρεσία, χρησιμοποιηθούν για τη μεταφορά επικινδύνων προϊόντων στη Γαλλική επικράτεια, εκτός εάν τα οχήματα αυτά πληρούν είτε τους για τη μεταφορά αυτή όρους του Παραρτήματος Β είτε τους για τη μεταφορά των ατομικών εμπορευμάτων όρους του Γαλλικού Κανονισμού που διέπει την οδική μεταφορά επικινδύνων εμπορευμάτων.
- 3.- ΠΡΟΤΕΙΝΩ όπως, προ της υποβολής σύμφωνα προς το άρθρο Ι4, παράγραφος Ι, ή άρθρο Ι3, παράγραφος 2, οι προτεινόμενες τροποποιήσεις της παρούσας Συμφωνίας ή των Παραρτημάτων αυτής συζητηθούν κατ' αρχήν, εφόσον είναι δυνατόν, σε συνεδριάσεις εμπειρογνομών των Συμβαλλόμενων Μερών και, εάν χρειασθεί, των λοιπών χωρών των αναφερομένων στο άρθρο 6, παράγραφος Ι, της Συμφωνίας και των διεθνών οργανισμών των αναφερόμενων στο άρθρο Ι4, παράγραφο 5, της Συμφωνίας.

ΕΥΡΩΠΑΪΚΗ ΣΥΜΦΩΝΙΑ ΓΙΑ ΤΗ ΔΙΕΘΝΗ ΟΔΙΚΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ
ΕΜΠΟΡΕΥΜΑΤΩΝ (ADR)

ΠΑΡΑΡΤΗΜΑ Α

ΔΙΑΤΑΞΕΙΣ ΣΧΕΤΙΚΕΣ ΜΕ ΤΙΣ ΕΠΙΚΙΝΔΥΝΕΣ ΥΛΕΣ & ΕΙΔΗ

Π ε ρ ι ε χ ό μ ε ν ο

Μέρος Ι.- ΟΡΙΣΜΟΣ ΚΑΙ ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ

Περιθώρια

| | |
|-------------------------|---------------|
| Ορισμοί | 2000 και 2001 |
| Γενικές διατάξεις | 2002 - 2009 |

Μέρος ΙΙ.- ΚΑΤΑΣΤΑΣΕΙΣ ΥΛΩΝ

ΚΑΙ ΕΙΔΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΓΙΑ
ΤΙΣ ΔΙΑΦΟΡΕΣ ΚΛΑΣΕΙΣ

| | | |
|---|------|--------------------|
| Κλάση Ια. Ειρηνητικές ύλες και είδη, | 2100 | <u>και επόμενα</u> |
| Κλάση Ιβ. Είδη γεμισμένα με ειρηνητικές ύ- λες | 2130 | " |
| Κλάση Ιγ. Πυροκροτητές (αναφλεκτῆρες), πυ- ροτεχνήματα και παρόμοια εμπο- ρεύματα | 2170 | " |
| Κλάση 2. Αέρια: πεπιεσμένα, υγροποιημένα ή διαλυμένα υπό πίεση | 2200 | " |
| Κλάση 3. Εύφλεκτα υγρά | 2300 | " |
| Κλάση 4.1 Εύφλεκτα στερεά | 2400 | " |
| Κλάση 4.2 Ύλες υποκείμενες σε αυτόματο ή αυτογενή ανάφλεξη | 2430 | " |
| Κλάση 4.3 Ύλες που βγάζουν εύφλεκτα αέρια σε επαφή με το νερό | 2470 | και επόμενα |
| Κλάση 5.1 Οξυγονούχες ύλες | 2500 | " |
| Κλάση 5.2 Οργανικά υπεροξειδία | 2550 | " |

περιθώρια

| | | | |
|-----------|---|------|-----------|
| Κλάση 6.1 | Τοξικές ύλες | 2600 | & επόμενα |
| Κλάση 6.2 | Απεχθείς (σιχαμερές) ύλες και ουσί- ες που προξενούν μόλυνση | 2650 | " |
| Κλάση 7 | Ραδιενεργείς ύλες | 2700 | " |
| Κλάση 8 | Διαβρωτικές ύλες | 2800 | " |

Μέρος III.- Προσθήκες ΠΑΡΑΡΤΗΜΑΤΟΣ Α

| | | |
|--------------|---|---|
| Προσθήκη Α.1 | Όροι σταθερότητας και ασφάλειας διέποντες τις εκρηκτικές ύλες, εύφλεκτα στερεά και οργανικά υπεροξειδία. Κανόνες για δοκιμές 3100 | " |
| Προσθήκη Α.2 | Διατάξεις σχετικές με τη φύση των από κράμα αλουμινίου δοχείων για ωρισμένα αέρια της Κλάσεως 2° διατάξεις σχετικές με τα υλικά και τη κατασκευή των δοχείων των προο- ριζόμενων για τη μεταφορά των βα- θειά-κατεψυγμένων (DEEPLY-REFRIGER- ATED) υγροποιημένων αερίων της Κλάσεως 2° και διατάξεις διέπουσες τις δοκιμές σε διανεμητές αεροζόλ και μη ξαναγε- μιζόμενα δοχεία για αέρια υπό πίε- ση, της Κλάσεως 2, 10° και 11°... 3200 | " |
| Προσθήκη Α.3 | Δοκιμές σχετικές με εύφλεκτα υγρά των Κλάσεων 3 και 6.1 3300 | " |
| Προσθήκη Α.4 | Υπό επιφύλαξη 3400 | " |

Περιθώρια

| | | |
|--------------|--|--------|
| Προσθήκη Α.5 | Διατάξεις σχετικές με δοκιμές σε μεταλλικά βαρέλια αναφερόμενα στα περιθώρια 2303(6) & 2813(I)(γ) 3500 & επόμενα | |
| Προσθήκη Α.6 | Διατάξεις σχετικές με ραδιενεργείς ύλες Κλάσεως 7 | 3600 " |
| Προσθήκη Α.7 | Υπό επιφύλαξη | 3700 " |
| Προσθήκη Α.8 | Υπό επιφύλαξη | 3800 " |
| Προσθήκη Α.9 | Διατάξεις σχετικές με ετικέτες κινδύνου· Επεξήγηση συμβόλων και προτύπων ετικετών | 3900 " |

Μέρος Ι

ΟΡΙΣΜΟΙ ΚΑΙ ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ

ΟΡΙΣΜΟΙ

I - 1999

(I) Για την εφαρμογή του παρόντος Παραρτήματος: 2000

- με τον όρο "αρμόδια αρχή" νοείται η αρχή που διορίστηκε σαν αρμόδια αρχή σε κάθε χώρα και κάθε ειδική περίπτωση από τη Κυβέρνηση·
- με τον όρο "εύθραυστο κέλυφος (πακέτο)" νοείται κέλυφος (πακέτο) περιέχον εύθραυστο δοχείο (π.χ. δοχείο κατασκευασμένο από γυαλί, πορσελάνη, πηλό ή παρόμοια υλικά) που δεν κλείνεται σε συσκευασία με αποτελεσματική προστασία όλων των πλευρών του σε περίπτωση κρούσεως (βλέπε επίσης περιθώριο 2001(5))·
- με τον όρο "αέριο" νοείται αέριο ή ατμός·

- με τον όρο "επικίνδυνες ύλες", όταν χρησιμοποιείται μόνος, νοούνται οι ύλες και τα είδη που ορίσθηκαν σαν ύλες και είδη της ADR. 2000 (Συνεχίζεται)
- με τον όρο "μεταφορά σε χύμα" νοείται η μεταφορά στερεάς ύλης χωρίς συσκευασία.
- με τον όρο "RID" νοούνται οι Διεθνείς Κανονισμοί οι διέποντες τη Σιδηροδρομική Μεταφορά Επικινδύνων Εμπορευμάτων (Παράρτημα I της Διεθνούς Συμβάσεως Περί Σιδηροδρομικής Μεταφοράς Εμπορευμάτων (CIM)).

(2) Για την εφαρμογή του παρόντος Παραρτήματος, οι δεξαμενές (βλέπε ορισμούς Παραρτήματος Β) δεν τοποθετούνται στην αυτή βάση με τα δοχεία, του όρου "δοχείο" χρησιμοποιούμενου υπό την περιοριστικήν αυτού έννοια. Διατάξεις σχετικές με τα δοχεία έχουν εφαρμογή σε σταθερές δεξαμενές, συστοιχίες δοχείων, αφαιρετές δεξαμενές και δεξαμενές-δοχεία (TANK-CONTAINERS) μόνον εάν αυτό συνομολογείται ρητά.

(3) Με τον όρο "πλήρες φορτίο" νοείται οποιοδήποτε φορτίο προερχόμενο από έναν αποστολέα, για το οποίο φορτίο επιφυλάσσεται αποκλειστικά η χρήση οχήματος ή μεγάλου δοχείου (CONTAINER) και όλες οι εργασίες για τη φόρτωση και εκφόρτωση του οποίου διεξάγονται σύμφωνα προς τις οδηγίες του αποστολέα ή του παραλήπτη.

(I) Εκτός εάν ρητώς αναφέρεται ~~άλλως~~ το σύμβολο "O/o" στο παρόν Παράρτημα αντιπροσωπεύει:- 2001

(α) προκειμένου περί μιγμάτων στερεών ή υγρών, ως και

προκειμένου περί διαλυμάτων ως και στερεών μου- 200I
σκεμένων με υγρό: ποσοστό κατά βάρος βασιζόμενο (Συνεχίζεται)
επί του ολικού βάρους του μίγματος, του διαλύματος
ή του μουσκεμένου (υγροποιημένου) στερεού.

(β) προκειμένου περί αεριοποιημένων μιγμάτων: ποσοστό
κατ'όγκο· βασιζόμενο επί του συνολικού όγκου του
αεριοποιημένου μίγματος.

(2) Όλα τα βάρη τα αναφερόμενα για κόλα (πα-
κέτα) στο παρόν Παράρτημα, εκτός εάν άλλως ορίζεται, εί-
ναι μικτά βάρη. Το βάρος των δοχείων (CONTAINERS) ή δε-
ξαμενών των χρησιμοποιούμενων για τη μεταφορά εμπορευ-
μάτων δεν συμπεριλαμβάνεται στο μικτό βάρος.

(3) Πιέσεις παντός είδους σχετικές με τα δοχεία
(όπως πίεση δοκιμής, εσωτερική πίεση, πίεση ανοίγματος
βαλβίδας-ασφαλείας) σημειώνονται πάντοτε σε πίεση θλι-
βομέτρου KG/CM^2 (πίεση επί πλέον της ατμοσφαιρικής πίε-
σης). Όμως, η πίεση ατμού των υλών εκφράζεται πάν-
τοτε σε απόλυτο πίεση KG/CM^2 .

(4) Όπου το παρόν Παράρτημα καθορίζει βαθμόν
πληρώσεως δοχείων ή δεξαμενών, ο βαθμός αυτός πληρώσεως
αναφέρεται πάντοτε σε θερμοκρασία των υλών 15°C εκτός
εάν κάποια άλλη θερμοκρασία σημειούται.

(5) Εύθραυστα δοχεία ασφαλισμένα, είτε μόνα τους
είτε σε ομάδες, με αποσβεστικό (των κτυπημάτων) υλικό
σε μεγάλο δοχείο, δεν θεωρούνται εύθραυστα δοχεία υπό
τον όρον ότι το γερό δοχείο είναι στεγανό και έτσι σχε-
διασμένο ώστε σε περίπτωση θραύσης ή διαρροής των ευ-
θραύστων δοχείων το περιεχόμενό τους να μη μπορεί να

διαφύγει από το γερό δοχείο, και ότι η μηχανική αντοχή του τελευταίου να μην εξασθενείται από διάβρωση κατά τη διάρκεια της μεταφοράς. (Συνεχίζεται)

ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ

(Ι) Το παρόν Παράρτημα καθορίζει τα επικίνδυνα εμπορεύματα τα οποία εξαιρούνται της διεθνούς οδικής μεταφοράς και τα επικίνδυνα εμπορεύματα τα οποία γίνονται δεκτά για τέτοια μεταφορά υπό ωρισμένους όρους. Ομαδοποιεί τα επικίνδυνα εμπορεύματα σε περιοριστικές και μη-περιοριστικές Κλάσεις. Εκ των επικινδύνων εμπορευμάτων των καλυπτομένων από τους τίτλους των περιοριστικών Κλάσεων (Κλάσεις Ια, Ιβ, Ιγ, 2, 4.2, 4.3, 5.2, 6.2 και 7), εκείνα που απαριθμούνται στα άρθρα τα σχετικά με τις Κλάσεις αυτές (περιθώρια 210Ι, 213Ι, 217Ι, 220Ι, 243Ι, 247Ι, 255Ι, 265Ι, και 270Ι) γίνονται δεκτά για μεταφορά υπό όρους ορισμένους στα άρθρα αυτά, και άλλα εξαιρούνται από τη μεταφορά. Μερικά από τα επικίνδυνα εμπορεύματα τα καλυπτόμενα από τους τίτλους των μη-περιοριστικών Κλάσεων (Κλάσεις 3, 4.Ι, 5.Ι, 6.Ι και 8), με σημειώσεις που παραθέτονται στα άρθρα τα σχετικά με τις διάφορες Κλάσεις, εξαιρούνται από τη μεταφορά· εκ των λοιπών εμπορευμάτων των καλυπτομένων από τους τίτλους των μη-περιοριστικών Κλάσεων, εκείνα που αναφέρονται ή ορίζονται στα άρθρα τα σχετικά με τις Κλάσεις αυτές (περιθώρια 230Ι, 240Ι, 250Ι, 260Ι και 280Ι) γίνονται δεκτά για μεταφορά μόνον υπό όρους ορισμένους εις τα άρθρα αυτά, και εκείνα που δεν αναφέρονται ή ορίζον-

ται εις αυτά δεν θεωρούνται ότι είναι επικίνδυνα εμπορεύματα για τους σκοπούς της παρούσας Συμφωνίας και γίνονται δεκτά για μεταφορά χωρίς οποιουδήποτε ειδικούς όρους. (Συνεχίζεται) 2002

(2) Οι Κλάσεις του Παραρτήματος αυτού είναι οι παρακάτω:-

| | | |
|-----------|---|-----------------|
| Κλάση Ια | Εκρηκτικές ύλες και είδη | Περιοριστική |
| Κλάση Ιβ | Είδη γεμισμένα με εκρηκτικές ύλες | " |
| Κλάση Ιγ | Πυροκροτητές (αναφλεκτήρες), πυροτεχνήματα και παρόμοια εμπορεύματα | " |
| Κλάση 2 | Αέρια: πεπιεσμένα, υγροποιημένα, ή διαλυμένα υπό πίεση | " |
| Κλάση 3 | Εύφλεκτα υγρά | Μη-περιοριστική |
| Κλάση 4.1 | Εύφλεκτα στερεά | " |
| Κλάση 4.2 | Υλές υποκείμενες σε αυτόματο ή αυτογενή ανάφλεξη | Περιοριστική |
| Κλάση 4.3 | Υλές που βγάζουν εύφλεκτα αέρια σε επαφή με το νερό | " |
| Κλάση 5.1 | Οξυγονούχες ύλες | Μη-περιοριστική |
| Κλάση 5.2 | Οργανικά υπεροξειδία | Περιοριστική |
| Κλάση 6.1 | Τοξικές ύλες | Μη-περιοριστική |
| Κλάση 6.2 | Απεχθείς (σιχαμερές). ύλες και ύλες που προξενούν μόλυνση | Περιοριστική |
| Κλάση 7 | Ραδιενεργείς ύλες | " |
| Κλάση 8 | Διαβρωτικές ύλες | Μη-περιοριστική |

(3) Κάθε μεταφορά εμπορευμάτων διεπόμενη από 2002 το παρόν Παράρτημα θα είναι το αντικείμενο ενός εγ- (Συνεχίζεται)
γράφου μεταφοράς. Ο αποστολέας θα γνωρίζει γραπτώς
στον μεταφορέα τις λεπτομέρειες που πρόκειται να συμ-
περιληφθούν στο έγγραφο μεταφοράς όπως αναφέρεται για
κάθε κλάση στο Μέρος II του παρόντος παραρτήματος στις
παραγράφους 2.B. Το έγγραφο μπορεί να είναι εκείνο που
απαιτείται από άλλες ισχύουσες διατάξεις. Εμπορεύματα
η μεταφορά των οποίων διέπεται από τον τρόπον αυτόν
θα περιγράφονται στο έγγραφο μεταφοράς σύμφωνα με τις
ενδείξεις της παραγράφου B των ειδικών διατάξεων κα-
θε Κλάσεως. Οι λεπτομέρειες που θα καταχωρούνται στο
έγγραφο μεταφοράς θα είναι συντεταγμένες στην επίσημη
γλώσσα της προωθούσας (τα εμπορεύματα) χώρας, και επί-
σης, εάν η γλώσσα αυτή δεν είναι η Αγγλική, ή η Γαλλι-
κή, ή η Γερμανική, στην Αγγλική, Γαλλική ή Γερμανική,
εκτός εάν, τυχόν, δασμολόγια (TARIFFS) διεθνούς οδι-
κής μεταφοράς, ή συμφωνίες συναφθείσες μεταξύ των εν-
διαφερομένων για την επιχείρηση της μεταφοράς χωρών,
προβλέπουν αλλιώς. Το έγγραφο μεταφοράς θα συνοδεύεται,
εάν κριθεί ενδεδειγμένον, από οδηγίες που θα εφαρμοσθούν
σε περίπτωση ατυχήματος (βλέπε Παράρτημα B, περιθώριο
IO 185). Το έγγραφο μεταφοράς θα συνοδεύει τα μεταφε-
ρόμενα επικίνδυνα εμπορεύματα.

(4) Εάν λόγω του μεγέθους του φορτίου μία απο-
στολή δεν μπορεί να φορτωθεί ολόκληρη σε ένα μεταφορικό
μέσο, τουλάχιστο τόσα χωριστά έγγραφα, ή αντίγραφα του

ενός εγγράφου, θα εκδίδονται όσα και τα φορτωθέντα μεταφορικά μέσα. Επί πλέον, σ' όλες τις περιπτώσεις, χωριστά έγγραφα μεταφοράς θα εκδίδονται για αποστολές ή τμήματα αποστολών τα οποία δεν μπορούν να φορτωθούν μαζί στο αυτό όχημα λόγω των απαγορεύσεων του Παραρτήματος Β.

2002
(Συνεχίζεται)

(5) Εξωτερικές συσκευασίες συμπληρωματικές εκείνων που ορίζει το παρόν Παράρτημα μπορούν να χρησιμοποιούνται υπό τον όρον ότι δεν αντίκεινται στο πνεύμα των διατάξεων του παρόντος Παραρτήματος των σχετικών με τις εξωτερικές συσκευασίες. Εάν τέτοιες πρόσθετες συσκευασίες χρησιμοποιηθούν, οι προβλεπόμενες ενδείξεις και ετικέτες θα εφαρμοσθούν σ' αυτές.

(6) Εάν η μικτή συσκευασία διαφόρων επικινδύνων υλών, μεταξύ των, ή με άλλα εμπορεύματα επιτρέπεται εκ των διατάξεων της παραγράφου Α.3 των ισχυουσών για τις διάφορες Κλάσεις διατάξεων, οι εσωτερικές συσκευασίες οι περιέχουσες διάφορες επικινδύνες ύλες θα χωρίζονται προσεκτικά και αποτελεσματικά η μία από την άλλη στις συλλογικές συσκευασίες εάν επικινδυνoi αντενέργειαι, όπως η παραγωγή επικινδύνου θερμότητας, ανάφλεξης, ο σχηματισμός μιγμάτων που είναι ευαίσθητα στην τριβή ή κρούση, και η απελευθέρωση ευφλέκτων ή τοξικών αερίων, ενδέχεται να προκύψουν ως αποτέλεσμα βλάβης (ζημίας) ή καταστροφής των εσωτερικών συσκευασιών. Ειδικότερα, εάν εύθραυστα δοχεία χρησιμοποιηθούν και συγκεκριμένα εάν τα ρηθέντα δοχεία περιέχουν υγρά, ο κίνδυνος σχηματισμού επικινδύνων μιγμά-

των θα αποφεύγεται και προς τον σκοπόν αυτόν θα λαμβάνονται όλα τα κατάλληλα μέτρα, όπως η χρήση καταλλήλου αποσβεστικού υλικού σε επαρκή ποσότητα, η ασφάλεια των δοχείων με δεύτερη, γερή συσκευασία, και η υποδιαίρεση των συλλογικών συσκευασιών σε πολλά διαμερίσματα.

(7) Εάν μικτή συσκευασία χρησιμοποιηθεί, οι διατάξεις του παρόντος Παραρτήματος οι σχετικές με τις λεπτομέρειες στο έγγραφο μεταφοράς θα ισχύουν σε σχέση με κάθε μία από τα διάφορα είδη των επικινδύνων υλών που περιέχονται στη συλλογική συσκευασία, και η συλλογική συσκευασία θα φέρει όλες τις επιγραφές και όλες τις ετικέτες κινδύνου τις προβλεπόμενες στο παρόν Παράρτημα για τις επικινδύνες ύλες που η συλλογική συσκευασία περιέχει.

(8) Εάν διαλύματα υλών απαριθμούμενα στο παρόν Παράρτημα δεν αναφέρονται ρητά στον κατάλογο της Κλάσεως στην οποία οι διαλυμένες ύλες ανήκουν, αυτά εν τούτοις, θα θεωρούνται ως ύλες της ADR εάν η συμπύκνωσή των είναι τέτοια ώστε να διατηρείται ο εγγενής κίνδυνος στις ίδιες τις ύλες αυτές· η συσκευασία τους στη περίπτωση αυτή πρέπει να συμμορφώνεται προς τους όρους της παραγράφου Α των ειδικών διατάξεων που ισχύουν για την Κλάση στην οποία οι ρηθείσες ύλες ανήκουν, και εξυπακούεται ότι συσκευασίες που θα ήσαν ακατάλληλες για τη μεταφορά υγρών δεν πρέπει να χρησιμοποιούνται.

(9) Μίγματα υλών της ADR με άλλες ύλες θα θεωρούνται ως ύλες της ADR εάν διατηρούν τον εγγενή κίνδυνο στην ύλη που είναι ύλη της ADR.

(ΙΟ) Ο αποστολέας, είτε στο έγγραφο της μεταφο- 2002
ράς είτε με χωριστή δήλωση, πρέπει να βεβαιώνει ότι η (Συνεχίζεται)
προσκομισθείσα ύλη μπορεί να μεταφερθεί οδικώς σύμφωνα
με τις διατάξεις της ADR, ότι η κατάστασή της, επεξεργα-
σία και, η κατάλληλη συσκευασία και τοποθέτηση ετικέτας
συμμορφώνεται προς τις διατάξεις της ADR. Επί πλέον, εάν
πολλά επικίνδυνα εμπορεύματα συσκευάζονται μαζί σε μία
συλλογική συσκευασία ή σε ένα δοχείο (CONTAINER), ο απο-
στολέας υποχρεούται να δηλώσει ότι η μικτή αυτή συσκευα-
σία δεν απαγορεύεται.

(ΙΙ) Ύλη της οποίας η ειδική ραδιενέργεια δεν
υπερβαίνει τα 0.002 MICROCURIE ανά γραμμάριο και η οποία
καλύπτεται υπό συλλογικό τίτλον οιασδήποτε Κλάσεως θα
εξαιρείται της μεταφοράς, εάν, επιπροσθέτως, καλύπτεται
υπό τον τίτλον περιοριστικής Κλάσεως στην οποία δεν εί-
ναι γραμμένη.

(Ι3) Ύλη της οποίας η ειδική ραδιενέργεια δεν
υπερβαίνει τα 0.002 MICROCURIE ανά γραμμάριο και η οποία
δεν είναι γραμμένη με την ονομασία της σε Κλάση, αλλά
καλύπτεται υπό δύο ή περισσότερων συλλογικών τίτλων δια-
φόρων Κλάσεων, θα υπόκειται στους όρους μεταφοράς που
αναφέρονται:-

(α) στη περιοριστική Κλάση, εάν μία από τις ~~κλάσεις~~ για τις
οποίες πρόκειται είναι περιοριστική Κλάση.

(β) στη Κλάση την αντιστοιχούσα για τον επικρατούντα
κίνδυνο τον παρουσιαζόμενο από την ύλη κατά τη διάρ-
κεια της μεταφοράς, εάν καμία από τις ~~κλάσεις~~ για τις
οποίες πρόκειται είναι περιοριστική Κλάση.

(I) Το παρόν Παράρτημα περιέχει για κάθε Κλάση 2003 πλην της Κλάσεως 7:

(α) κατάλογο των επικινδύνων υλών των αποτελούντων την Κλάση, και όπου έχει εφαρμογή, υπό μορφή περιθωρίου έχοντος αριθμό λήγοντα στο γράμμα "α", τις εξαιρέσεις τις επιτρεπόμενες από τις διατάξεις της ADR για μερικές από τις ύλες αυτές εάν συμμορφώνονται προς ωρισμένους όρους.

(β) διατάξεις υποδιαιρούμενες όπως παρακάτω:

A.- Κόλα (Πακέτα):-

I.- Γενικοί όροι συσκευασίας.

2.- Συσκευασία μιας ύλης ή ειδών του αυτού είδους.

3.- Μικτή συσκευασία.

4.- Ενδείξεις και ετικέτες κινδύνου επάνω στα κόλα (πακέτα).

B.- Λεπτομέρειες (στοιχεία) του εγγράφου μεταφοράς.

Γ.- Κενά κόλα (είδη συσκευασίας).

Δ.- (όπου ενδείκνυται) Άλλες διατάξεις.

(2) Διατάξεις σχετικές με:-

- την αποστολή σε χύμα, μέσα σε δοχεία (CONTAINERS) και σε δεξαμενές.
- τη μέθοδο διεκπεραιώσεως (προωθήσεως) και περιορισμούς στη προώθηση.
- απαγορεύσεις στη μικτή φόρτωση και τόν
- εξοπλισμό μεταφοράς

μπορείτε να βρήτε στο Παράρτημα B και στις προσθήκες του, που περιέχουν επίσης σχετικές

διατάξεις εφαρμοζόμενες ειδικά στην οδική μεταφορά.

2203
(Συνεχίζεται)

(3) Οι προσθήκες του Παραρτήματος τούτου περιέχουν:-

Προσθήκη Α.1:- Όροι σταθερότητας και ασφαλείας αφορώντες τις εκρηκτικές ύλες, τα εύφλεκτα στερεά και οργανικά υπεροξειδία, με κανόνες για δοκιμές.

Προσθήκη Α.2:- Συστάσεις σχετικές με τη φύση (προέλευση) των εκ κρήματος αλουμινίου δοχείων για ωριμάζονα αέρια της Κλάσεως 2^ο διατάξεις σχετικές με τα υλικά και την κατασκευή δοχείων, προοριζομένων για τη μεταφορά βαθειά-κατεψυγμένων (DEEPLY-REFRIGERATED) υγροποιημένων αερίων της Κλάσεως 2^ο και διατάξεις σχετικές με δοκιμές σε διανεμητές αεροζόλ και μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) για αέρια υπό πίεση της Κλάσεως 2, ΙΟ^ο και ΙΙ^ο.

Προσθήκη Α.3:- Δοκιμές (έλεγχοι) σχετικές με εύφλεκτα υγρά των Κλάσεων 3 και 6.Ι.

Προσθήκη Α.5: Διατάξεις σχετικές με δοκιμές (ελέγχους) σε μεταλλικά βαρέρια αναφερόμενα στα περιθώρια 2303(6) και 2813(Ι)(γ).

Προσθήκη Α.6: Διατάξεις σχετικές με ραδιενεργές ύλες της Κλάσεως 7.

Προσθήκη Α.9: Διατάξεις σχετικές με τις ετικέτες κινδύνου, και τη επεξήγηση των συμβόλων.

Οι προσθήκες Α.4, Α.7 και Α.8 είναι υπό επιφύλαξη.

(4) Για τη Κλάση 7, οι λεπτομέρειες οι σχετικές 2003 με τους όρους της συσκευασίας, τη μικτή συσκευασία, τη ^{(Συνεχί-} ~~τοπο-~~ ^{ζεται)} θέτηση ετικετών και το μαρκάρισμα των κόλων καθώς και οι διατάξεις που διέπουν την αποθήκευση, διενπεραίωση και μεταφορά, καθορίζονται στους πίνακες του Παραρτήματος Α τους απαριθμούμενους στο περιθώριο 2702. Μερικές από τις λεπτομέρεις και τεχνικές διατάξεις που αφορούν την Κλάση αυτή έχουν επεξεργασθεί στη Προσθήκη Α.6 η οποία περιλαμβάνει επίσης τον πλήρη πίνακα ραδιοπυρήνιων (RADIONUCLIDES) και μέθοδο ελέγχου των κόλων εξ υλών της Κλάσεως 7.

2004

Όπου οι διατάξεις οι σχετικές με τη μεταφορά "πλή- 2005 ρους φορτίου" έχουν εφαρμογή, οι αρμόδιες αρχές ενδέχεται να απαιτήσουν όπως το όχημα ή μεγάλο δοχείο (CONTAINER) το χρησιμοποιούμενο για τη σχετική επιχείρηση μεταφοράς φορτωθεί μόνο σε ένα σημείο και εκφορτωθεί μόνο σε ένα σημείο.

(1) Εάν το όχημα που διεξάγει επιχείρηση μεταφοράς σύμφωνα με τις διατάξεις της ADR μεταφερθεί σε τμήμα του ταξιδιού όχι με οδική ρυμούλκηση, τότε οποιεσδήποτε εθνικές ή διεθνείς διατάξεις οι οποίες, στο ~~ανωτέρω~~ ^{ανωτέρω} τμήμα, διέπουν την μεταφορά επικινδύνων εμπορευμάτων με τον τρόπο της μεταφοράς τον χρησιμοποιηθέντα για τη μεταφορά του οχήματος της οδού, θα έχουν και μόνον εφαρμογή ~~για~~ ^{για} το ~~ανωτέρω~~ ^{ανωτέρω} τμήμα του ταξιδιού.

(2) Σε περιπτώσεις όπου η επιχείρηση μεταφοράς

που υπόκειται στις διατάξεις της ADR υπόκειται ομοίως για το σύνολο ή μέρος του οδικού ταξιδιού στις διατάξεις διεθνούς συμβάσεως η οποία ρυθμίζει τη μεταφορά επικινδύνων εμπορευμάτων με τρόπον μεταφοράς πλην της οδικής μεταφοράς δυνάμει άρθρων επεκτεινόντων τη δυνατότητα εφαρμογής της ~~αναγκαστικής~~ συμβάσεως σε ωρισμένες υπηρεσίες αυτοκινήτων, τότε οι διατάξεις της διεθνούς συμβάσεως θα έχουν εφαρμογήν, για το ~~επο~~ ^{επο} θέμα ταξίδιο παράλληλα με τις διατάξεις εκείνες της ADR που δεν είναι ασυμβίβαστες· τα άλλα άρθρα της ADR δεν θα έχουν εφαρμογήν για το ~~επο~~ ^{επο} θέμα ταξίδιο.

2003
(Συνεχίζεται).

2007-2009

Προς τον σκοπό της διεξαγωγής των απαραί-
τητων δοκιμών (ελέγχων) προς τροποποίηση των διατάξεων του παρόντος Παραρτήματος για να εφαρμοσθούν στις τεχνολογικές και βιομηχανικές αναπτύξεις, οι αρμόδιες αρχές των Συμβαλλόμενων Μερών μπορούν να συμφωνήσουν απ'ευθείας μεταξύ τους να εξουσιοδοτήσουν ορισμένες επιχειρήσεις μεταφοράς στις εδαφικές τους περιοχές (επικράτειες) ~~με~~ προσωρινή ανάκληση των διατάξεων του παρόντος Παραρτήματος. Η αρχή η οποία πήρε την πρωτοβουλία για την έγκριση της προσωρινής ανακλήσεως οφείλει να γνωστοποιήσει την ανάκληση στην αρμόδια υπηρεσία ανακλήσεων της Γραμματείας των Ηνωμένων Εθνών, και η υπηρεσία αυτή θα θέσει αυτήν υπόψη των Συμβαλλομένων Μερών.

2010

2011-
2019

Μέρος ΙΙ

ΚΑΤΑΛΟΓΟΣ ΥΛΩΝ ΚΑΙ

ΕΙΔΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΔΙΑΦΟΡΩΝ ΚΛΑΣΕΩΝ

ΚΛΑΣΗ Ια.- ΕΚΡΗΚΤΙΚΕΣ ΥΛΕΣ ΚΑΙ ΕΙΔΗ

Σημείωση:- Ύλες και είδη που δεν μπορούν να εκραγούν σε επαφή με φλόγα και που δεν είναι περισσότερο ευαίσθητες σε κρούση, ή τριβή του δινιτροβενζολίου δεν υπόκεινται στις διατάξεις της Κλάσεως Ια.

Ι.- Κατάλογος υλών και ειδών

(Ι) Μεταξύ των υλών και ειδών που καλύπτονται 2100 υπό τον τίτλο της Κλάσεως Ια, μόνον εκείνες που αναγράφονται στο περιθώριο 2101 γίνονται δεκτές για μεταφορά, και τότε μόνο υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές και τα είδη που γίνονται δεκτά για μεταφορά υπό ορισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

(2) Στις εκρηκτικές ύλες που γίνονται δεκτές για μεταφορά, η νιτρογλυκερίνη μπορεί να αντικατασταθεί εν όλω ή εν μέρει από:-

- (α) νιτρογλυκόλη, ή
- (β) δινιτροδιαιθυλενογλυκόλη
- (γ) ζάχαρο εμπλουτισμένο με άζωτο (εμπλουτισμένη με άζωτο σακχαρόζη), ή
- (δ) μίγμα των παραπάνω υλών.

I^ο Πολύ εμπλουτισμένη με άζωτο νιτροκυτταρίνη (όπως 2101 βαμβακοπυρίτις), τ.έ. με άζωτο άνω του 12.6 τοις εκατό, καλώς σταθεροποιημένο και περιέχον επιπροσθέτως:

2101
 όταν η νιτροκυτταρίνη δεν συμπιέζεται, όχι λιγότερο του 25 ~~ετ~~ εκατόν νερό ή αλκοόλη (μεθυλική, αιθυλική, κανονική προπυλική ή ισοπροπυλική, βουτυλική, ή αμυλική αλκοόλη ή μίγματα αυτών), συμπεριλαμβανομένης της μετουσιωμένης αλκοόλης ή μίγματα νερού και αλκοόλης.

όταν η νιτροκυτταρίνη συμπιέζεται, όχι λιγότερο του 15 ~~ετ~~ εκατόν νερό, ή όχι λιγότερο του 12 ~~ετ~~ εκατόν κηρού παραφίνης ή άλλων παρομοίων υλών.

Βλέπε επίσης Προσθήκη Α.Ι., περιθώριο 3101.

Σημείωση: 1.- Η νιτροκυτταρίνη με περιεχόμενο αζώτου μη υπερβαίνον το 12,6 ~~ετ~~ εκατό είναι ύλη της Κλάσεως 4.1 εάν συμμορφώνεται με τις προδιαγραφές που αναφέρονται στο περιθώριο 2401, 7^ο (α), (β) ή (γ).

2.- Η νιτροκυτταρίνη υπό μορφήν ακάθαρτου λεπτού στρώματος νιτροκυτταρίνης (NITROCELLULOSE-FILM WASTE), ελευθέρου ζελατίνης, σε κυλίνδρους, φύλλα ή λωρίδες, είναι ύλη της Κλάσεως 4.2 (βλέπε περιθώριο 2431, 4^ο).

2^ο CORPITE PASTE (Κορδίτις πάστα), μη-ζελατινώδης ("POWDER CAKE"), προς χρήση στην κατασκευή ανάπνης πυρίτιδας και περιέχουσα άνω του 70 ~~ετ~~ εκατόν άνυδρης ύλης και όχι λιγότερο του 30 ~~ετ~~ εκατόν νερό· η άνυδρη ύλη δεν πρέπει να περιέχει άνω του 50 ~~ετ~~ εκατό νιτρογλυκερίνη ή παρόμοιες υγρές εκρηκτικές ύλες.

3^ο Ζελατινώδης νιτροκυτταρινούχος πυρίτις και ζελατινώδης νιτροκυτταρινούχος πυρίτις περιέχουσα νιτρογλυκερίνη

(νιτρογλυκερινούχος πυρίτις):-

2101

(Συνεχίζεται)

(α) μη-πορώδης και μη-κονιώδης

(β) πορώδης ή κονιώδης

Βλέπε επίσης Προσθήκη Α.Ι., περιθώριον 3102.

- 4^ο Πλαστικοποιημένη νιτροκυτταρίνη περιέχουσα όχι λιγότερο του 12,6% εκατόν, αλλά λιγότερο του 18,6% εκατόν, πλαστικοποιητικές ύλες (όπως φθαλικό βουτύλιο ή πλαστικοποιητική ύλη τουλάχιστον ίσην σε δραστηριότητα με το φθαλικό βουτύλιο), και της οποίας η νιτροκυτταρίνη έχει περιεχόμενο αζώτου μη υπερβαίνον το 12,6% εκατόν, επίσης υπό μορφή ρινισμάτων (CHIPS).
Σημειώσεις:- Πλαστικοποιημένη νιτροκυτταρίνη περιέχουσα όχι λιγότερο του 18,6% εκατόν, φθαλικό βουτύλιο ή πλαστικοποιητική ύλη τουλάχιστον ίσην σε δραστηριότητα είναι ύλη της Κλάσεως 4.Ι (βλέπε περιθώριο 2401 7^ο (β) και (γ)).

Βλέπε επίσης Προσθήκη Α.Ι., περιθώριο 3102, Ι.

- 5^ο Μη-ζελατινώδης νιτροκυτταρινούχος πυρίτις. Βλέπε επίσης Προσθήκη Α.Ι., περιθώριο 3102.

- 6^ο Τρινιτροτολουλη (τολίτης), επίσης όταν πιεσθεί ή χυθεί, τρινιτροτολουδλη μεμιγμένη με αλουμίνιο, μίγματα με την ονομασίαν υγρή τρινιτροτολουδλη, και τρινιτροανιζόλη.

Βλέπε επίσης Προσθήκη Α.Ι., περιθώριο 3103.

- 7^ο (α) HEXYL (Εξυλένιο) (εξανιτροδιφαινυλαμίνη) και πικρικό οξύ (μελινίτις).
 (β) PENTOLITES (Πεντολίτες) (μίγματα τετρανιτρικής πέντα-

ερυθριτόλης και τρινιτροτολουόλης) και HEXOLITES 2101
(Εξολίτες) (μίγματα τριμεθυλενίου-τρινιτραμίνης (Συνεχίζεται)
και τρινιτροτολουόλης) εάν το εις τρινιτροτολουόλην
περιεχόμενόν τους είναι τέτοιο ώστε η ευαισθησία
τους σε περίπτωση κρούσεως δεν υπερβαίνει την ευαι-
σθησία της τετρύλης).

- (γ) PHLEGMATIZED PENTHRITE (Αδρανοποιημένος Πενθρίτης)
(τετρανιτρική πενταερυθριτόλη) και PHLEGMATIZED
HEXOGEN (Αδρανοποιημένον Εξόγονον) (τριμεθυλένιον-
τρινιτραμίνιον), αμφότερα αδρανοποιημένα δι' ενσωμα-
τώσεως κηρού, κηρού παραφίνης ή άλλων παρόμοιων
δραστικών υλών σε τέτοια ποσότητα ώστε η ευαισθη-
σία των υλών αυτών σε περίπτωση κρούσεως να μην υπερ-
βαίνει την ευαισθησία της τετρύλης).

Για τα (α), (β) και (γ), βλέπε επίσης Προσθήκην Α.Ι.,
περιθώριο 3103.

Σημειώσεις:- Οι ύλες της 7^ο (β) και το PHLEGMATIZED HEXOGEN
της 7^ο (γ) μπορεί επίσης να περιέχουν αλουμίνιο.

8^ο Εκρηκτικές οργανικές αζωτούχοι-συνθέσεις (ενώσεις):-

- (α) διαλυτές στο νερό, π.χ. τρινιτρορεζορίνη
(β) αδιάλυτες στο νερό, π.χ. τετρύλη (τρινιτροφαινου-
λικομεθυλονιτραμίνιον).
(γ) αναφλεκτικά εμπύρια τετρύλης χωρίς μεταλλικό κά-
λυμμα.

Για τα (α) και (β), βλέπε επίσης Προσθήκην Α.Ι.,
περιθώριο 3103.

Σημειώσεις:- Εκτός για υγρή τρινιτροτολουόλη (6^ο), οι

κρηκτικές οργανικές αζωτούχοι-συνθέσεις (ενώσεις) σε στερεά κατάσταση δεν γίνονται δεκτές για μεταφορά.

2101
(Συνεχίζεται)

9^ο (α) Υγρός πενθρίτης (τετρανιτρική πενταερυθριτόλη)

και υγρόν εξογόνο (τριμεθυλένιο-τρινιτραμίνιο)

υδροποιημένα εξ ολοκλήρου με όχι λιγώτερο του 20 ετα, εκατό νερό στη περίπτωση του πρώτου και όχι λιγώτερο του 15 ετα, εκατό, στην περίπτωση του δευτέρου.

(β) υγροί πεντολίτες (μύγματα πενθρίτου και τρινιτροτολουόλης) και υγροί εξολίτες (μύγματα εξογόνου και τρινιτροτολουόλης) η ευαισθησία των οποίων σε περίπτωση κρούσεως σε ξηρά κατάσταση υπερβαίνει εκείνη της τετρώλης και οι οποίες είναι υδροποιημένες εξ ολοκλήρου με όχι λιγώτερο του 15 ετα, εκατό νερό.

(γ) υγρά μύγματα πενθρίτου ή εξογόνου με κηρόν, κηρόν παραφίνης ή ύλες όμοιες με κηρόν ή κηρόν παραφίνης, η ευαισθησία των οποίων σε περίπτωση κρούσεως σε ξηρά κατάσταση υπερβαίνει εκείνη της τετρώλης και οι οποίες είναι υδροποιημένες εξ ολοκλήρου με όχι λιγώτερο του 15 ετα, εκατό νερό.

(δ) πεπιεσμένα αναφλεκτικά εμπύρια πενθρίτου χωρίς μεταλλικό κάλυμμα.

Για τα (α), (β) και (γ), βλέπε επίσης Προσθήκη Α.Ι, περιθώριο 3103.

10^ο (α) Υπεροξειδίο Βενζοϋλίου:-

Ι.- σε ξηρά κατάσταση ή με λιγώτερο του 10 ετα, εκα-

τό νερό.

2101

2.- με λιγότερο του 30 ετα, εκατό αδρανοποιητική ύλη (PHLEGMATIZER).

(Συνεχίζεται)

Σημείωση:- I.- Το υπεροξείδιο βενζοϋλίου με όχι λιγότερο του 10 ετα, εκατό νερό ή με όχι λιγότερο του 30 ετα, εκατό αδρανοποιητική ύλη (PHLEGMATIZER) είναι ύλη της Κλάσεως 5.2 (βλέπε περιθώριο 255I, 8^ο (α) και (β)).

2.- Το υπεροξείδιο βενζοϋλίου με όχι λιγότερο του 70 ετα, εκατό ξηρά και αδρανή στερεά δεν υπόκειται στις διατάξεις της ADR.

(β) Υπεροξείδια Κυκλοεξανόνης (L-HYDROXY-L'-HYDROPEROXY-DICYCLOHEXYL υπεροξείδιο και BIS-(L-HYDROXYCYCLOHEXYL) υπεροξείδιο και μίγματα των δύο τούτων συνθέσεων):

I.- σε ξηρά κατάσταση ή με λιγότερο του 5 ετα, εκατό νερό.

2.- με λιγότερο του 30 ετα, εκατό αδρανοποιητικής ύλης (PHLEGMATIZER).

Σημείωση:- I.- Τα υπεροξείδια κυκλοεξανόνης και τα μίγματά τους με όχι λιγότερο του 5 ετα, εκατό νερό ή όχι λιγότερο του 30 ετα, εκατό αδρανοποιητική ύλη είναι ύλες της Κλάσεως 5.2 (βλέπε περιθώριο 255I 9^ο (α) και (β)).

2.- Τα υπεροξείδια κυκλοεξανόνης και τα μίγματά τους με όχι λιγότερο του 70 ετα, εκατό ξηρά και αδρανή στερεά δεν υπόκεινται στις διατάξεις της ADR.

(γ) Υπεροξειδίο Παραχλωροβενζοϋλίου:-

2101

1.- σε ξηρά κατάσταση ή με λιγώτερο του 10 τοι. ε- (Συνεχίζεται)
κατό νερό.

2.- με λιγώτερο του 30 τοι. εκατό αδρανοποιητική ύλην (PHLEGMATIZER).

Σημειώσεις:- 1.- Το υπεροξειδίο παραχλωροβενζοϋλίου με όχι λιγώτερο του 10 τοι. εκατό νερό ή με όχι λιγώτερο του 30 τοι. εκατό αδρανοποιητικής ύλης είναι ύλη της Κλάσεως 5.2 (βλέπε περιθώριο 255I I7⁰ (α) και (β)).

2.- Το υπεροξειδίο παραχλωροβενζοϋλίου με όχι λιγώτερο του 70 τοι. εκατό ξηρά και αδρανή στερεά δεν υπόκειται στις διατάξεις της ADR.

II⁰ (α) Μελανή πυρίτις (με βάσιν νιτρικού καλίου) υπό μορφήν κόκκων ή αλεύρου (κόνεως).

(β) ορυκτική πυρίτις βραδείας ενεργείας (SLOW MINING POWDERS) όμοια με μελανήν πυρίτιδα (αποτελούμενη από νιτρικό νάτριο, θείο και ξυλάνθρακα, άνθρακα ή λιγνίτην, η αποτελούμενη από νιτρικό κάλιο μετά ή άνευ νιτρικού νατρίου, θείου άνθρακος ή λιγνίτου).

(γ) φυσίγγια πεπιεσμένης μελανής πυρίτιδας ή πυρίτιδας όμοιας με πεπιεσμένην μελανήν πυρίτιδα.

Σημειώσεις:- Η πυκνότης της πεπιεσμένης μάζας δεν πρέπει να είναι μικρότερη των 1.5 γραμμαρίων ανά CM³.

Για τα (α) και (β), βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3104.

Ι2^ο (α) Νιτρικές ειρηνητικές ύλες, υπό μορφήν πυρίτιδος 2ΙΟΙ
 μη καλυπτόμενες υπό των ΙΙ^ο ή Ι4^ο (α) ή (γ) και (Συνεχίζε-
 αποτελούμενες βασικώς εκ νιτρικού αμμωνίου ή εκ ται)
 μίγματος νιτρικού αμμωνίου και άλκαλι ή νιτρικών
 υλών αλκαλικών γαιών ή μίγματος νιτρικού αμμωνίου
 και χλωριούχου νατρίου, ή μίγματος άλκαλι ή νιτρι-
 κών υλών αλκαλικών γαιών και χλωριούχου αμμωνίου,
 ή μίγματος νιτρικού αμμωνίου με άλκαλι ή νιτρικών
 υλών αλκαλικών γαιών και χλωριούχου αμμωνίου.

Μπορούν, επιπροσθέτως, να περιέχουν καύσιμες ύλες
 (όπως ξυλάλευρον, ή άλλα φυτικά άλευρα ή υδρογο-
 νάνθρακες), ευαισθητοποιητικές ύλες (π.χ. λεπτή
 κόνις αλουμινίου), αρωματικές αζωτούχους-συνθέσεις,
 νιτρογλυκερίνην ή νιτρογλυκόλην ή μίγμα των δύο,
 και αδρανείς σταθεροποιητικές ή χρωστικές ύλες
 (βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3Ι05).

(β) Ειρηνητικές ύλες μη περιέχουσες ανδράνα νιτρικά
άλατα, υπό μορφήν πυρίτιδας, αποτελούμενες βασικώς
 εκ μίγματος αδρανών υλών (ως χλωριούχα άλκαλι) με
 νιτρογλυκερίνην ή νιτρογλυκόλην ή μίγμα των δύο.
 Μπορούν να περιέχουν, επιπροσθέτως, αρωματικές αζω-
 τούχους-συνθέσεις και ύλες με αποτέλεσμα αδρανοποιη-
 τικό, σταθεροποιητικό ή ζελατινώδες ή χρωστικό.
 Βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3Ι05.

Ι3^ο Χλωρινές και υπερχλωρινές ειρηνητικές ύλες, τ.έ. μίγμα-
 τα χλωριούχων ή υπερχλωριούχων άλκαλι ή μετάλλων αλκα-
 λικών-γαιών με συνθέσεις πλούσιες εις άνθρακα. Βλέπε

επίσης Προσθήκην Α.Ι, περιθώριο 3106.

2101

14^ο (α) Δυναμίτες με αδρανές απορροφητικόν, και εκρηκτι- (Συνεχίζεται)
κές ύλες όμοιες με δυναμίτη με αδρανές απορρο-
φητικό.

(β) BLASTING GELATINE (εγκαιροφλεγής ζελατίνη) απο-
τελούμενη από βαμβακοπυρίτιδα και όχι άνω του
93 έτοιμ, εκατόν νιτρογλυκερίνην, και GELATINIZED
DYNAMITES (ζελατινώδεις δυναμίτες) με περιεχόμε-
νον νιτρογλυκερίνης μη υπερβαίνον το 85 έτοιμ, εκα-
τόν.

(γ) ζελατινώδεις νιτρικές εκρηκτικές ύλες, αποτε-
λούμενες βασικώς εκ νιτρικού αμμωνίου, ή εκ μίγμα-
τος νιτρικού αμμωνίου με νιτρικές ύλες άλκαλι ή
μέταλλα αλκαλικών γαιών περιέχοντα όχι άνω του
40 τοις εκατόν ζελατινώδους νιτρογλυκερίνης ή
ζελατινώδους νιτρογλυκερίνης ή μίγματος των δύο.
Μπορούν να περιέχουν, επιπροσθέτως, αζωτούχους-
συνθέσεις ή καυσίμους ύλες (ως ξυλάλευρον ή έτε-
ρον φυτικό άλευρον ή υδρογονάνθρακας) και, επι-
προσθέτως άλλες άλλες αδρανείς ή χρωστικές ύλες.

Για τα (α), (β) και (γ), βλέπε επίσης Προσθήκην Α.Ι,
περιθώριο 3107.

15^ο Κενά είδη συσκευασίας, αναθάριστα, που περιείχαν επι-
κίνδυνες ύλες της Κλάσεως Ια.

2.- Διατάξεις

A.- Κόλα

I.- Γενικοί όροι συσκευασίας

(I) Τα είδη συσκευασίας θα είναι έτσι κλεισμένα

και στεγανά ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου. Η χρήση μεταλλικών λωρίδων ή συρμάτων προς εξασφάλισιν του κλεισίματος απαγορεύεται εκτός εάν ο τρόπος αυτός ειδικώς επιτρέπεται εκ των ειδικών διατάξεων των σχετικών με την συσκευασία των ~~βιο φάρμα~~ υλών ή εμπορευμάτων (ειδών).

2102
(Συνεχί-
ζεται)

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και το κλείσιμο αυτών κατασκευάζονται δεν θα πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενο ή να σχηματίζουν επιβλαβείς ή επικινδύνους συνθέσεις.

(3) Τα είδη συσκευασίας, περιλαμβανομένων των κλεισιμάτων αυτών, πρέπει να είναι επαρκώς άναμπα και γερά σε όλα τα τμήματά τους προς αποφυγήν οποιασδήποτε χαλαρώσεως διαρκούσης της μεταφοράς και για να πληρούν τους κανονικούς όρους μεταφοράς. Στερεές ύλες θα ασφα-
λίζονται σταθερά στις συσκευασίες τους, και εσωτερικές συσκευασίες θα ασφαλίζονται σταθερά στις εξωτερικές συσκευασίες. Εκτός εάν άλλως ορίζεται στη παράγραφο που τιτλοφορείται "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους", τα εσωτερικά είδη συσκευασίας μπορούν να εγληκίζονται στα εξωτερικά, είτε ένα-ένα είτε σε ομάδες.

(4) Φιάλες και άλλα γυάλινα δοχεία (σκεύη) πρέπει να είναι απηλλαγμένα από βλάβες που κινδυνεύουν να εξασθενίσουν την αντοχή τους· ειδικώτερα, πρέπει να έχουν καταλλήλως απαλλαγεί από εσωτερικές τάσεις (θραύσεως, κλπ.). Το πάχος των τοιχωμάτων δεν πρέπει να είναι μικρότερο των 2 mm (χιλ.).

(5) Αποσβεστικό (μαξιλάρια, κλπ.) υλικό θα 2Ι02
πρέπει να ταιριάζει με τη φύση του περιεχομένου· (Συνεχίζε-
ειδικότερα, πρέπει να είναι απορροφητικό, εάν το πε- ται)
ριεχόμενο είναι υγρόν ή μπορούσε να εξιδρώσει υγρό.

2.- Συσκευασία μιάς ύλης ή εμπορευμάτων του αυτού
είδους

(I^ο) Οι ύλεις της Ι^ο και 2^ο θα συσκευάζονται:- 2Ι03

- (α) σε ξύλινα δοχεία ή βαρέλια κατασκευασμένα από α-
διαπέραστη ινώδη σανίδα (ινοσανίδα)· αυτά τα δο-
χεία και βαρέλια θα είναι επίπροσθέτως εφοδιασμένα
με αδιαπέραστη από τα υγρά που περιέχουν εσωτερική
επένδυση· το κλείσιμό τους πρέπει να είναι στεγανό
ή
- (β) σε αδιαπέραστους σάκκους (π.χ. κατασκευασμένους από
ελαστικό ή κατάλληλη πλαστική ύλη όχι ευχερώς εύφλε-
κτη) ποποθετημένους σε ξύλινα κιβώτια· ή
- (γ) σε σιδηρά βαρέλια επενδεδυμένα εσωτερικώς με ψευδαρ-
γυρον ή μολυβδόν· ή
- (δ) σε δοχεία κατασκευασμένα από πλάκες κασιτέρου, φύλ-
λα ψευδαργύρου ή φύλλα αλουμινίου, τα οποία θα ασφα-
λίζονται με αποσβεστικό (μαξιλάρια, κλπ.) υλικό σε
ξύλινα κιβώτια.

(2) Μεταλλικά δοχεία θα είναι εφοδιασμένα με
κλείσιμον ή μηχανισμούς ασφαλείας που θα υποχωρούν όταν
η εσωτερική πίεση φθάσει σε τιμή όχι μεγαλύτερη των
3 KG/CM²· η παρουσία αυτών των κλεισιμάτων ή μηχανισμών
ασφαλείας δεν πρέπει να εξασθενεί την αντοχήν του δοχείου
ούτε να εξασθενεί το κλείσιμο αυτού.

(3) Η νιτροκυτταρίνη της 1^ο, εάν υγροποιηθεί 2103 αποκλειστικά με νερό, μπορεί να συσκευασθεί σε βαρέ- (Συνεχίζεται)
λια από ινώδη σανίδα· η ινώδης σανίδα πρέπει να έχει υποστεί ειδική επεξεργασία ώστε να καταστεί τελείως αδιαπέραστη· τα κλεισίματα των βαρελιών πρέπει να είναι υδατο-ατμοσφραγικά.

(4) Κόλον περιέχον ύλες της 1^ο δεν πρέπει να ζυγίζεται πάνω από 120 KG ή, εάν μπορεί να ρολλαρισθεί, πάνω από 300 KG. Εν τούτοις, όταν χρησιμοποιούνται βαρέλια από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζεται πάνω από 75 KG.

Κόλον περιέχον ύλες της 2^ο δεν πρέπει να ζυγίζεται πάνω από 75 KG.

(I) Ύλες της 3^ο (α) και 4^ο θα συσκευάζονται 2104

(α) εάν πρόκειται να μεταφερθούν σαν πλήρες φορτίο:-

(1) σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα· ή

(2) σε συσκευασίες κατασκευασμένες από ξύλο ή μέταλλο εκτός από μελανόν έλασμα σιδήρου·

(β) εάν δεν πρόκειται να μεταφερθούν σαν πλήρες φορτίο:-

I.- σε κυτία κατασκευασμένα από ινώδη σανίδα, πλάκες-κασσιτέρου, φύλλα ψευδαργύρου ή φύλλα αλουμινίου, ή από κατάλληλη πλαστική ύλη κατασκευασμένη έτσι ώστε να μην είναι ευχερώς εύφλεκτη, ή σε σάκκους κατασκευασμένους από ύφασμα με πυκνή ύφανση ή από γερό χαρτί τουλάχιστον δι-φύλλο ή από γερό χαρτί ντυμένο με λεπτό φύλλο

αλουμινίου ή με κατάλληλη πλαστική ύλη. Οι συ- 2104
σκευασίες αυτές θα τοποθετούνται σε ξύλινα (Συνεχίζεται)
κιβώτια ή

(κυτία)
2.- χωρίς προκαταρκτική συσκευασία σε κιβώτια/ή σάκ-
κους:-

α.- σε βαρέλια κατασκευασμένα από αδιαπέραστη

ινώδη σανίδα ή σε ξύλινα βυτία (CASKS) ή

β.- σε ξύλινες συσκευασίες επενδεδυμένες με φύλ-
λα ψευδαργύρου ή φύλλα αλουμινίου ή

γ.- σε δοχεία κατασκευασμένα από μέταλλο εκτός
από μελανό έλασμα-σιδήρου.

(2) Εάν η πυρίτιδα είναι σε σωλήνες, ράβδους,
νήματα, λωρίδες ή φύλλα, μπορεί επίσης να εγκλεισθεί,
χωρίς προκαταρκτική συσκευασία σε κυτία ή σάκκους, μέσα
σε ξύλινα κιβώτια.

(3) Μεταλλικά δοχεία θα είναι εφοδιασμένα
με μηχανισμούς ασφαλείας ή κλεισίματα που θα υποχωρούν
όταν η εσωτερική πίεσις φθάσει τιμήν όχι μεγαλύτερη
των 3 KG/CM^2 . η παρουσία των μηχανισμών αυτών και κλει-
σιμάτων δεν πρέπει να εξασθενεί την αντοχήν του δοχεί-
ου ούτε να εξασθενεί το κλείσιμό του.

(4) Το κλείσιμο των ξυλίνων κιβωτίων μπορεί
να εξασφαλίζεται με λωρίδες (τσέρκια) ή σύρματα κατα-
σκευασμένα από κατάλληλο μέταλλο στερεωμένο σφικτά γύρω από
αυτά. Εάν οι λωρίδες ή τα σύρματα είναι κατασκευασμένα
από σίδηρο θα καλύπτονται με υλικό που δεν θα κινδυνεύει
να παράγει σπινθήρες όταν υποστεί κρούση ή τριβή.

(5) Το κόλον δεν πρέπει να ζυγίζεται πάνω από 2104
 120 KG. Όμως, όταν χρησιμοποιούνται βαρέλια (Συνεχίζεται)
 από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζεται πάνω
 από 75 KG.

(I) Ύλεις της 3^ο (β) και 5^ο θα συσκευάζονται:- 2105
 (α) εάν πρόκειται να μεταφερθούν σαν πλήρες φορτίο:-

1.- σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώ-
 δη σανίδα· ή

2.- σε συσκευασίες κατασκευασμένες από ξύλο ή μέ-
 ταλλο εκτός από μελανό έλασμα-σιδήρου·

(β) εάν δεν πρόκειται να μεταφερθούν σαν πλήρες φορτίο:-

1.- σε κυτία κατασκευασμένα από ινώδη σανίδα,
 πλάκες-κασσιτέρου ή φύλλα αλουμινίου. Το κυτίο
 δεν πρέπει να περιέχει πάνω από 1 KG πυρίτιδα
 και πρέπει να είναι τυλιγμένο με χαρτί. Οι συ-
 σκευασίες αυτές θα τοποθετούνται σε ξύλινες συ-
 σκευασίες·

ή

2.- σε σάκκους κατασκευασμένους από ύφασμα με πυκνή
 ύφανση ή από γερό χαρτί τουλάχιστο δι-φύλλο ή
 από γερό χαρτί επενδεδυμένο με λεπτό φύλλο αλου-
 μινίου ή με κατάλληλη πλαστική ύλη. Οι σάκκοι
 αυτοί θα τοποθετούνται σε βαρέλια από ινώδη σανί-
 δα ή σε ξύλινους κάδους (βυτία) ή σε ξύλινες συ-
 σκευασίες επενδεδυμένες με φύλλα ψευδαργύρου ή
 φύλλα αλουμινίου, ή σε δοχεία κατασκευασμένα από
 φύλλα ψευδαργύρου ή φύλλα αλουμινίου. Δοχεία κατα-

σκευασμένα από φύλλα ψευδαργύρου ή φύλλα αλουμινίου θα είναι τελείως επενδεδυμένα με ξύλο ή (Συνεχίζεται)
ινώδη σανίδα.

(2) Μεταλλικά δοχεία θα είναι εφοδιασμένα με κλεισίματα ή μηχανισμούς ασφαλείας οι οποίοι θα υπόχωρουν όταν η εσωτερική πίεση φθάσει τιμήν όχι μεγαλύτεραν των 3 KG/CM^2 . η παρουσία των κλεισιμάτων αυτών ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί την αντοχήν του δοχείου ούτε να εξασθενεί το κλείσιμον αυτών.

(3) Το κλείσιμο των ξυλίνων κιβωτίων μπορεί να εξασφαλισθεί με λωρίδες ή σύρματα κατασκευασμένα από κατάλληλο μέταλλο στερεωμένα σφιχτά γύρω κ'αυτά. Εάν οι λωρίδες ή τα σύρματα είναι κατασκευασμένα από σίδηρο θα καλύπτονται από υλικό που δεν κινδυνεύει να παράγει σπινθήρες όταν υποβληθεί σε κρούση ή τριβή.

(4) Κόλον της (I) (α) δεν πρέπει να ζυγίζει πάνω από 100 KG . Όμως, όταν χρησιμοποιούνται βαρέλια από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG . Κόλον της (I) (β) δεν πρέπει να ζυγίζει πάνω από 75 KG . Δεν πρέπει να περιέχει πάνω από 30 KG πυρίτιδας νιτροκυτταρίνης.

(I) Ύλεις της 6^ο θα συσκευάζονται σε ξύλινα δοχεία. 2106
Βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα θα γίνονται επίσης δεκτά για στερεά τρινιτροτολουόλη και για τρινιτροανιζόλη, και σιδερά δοχεία για μίγματα με την ονομασία υγρά τρινιτροτολουόλη.

(2) Τα μεταλλικά δοχεία θα είναι εφοδιασμένα με

κλεισίματα ή μηχανισμούς ασφαλείας που υποχωρούν όταν η εσωτερική πίεση φθάσει τιμήν όχι μεγαλύτερά των 3 KG/CM². η ύπαρξη των κλεισιμάτων αυτών ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί την αντοχήν του δοχείου ούτε να εξασθενεί το κλείσιμό του.

2106
(Συνεχίζεται)

(3) Κόλον δεν πρέπει να ζυγίζει πάνω από 120 KG ή, εάν μπορεί να ρολλαρισθεί, πάνω από 300 KG. Όμως, όταν χρησιμοποιούνται βαρέλια από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG.

(I) Ύλεις της 7^ο θα συσκευάζονται:

2107

(α) ύλεις της 7^ο (α): σε ξύλινα δοχεία ή σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα. Μόλυβδος και υλικά περιέχοντα μόλυβδον (κράματα ή συνθέσεις) δεν πρέπει να χρησιμοποιούνται στη συσκευασία HEXYL (Εξυλενίου) (Εξανιτροδιφαινυλαμίνης) και πικρικού οξέος.

Το πικρικό οξύ μπορεί επίσης να συσκευασθεί όχι πάνω από 500 γραμμάρια ανά δοχείο, σε δοχεία κατασκευασμένα από γυαλί, πορσελάνη, κεραμική ύλη (πηλός) ή παρόμοια υλικά ή από κατάλληλη πλαστική ύλη, ασφαλισμένα σε ξύλινο κιβώτιο με αποσβεστικό υλικό (π.χ. κυματοειδής ινώδης σανίδα). Τα δοχεία θα κλείνονται με βούλωμα, από φελλό ή ελαστικό ή από κατάλληλη πλαστική ύλη, που θα κρατείται στη θέση του με πρόσθετο μηχανισμό (όπως πώμα, καπάκι, κορώνα, σφραγίδα ή δέσιμο) ικανόν να εμποδίσει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της μεταφοράς.

(β) ύλες της 7^ο(β) και (γ): όχι πάνω από 30 KG ανά σάκκον, σε υφασματένιους σάκκους που δεν επιτρέπουν στο περιεχόμενο να διηθηθεί, ή σε σακκουλές κατασκευασμένες από γερό χαρτί ή κατάλληλη πλαστική ύλη, που θα τοποθετούνται σε ξύλινα στεγανά δοχεία ή βαρέλια κατασκευασμένα από σκληρή (κατόπιν βαφής) ινώδη σανίδα ικανά να κλείνουν έτσι ώστε να είναι στεγανά και των οποίων οι πυθμένες και τα καλύμματα θα είναι κατασκευασμένα από κόντρα πλακέ. Τα καλύμματα των κιβωτίων θα ασφαρίζονται με βίδες και των βαρελιών με κολλάρο.

2107
(Συνεχίζεται)

(2) Κόλον περιέχον ύλες της 7^ο(α) δεν πρέπει να ζυγίζει πάνω από 120 KG εάν είναι ξύλινο δοχείο· οσάκις χρησιμοποιούνται βαρέλια από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα περιέχοντα πικρικό οξύ συσκευασμένο σε εύθραυστα δοχεία ή σε δοχεία κατασκευασμένα από πλαστική ύλη δεν πρέπει να ζυγίζουν πάνω από 15 KG. Κόλον περιέχον ύλες της 7^ο(β) ή (γ) δεν πρέπει να ζυγίζει πάνω από 75 KG· κιβώτια των οποίων το περιεχόμενο ζυγίζει πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές.

(I) Ύλες και είδη της 8^ο θα συσκευάζονται:- 2108

(α) ύλες της 8^ο(α): σε δοχεία κατασκευασμένα από χάλυβα μη υποκείμενον σε σκουριά, ή από οποιοδήποτε άλλο κατάλληλο υλικό (το οποίο ειδικώτερα εξιδρώνει μόλυβδον και τα κράματα αυτού). Νιτρικές-συνθέσεις θα έχουν ομοιόμορφα υγροποιηθεί (μουςκεφθεί) με αρκετό νερό για να εξασφαλίζεται ότι περιέχουν όχι λιγότερο του

25.6 α. εκατόν νερό καθ' όλο το ταξίδι, σε κάθε ση- 2108
 μείο της ύλης. Τα μεταλλικά δοχεία θα είναι εφο- (Συνεχίζε-
 διασμένα με κλεισίματα ή μηχανισμούς ασφαλείας που ται)
 υποχωρούν όταν η εσωτερική πίεση φθάσει τιμήν όχι
 μεγαλύτερη των 3 KG/CM^2 . η ύπαρξη των κλεισιμάτων
 αυτών ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί
 την αντοχή του δοχείου ούτε να εξασθενεί το κλείσιμό
 του. Δοχεία, εκτός εκείνων που είναι κατασκευασμένα
 από χάλυβα μπ υποκείμενον σε σκουριά, θα εξασφαλίζον-
 ται (στερεώνονται) με αποσβεστικό (μαξιλάρια, κλπ.)
 υλικό σε ξύλινες συσκευασίες.

- (β) ύλες της 8^ο (β):- όχι πάνω από 15 KG ανά σάκκον, σε
 σάκκους κατασκευασμένους από ύφασμα ή κατάλληλο πλα-
 στικό υλικό, τοποθετημένους σε ξύλινες συσκευασίες.
- (γ) ύλες της 8^ο (α) και (β) μπορούν επίσης να συσκευάζον-
 ται, όχι πάνω από 500 γραμμάρια ανά δοχείο, σε δοχεία
 κατασκευασμένα από γυαλί, πορσελάνη, είδη κεραμικής
 ή παρόμοια υλικά, ή από κατάλληλο πλαστική ύλη, σφε-
 ρεωμένα με αποσβεστικό υλικό (π.χ. κυματοειδή ινώδη
 σανίδια) σε ξύλινο κιβώτιο. Το κέλον δεν πρέπει να πε-
 ριέχει πάνω από 5 KG αζωτούχων συνθέσεων. Τα δοχεία
 θα κλείουν με αναστολέα (STOPPER), κατασκευασμένον από
 φελλό ή ελαστικό ή από κατάλληλη πλαστική ύλη, και θα
 κρατείται στη θέση του με πρόσθετο μηχανισμό (όπως κα-
 πάλι, κορώνα, σφραγίδα ή δέσιμο) ικανόν να εμποδίζει
 οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρ-
 κούσης της μεταφοράς.

(δ) είδη (εμπορεύματα) της 8^ο(γ): χωριστά σε χονδρό χαρτί 2108 και τοποθετημένα, όχι πάνω από 100 ανά κυτίο, σε κυ- (Συνεχίζεται)
τία από μεταλλικά ελάσματα. Όχι περισσότερα των 100
τοιούτων κυτίων θα συσκευάζονται σε κιβώτιο ξύλινης
συσκευασίας.

(2) Κόλον των παραγράφων (Ι) (α) ή (β) δεν πρέπει να ζυγίζει πάνω από 75 KG· δεν πρέπει να περιέχει πάνω από 25 KG ύλες της 8^ο(α) ή πάνω από 50 KG ύλες της 8^ο(β). Κόλον της παραγράφου (Ι) (γ) δεν πρέπει να ζυγίζει πάνω από 15 KG, ή κόλον της παραγράφου Ι(δ) πάνω από 40 KG.

(Ι) Ύλες και είδη της 9^ο θα συσκευάζονται: 2109

(α) ύλες της 9^ο(α) έως (γ):-

1.- όχι πάνω από 10 KG ανά σάκκον, σε σάκκους από ύφανμα ή από κατάλληλη πλαστική ύλη, τοποθετημένους σε κυτίο από αδιαπέραστη ινώδη σανίδα ή σε κυτίο κατασκευασμένο από πλάκες-κασσιτέρου ή φύλλα αλουμινίου ή φύλλα ψευδαργύρου· ή

2.- όχι πάνω από 10 KG ανά δοχείο, σε δοχεία κατασκευασμένα από ινώδη σανίδα καταλλήλου αντοχής, εμποτισμένα με κηρόν παραφίνης ή καταστάσα αδιαπέραστη με άλλα μέσα.

Κυτία κατασκευασμένα από πλάκες-κασσιτέρου ή φύλλα αλουμινίου ή φύλλα ψευδαργύρου και κυτία ή δοχεία από άλλα είδη θα τοποθετούνται σε ξύλινο κιβώτιο επενδεδυμένο με κυματοειδή ινώδη-σανίδα· μεταλλικά κυτία ούτω τοποθετημένα θα χωρίζονται το ένα από το άλλο με περιτύλιγμα από κυματοειδή ινώδη-σανίδα. Το κιβώτιο δεν πρέπει να περιέχει

πάνω από τέσσερα κυτρία ή δοχεία άλλων ειδών. Τα καλύμματα των κιβωτίων θα στερεώνονται με βίδες. 2109 (Συνεχίζεται)

(β) πενθρίτης (9^ο (α)) μπορεί επίσης να συσκευάζεται είτε:-

(1) όχι πάνω από 5 KG ανά δοχείο, σε δοχεία κατασκευασμένα από γυαλί, πορσελάνη, είδη κεραμικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, κλεισμένα με αναστολέα (βούλωμα) από φελλό ή ελαστικό ή από κατάλληλη πλαστική ύλη· κάθε δοχείο θα τοποθετείται σε μεταλλικό δοχείο ερμητικώς κλεισμένο δια συγκολλησεως ή μαλακής συγκολλησεως και θα συγκρατείται από κτύπημα με υλικά που έχουν ελαστικότητα σε τρόπο ώστε να σφηνώνουν στερεά το εσωτερικό δοχείο χωρίς να αφήνουν άδειο χώρο. Όχι περισσότερα από 4 μεταλλικά δοχεία θα συσκευάζονται σε ξύλινο κιβώτιο επενδεδυμένο με κυματοειδή ινώδη-σανίδα και θα χωρίζονται το ένα από το άλλο με διάφορα πάχη κυματοειδούς ινώδους σανίδας ή άλλο υλικό ικανό να εκτελέσει την ίδια λειτουργία· ή

(2) όχι πάνω από 500 γραμμάρια ξηρού βάρους ανά δοχείο, σε δοχεία κατασκευασμένα από γυαλί, πορσελάνη, είδη κεραμικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, κλεισμένα με αναστολέα (βούλωμα) από φελλό ή ελαστικό ή από κατάλληλη πλαστική ύλη. Τα δοχεία αυτά θα τοποθετούνται σε ξύλινο κιβώτιο. Θα χωρίζονται το ένα από το άλλο με περιτύλιγμα κυματοειδούς ινώδους σανίδας και από τα πλευρά του κιβωτίου σε απόσταση όχι μικρότερη των 3 CM που θα γεμίζεται (ο κενός χώρος) με αποσβεστικό υλικό·

(γ) Το ΗΕΛΟΘΕΝ (εξογδόνον) (9^ο(α)) μπορεί επίσης να συ- 2109.
σκειυάζεται όπως προβλέπεται στην (β)I, ανωτέρω, (Συνεχίζεται)
για τον πενθρίτη.

(δ) είδη της 9^ο(δ): πρώτα χωριστά σε γερό χαρτί και θα
τοποθετούνται, όχι άνω των 3 KG ανά κιβώτιο, σε κι-
βώτια από ινώδη σανίδα βτα οποία θα στηρίζονται στη
θέση τους με αποσβεστικό υλικό· τα κιβώτια αυτά, όχι
άνω των 10 ανά ξύλινο κιβώτιο, θα στερεώνονται με απο-
σβεστικό υλικό σε ξύλινο κιβώτιο κλεισμένο με βίδες
σε τρόπο ώστε χώρος όχι μικρότερος των 3 CM να γεμί-
ζεται με αποσβεστικό υλικό σ' όλα τα σημεία μεταξύ
των, εκ σανίδος, ινώδους, κιβωτίων και του κιβωτίου
συσκευασίας.

(2) Κόλον των (I) (α) ή (I) (β) I. δεν πρέπει να
ζυγίζει πάνω από 75 KG· κόλον της I(γ) δεν πρέπει να ζυγί-
ζει πάνω από 10 KG· Κόλον της (I) (β) 2, ή (I) (δ) δεν πρέ-
πει να ζυγίζει πάνω από 25 KG. Κόλα τα οποία, με το περιε-
χόμενό τους, ζυγίζουν πάνω από 30 KG θα είναι εφοδιασμένα
με χειρολαβές.

(I) Ύλεις της 10^ο θα συσκευάζονται, όχι άνω των
500 γραμμαρίων ανά σάκκο, σε στερεά δεμένους σάκκους από
κατάλληλο εύκαμπτο υλικό· κάθε σάκκος θα τοποθετείται σε -
κυτίο από μέταλλο, ινώδη-σανίδα ή χαρτόνι (χαρτοσανίδα)·
αυτά τα κυτία, όχι περισσότερα από 30 ανά κιβώτιο συσκευα-
σίας, θα στερεώνονται με αποσβεστικό υλικό σε ξύλινο κιβώ-
τιο συσκευασίας με πλήρεις πλευρές πάχους όχι μικρότερου
των 12 MM (χιλιοστών).

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από 25 KG.

(I) Ύλεις και είδη της II^ο θα συσκευάζονται: 2III

(α) ύλεις της II^ο(α) και (β):

(I) όχι άνω των 2.5 KG ανά σάκκον, σε σάκκους τοποθετημένους σε κυτία κατασκευασμένα από ινώδη σανίδα, πλάκες κασσιτέρου ή από αλουμίνιο. Τα κυτία θα στερεώνονται με αποσβεστικό υλικό σε ξύλινα είδη συσκευασίας ή

(2) σε σάκκους κατασκευασμένους από ύφασμα με πυκνή ύφανση, τοποθετημένους σε ξύλινα κιβώτια·

(β) είδη της II^ο(γ): ρολλαρισμένα με γερό χαρτί· κάθε ρόλος δεν πρέπει να ζυγίζει πάνω από 300 γραμμάρια. Οι ρόλλοι θα τοποθετούνται σε ξύλινο κιβώτιο επενδεδυμένο με γερό χαρτί.

(2) Τα καλύμματα των ξυλίνων κιβωτίων θα στερεώνονται με βίδες· εάν οι βίδες είναι κατασκευασμένες από σίδερο θα επιχρύνονται με υλικό που δεν θα παράγει σπινθήρες όταν υποστεί κρούση ή τριβή.

(3) Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG εάν μεταφέρεται ως τμήμα πλήρους φορτίου, και όχι περισσότερο από 35 KG εάν δεν μεταφέρεται ως τμήμα πλήρους φορτίου.

(I) Ύλεις της I2^ο θα φυσιγγιοποιούνται μέσα σε περιτυλίγματα κατασκευασμένα από κατάλληλη πλαστική ύλη ή χαρτί. Τα φυσιγγία θα ~~φυσιγγίζονται~~ φυσιγγίζονται σε κηρό παραφίνης, κηροζίνη ή ρητίνη, ή θα τυλίγονται σε κατάλληλη πλαστική ύλη, ώστε να προστατεύονται από την υγρασία. Ειρηκτικά

περιέχοντα πάνω από 6 ετάρ, εκατόν υγρούς νιτρικούς εστέρας θα φυσιγγιοποιούνται με χαρτί επενδεδυμένο με κηρόν παραφίνης ή κηροζίνη ή με αδιαπέραστη πλαστική ύλη όπως το πολυαιθυλένιο. Τα φυσίγγια θα τοποθετούνται σε ξύλινα είδη συσκευασίας.

2112
(Συνεχίζεται)

(2) Φυσίγγια μη επενδεδυμένα με κηρόν παραφίνης ή κηροζίνη, ή φυσίγγια σε αδιαπέραστα περιτυλίγματα, θα γίνονται πακέτα που ζυγίζουν όχι άνω των 2.5 KG το καθένα. Έτσι κατασκευασμένα πακέτα, τα περιτυλίγματα των οποίων πρέπει να αποτελούνται τουλάχιστο από γερό χαρτί, θα βυθίζονται σε κηρό παραφίνης, κηροζίνη ή ρητίνη ή θα περιτυλίγονται με κατάλληλη πλαστική ύλη ώστε να προστατεύονται από την υγρασία. Τα πακέτα θα τοποθετούνται σε ξύλινα είδη συσκευασίας.

(3) Τα κλεισίματα των ξυλίνων ειδών συσκευασίας μπορούν να ασφαρίζονται με μεταλλικές λωρίδες ή σύρματα δεμένα σφικτά γύρω τους.

(4) Το κέλυφος δεν πρέπει να ζυγίζει πάνω από 75 KG. Δεν πρέπει να περιέχει πάνω από 50 KG εκρηκτικών.

(5) Αντί των ξυλίνων συσκευασιών των προβλεπόμενων στις παραγράφους (1) και (2), επιτρέπεται επίσης να χρησιμοποιούνται κατάλληλα κιβώτια, κατασκευασμένα από σπινθηροαπώθησαν σανίδα ή πυρροειδή ινώδη σανίδα, που είναι επαρκούς μηχανικής αντοχής και των οποίων τα πτερύγια (κλαπέτα) των καλυμμάτων και πυθμένων θα πρέπει να κλείνονται με κολλητικές ταινίες επαρκούς αντοχής. Το σχέδιο των κιβωτίων των κατασκευαζομένων από στερεά ινώδη σανίδα ή πυ-

ματοειδή ινώδη σανίδα πρέπει να εγκριθεί από την αρμό- 2II2
δια αρχή της χώρας της ανάχωρήσεως. Ένα τέτοιο κό- (Συνεχίζεται)
λον δεν πρέπει να ζυγίζει πάνω από 30 KG· δεν πρέπει
να περιέχει πάνω από 25 KG εκρηκτικά.

(I) Οι ύλες της I3^ο θα φυσιγιοποιούνται με
χάρτινα περιτυλίγματα. Φυσίγγια μη επιχρισμένα με κηρόν
παραφίνης ή κηροζίνη πρέπει αρχικά να γίνουν ρόλλοι με
χαρτί το οποίο έχει καταστεί αδιαπέραστο. Θα κατασκευά-
ζονται από χάρτινο περιτύλιγμα σε πακέτα ζυγίζοντα όχι
άνω των 2.5 KG το καθένα, και θα στερεώνονται με απο-
σβεστικό υλικό σε ξύλινα είδη συσκευασίας των οποίων το
κλείσιμο μπορεί να εξασφαλίζεται δια μεταλλικών ταινιών
ή συρμάτων στερεωμένων σφικτά πέριξ αυτών.

(2) Το κόνολον δεν πρέπει να ζυγίζει πάνω από
35 KG.

(I) Ύλες της I4^ο θα συσκευάζονται: 2II4

(α) ύλες της I4^ο(α): φυσιγιοποιημένες σε περιτυλίγματα
κατασκευασμένα από χαρτί το οποίο έχει καταστεί αδια-
πέραστο. Τα φυσίγγια θα πακετάρονται με χάρτινο περι-
τύλιγμα ή, εάν χωρίς χάρτινο περιτύλιγμα, θα στερεώ-
νονται με αδρανές αποσβεστικό υλικό σε ξύλινα είδη
συσκευασίας των οποίων το κλείσιμο μπορεί να εξασφα-
λίζεται δια μεταλλικών ταινιών ή συρμάτων δεμένων
(στερεωμένων) σφικτά γύρω τους.

(β) ύλες της I4^ο(β): φυσιγιοποιημένες σε περιτυλίγματα
κατασκευασμένα από χαρτί το οποίο έχει καταστεί α-
διαπέραστο. Τα φυσίγγια θα τοποθετούνται σε κυτίο

από ινώδη σανίδα. Τα κυτρία από ινώδη σανίδα, περι- 2II4
 τυλιγμένα με χαρτί το οποίο έχει καταστεί αδιαπέ- (Συνεχίζε-
 ραστο, θα στερεώνονται, "χωρίς να αφήνουν κενά δια- ται)
 στήματα, σε ξύλινα είδη συσκευασίας των οποίων το
 κλείσιμο μπορεί να εξασφαλιστεί με μεταλλικές ται-
 νίδες ή σύρματα δεμένα (στερεωμένα) σφικτά γύρω τους.

(γ) όλες της I4^o (γ):-

I.- φυσίγγιοποιημένες σε περιτυλίγματα κατασκευασμέ-
 να από κατάλληλη πλαστική ύλη ή χαρτί. Τα φυσίγγια
 μπορούν να εμβυθίζονται σε κηρό παραφίνης, κηρο-
 ζίνη ή ρητίνη ή να περιτυλίγονται με κατάλ-
 ληλη πλαστική ύλη, ώστε να προφυλάσσονται από
 την υγρασία. Ειρηκτικά περιέχοντα άνω του 66τας
 εκατόν υγρούς νιτρικούς εστέρες θα φυσίγγιοποιούν-
 ται με χαρτί επιχρισμένο με κηρόν παραφίνης ή κη-
 ροζίνη ή με αδιαπέραστη πλαστική ύλη όπως το πο-
 λυαιθυλένιον. Τα φυσίγγια θα τοποθετούνται σε ξύ-
 λινα είδη συσκευασίας.

2.- φυσίγγια μη επιχρισμένα με κηρό παραφίνης ή κη-
 ροζίνη, ή φυσίγγια σε αδιαπέραστα περιτυλίγματα,
 θα παρασκευάζονται σε πακέτα ζυγίζοντα όχι πάνω
 από 2.5 KG το καθένα. Τα πακέτα αυτά, των οποίων
 το περιτύλιγμα πρέπει να είναι τουλάχιστον από
 γερό χαρτί, θα εμβυθίζονται σε κηρό παραφίνης,
 κηροζίνη ή ρητίνη ή θα περιτυλίγονται με κατάλ-
 ληλη πλαστική ύλη, ώστε να προστατεύονται από την

υγρασία. Τα πακέτα θα τοποθετούνται σε ξύλινα 2II4
είδη συσκευασίας. (Συνεχίζεται)

- 3.- το κλείσιμο των ξυλίνων συσκευασιών μπορεί να εξασφαλίζεται δια μεταλλικών ταινιών ή συρμάτων δεμένων σφικτά γύρω τους.
- 4.- αντί των ξυλίνων συσκευασιών των περιγραφόμενων στις ανωτέρω παραγράφους I και 2, επιτρέπεται επίσης η χρησιμοποίηση καταλλήλων κιβωτίων, κατασκευασμένων από στερεά ινώδη σανίδα ή κυματοειδή ινώδη σανίδα που είναι επαρκούς μηχανικής αντοχής και των οποίων τα πτερύγια (κλαπέτα) των καλυμμάτων και πυθμένων θα πρέπει να κλείνονται με κολλητικές ταινίες επαρκούς αντοχής. Το σχέδιο των κιβωτίων των κατασκευασμένων από στερεά ινώδη σανίδα ή κυματοειδή ινώδη σανίδα πρέπει να εγκρίνεται από την αρμόδια αρχή της χώρας της αναχωρήσεως.

(2) Κόλον περιέχον ύλες της I4^ο (α) ή (β) δεν πρέπει να ζυγίζει πάνω από 35 KG. Κόλον περιέχον ύλες της I4^ο (γ) δεν πρέπει να ζυγίζει πάνω από 75 KG· δεν πρέπει να περιέχει εκρηκτικά πάνω από 50 KG. Στη περίπτωση συσκευασίας της παραγράφου I (γ) 4, το κόλον δεν πρέπει να ζυγίζει πάνω από 30 KG ούτε να περιέχει εκρηκτικά πάνω από 25 KG.

3.- Μικτή συσκευασία

Ύλες αναγραφόμενες κάτω από αριθμόν είδους του 2II5 περιθωρίου 2IOI δεν πρέπει να συμπεριλαμβάνονται στο αυτό κόλον είτε με ύλες ομαδοποιημένες κάτω από τον αυτόν ή

άλλον αριθμόν είδους του περιθωρίου αυτού, είτε με 2ΙΙ5
ύλες ή εμπορεύματα άλλων Κλάσεων, είτε με άλλα εμπο- (Συνεχίζε-
ρεύματα. ραι)

Σημειώσεις:- Κόλα αναφερόμενα στο περιθώριο 2Ι08(Ι)
(γ) μπορούν να περιέχουν οργανικάς αζωτούχους συν-
θέσεις έχουσας διαφορετικές συνθέσεις και ονομασίες.

4.- Ενδείξεις (μαρκάρισμα) και ετικέτες κινδύνου επί
των κόλων (βλέπε Προσθήκη Α.9)

Κόλα περιέχοντα πικρικό οξύ ($7^{\circ}(α)$) θα μαρ- 2ΙΙ6
κάρονται με την ονομασία της ύλης με σαφείς, ευαναγνώ-
στους και ανεξίτηλους ερυθρούς χαρακτήρες. Το μαρκάρισμα
αυτό θα είναι στην επίσημη γλώσσα της χώρας της αναχωρή-
σεως και επίσης, εάν η γλώσσα αυτή δεν είναι η Αγγλική, ή
η Γαλλική, ή η Γερμανική, στην Αγγλική, Γαλλική ή Γερμανι-
κή, εκτός εάν, τυχόν, δασμολόγια διεθνούς οδικής μετα-
φοράς, ή συμφωνίες συναφθείσες μεταξύ των ενδιαφερομένων
για την επιχείρηση της μεταφοράς κρατών, προβλέπουν άλλως.

(Ι) Κόλα περιέχοντα ύλες και είδη της Κλάσε- 2ΙΙ7
ως Ια θα φέρουν ετικέτα σύμφωνον προς το μοντέλο Νο.Ι.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μη ορα-
τά από έξω θα φέρουν ετικέτα σύμφωνον προς το μοντέλο Νο.9.
Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα οφείλουν
εποπροσθέτως, εκτός προκειμένου περί σφραγισμένων αμπου-
λών, να φέρουν ετικέτες συμφώνους προς το μοντέλο Νο.8.
Οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο αντίθετες
πλευρές των κιβωτίων ή κατά ισοδύναμον τρόπον οσάκις
χρησιμοποιούνται άλλα είδη συσκευασίας.

Β.- Λεπτομέρειες του εγγράφου της μεταφοράς

(1) Η περιγραφή των εμπορευμάτων στο έγγραφο μετα- 2119
φοράς πρέπει να είναι σύμφωνα προς μίαν των ονομασιών
των υπογραμμισμένων στο περιθώριο 2101. Όταν η ονομασία
της ύλης δεν καθορίζεται στη περίπτωση της 8^ο (ε) και (β),
θα πρέπει να χρησιμοποιείται η εμπορική ονομασία. Η περι-
γραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκκινο
και να ακολουθείται από λεπτομέρειες της Κλάσεως, του αριθ-
μού του είδους (ομού με, το τυχόν, γράμμα), και τα αρχικά
"ADR" ή "RID" (π.χ. Ια 3^ο (α) ADR)).

(2) Τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο
της μεταφοράς: "Η φύσις των εμπορευμάτων, και το είδος της
συσκευασίας, είναι σύμφωνα με τις διατάξεις της ADR".

(3) Για αποστολές οι οποίες, υπό περιθώριο II
400 του Παραρτήματος Β, πρόκειται να γίνουν δεκτές για
μεταφορά ως πλήρες φορτίο και μόνον, το έγγραφο της μετα-
φοράς θα εικονίζει επίσης το βάρος κάθε κώλου και τον α-
ριθμόν και την φύση των ειδών συσκευασίας.

2120 -
2125

Γ.- Κενά είδη συσκευασίας

(1) Τα είδη συσκευασίας της 15^ο πρέπει να είναι 2126
ασφαλώς κλεισμένα και στεγανά στον ίδιο βαθμό σαν να ήσαν
γεμάτα.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να
είναι: "Κενόν κώλον, Ια, 15^ο, ADR (ή) RID". Η περιγραφή
πρέπει να υπογραμμίζεται με κόκκινο.

2127-
2129

ΚΛΑΣΗ Ιβ.- ΕΙΔΗ ΓΕΜΙΣΜΕΝΑ ΜΕ ΕΚΡΗΚΤΙΚΕΣ ΥΛΕΣ

Ι.- Κατάλογος ειδών

(1) Μεταξύ των ειδών που καλύπτονται από τον τίτλο της Κλάσεως Ιβ, μόνον τα αναγραφόμενα στο περιθώριο 2Ι3Ι θα γίνονται δεκτά για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και του Παραρτήματος Β. Τα είδη αυτά τα οποία γίνονται δεκτά υπό ωρισμένους όρους θα θεωρούνται ως είδη της ΑDR. 2Ι30

(2) Εάν τα είδη τα αναγραφόμενα εις 7^ο, Ι0^ο ή ΙΙ^ο του περιθωρίου 2Ι3Ι συντίθενται από, ή είναι γεμισμένα με, εκρηκτικές ύλες που αναγράφονται στο περιθώριο 2Ι0Ι, οι ύλες αυτές πρέπει να πληρούν τους αφορώντας αυτούς όρους σταθερότητας και ασφαλείας τους αναγραφόμενους στη Προσθήκη Α.Ι.

Ι^ο Πυροσωλήνες, μη εμπυρευμένοι:-

2Ι3Ι

- (α) πυροσωλήνες ταχείας καύσεως (αναφλέξεως) (πυροσωλήνες αποτελούμενοι από χοντρό σωλήνα με πυρήνα (φυτίλλι) από μελανή πυρίτιδα, ή με φυτίλλι από νήματα εμποτισμένα με μελανή πυρίτιδα, ή με φυτίλλι από βαμβακό-νήματα εμπλουτισμένα με άζωτο)·
- (β) εκρηκτικοί πυροσωλήνες υπό μορφήν μικράς τομής μεταλλικών σωλήνων με λεπτά τοιχώματα και με πυρήνα γεμισμένον με εκρηκτικήν ύλην· βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3Ι08·
- (γ) ευκαμπτοί εκρηκτικοί πυροσωλήνες τυλιγμένοι σε ύφασμα ή πλαστική ύλη, μικράς τομής και με πυρήνα (φυτίλλι) γεμισμένον με εκρηκτικήν ύλην· βλέπε επί-

σης Προσθήκην Α.Ι, περιθώριο 3109)·

- (δ) εκρηκτικοί πυροσωλήνες ακαριαίας ενεργείας 2131
(μικράς-τομής υφασμένοι πυροσωλήνες με πυρή- (Συνεχίζεται)
να γεμισμένο με εκρηκτική ύλη πειό επικίν-
δυνη από τον πενθρίτη).

Για άλλους πυροσωλήνες, βλέπε Κλάσιν Ιγ, 3^ο (περιθώ-
ριο 2171).

Μη-εκρηκτικά εμπύρια (εμπύρια τα οποία δεν παράγουν
διαρρηκτικόν αποτέλεσμα είτε με τη βοήθεια πυροκροτη-
τών είτε με άλλα μέσα):

(α) κρουσιφλεγή καψύλλια·

(β) 1.- εμπυρευμένοι θάλαμοι φυσίγγων κεντρικής-
κρούσεως μη γεμισμένοι με προωθητική πυρίτιδα,
για πυροβόλα όπλα όλων των διαμετρημάτων·

2.- εμπυρευμένοι θάλαμοι φυσίγγων RIM-FIRE, μη
γεμισμένοι με προωθητική πυρίτιδα, για όπλα
FLOBERT και ατομικά όπλα ομοίων διαμετρημάτων·

(γ) φυτίλλια, ελικοειδή-εμπύρια και λοιπά όμοια εμπύ-
ρια περιέχοντα μικρό γέμισμα (μελανή πυρίτιδα ή άλλες
εκρηκτικές ύλες), που ενεργοποιούνται με τη τριβή,
κρούση ή τον ηλεκτρισμό·

(δ) πυροσωλήνες άνευ οποιδήποτε μηχανισμού, π.χ. πυρο-
κροτητού, δημιουργούντες διαρρηκτικόν αποτέλεσμα
και χωρίς μεταδοτικόν (τροφοδοτικόν) γέμισμα
(TRANSMISSION CHARGE).

3^ο Σιδηροδρομικά σήματα ομίχλης

4^ο Φυσίγια φορητών (ατομικών) όπλων (με εξαίρεση τα πε-

ριέχοντα εκρηκτικό γέμισμα (βλέπε II^ο):-

2131

(Συνεχίζεται)

- (α) φυσίγγια κηνυγίου
- (β) φυσίγγια FLOBERT
- (γ) τροχιοδεικτικά φυσίγγια
- (δ) εμπρηστικά φυσίγγια
- (ε) λοιπά φυσίγγια κεντρικής-κρούσεως.

Σημείωση:- Πλην των φυσιγγίων κηνυγίου με μολυβδένια σκάγια, μόνον τα φυσίγγια το διαμέτρημα των οποίων δεν υπερβαίνει τα 13.2 MM (χιλιοστά) θα θεωρούνται ως είδη της 4^ο.

5^ο Εκρηκτικοί πυροσωλήνες:-

- (α) πυροκροτητές μετά ή άνευ μηχανισμού βραδείας ενεργείας· βραδείας ενεργείας συνδετικά τεμάχια για εκρηκτικούς πυροσωλήνες
- (β) ηλεκτρικοί πυροκροτητές εφοδιασμένοι με πυροσωλήνες μετά ή άνευ μηχανισμών βραδείας ενεργείας·
- (γ) πυροκροτητές συνδεδεμένοι σταθερά με πυροσωλήνες μελανής πυρίτιδος
- (δ) πυροκροτητές με αναφλεκτικά εμπύρια (πυροκροτητές συνδυσασμένοι με μεταδοτικόν (τροφοδοτικόν) γέμισμα αποτελούμενον από πεπιεσμένον εκρηκτικόν)· βλέπε επίσης Προσθήκη Α.Ι, περιθώριο 3110
- (ε) πυροσωλήνες με πυροκροτητές (FUSED DETONATORS) μετά ή άνευ μεταδοτικού (τροφοδοτικού) γεμίσματος·
- (στ) πυροκροτητές με καψύλλιον κρούσεως ("BOUCHONS ALLUMEURS") μετά ή άνευ μηχανισμού βραδείας ενεργείας, μετά ή άνευ μηχανισμού πυροδοτήσεως, και άνευ μεταδοτικού (τροφοδοτικού) γεμίσματος.

6° Ηχοβολιστικά καψύλλια (πυροκροτητές, μετά ή άνευ εμπυρίων, περιεχόμενοι σε μεταλλικούς σωλήνες). 2131
(Συνεχίζεται)

7° Είδη με προωθητικό γέμισμα, πλην των αναγραφόμενων στη παράγραφο 8°· είδη με εκρηκτικό γέμισμα· είδη με προωθητικό και εκρηκτικό γέμισμα, υπό τον όρον ότι περιέχουν μόνον εκρηκτικές ύλες της Κλάσεως Ια, άπαντα χωρίς μηχανισμό παράγοντα διαρρηκτικό αποτέλεσμα (π.χ. πυροκροτητή). Το γέμισμα των ειδών αυτών μπορεί να περιλαμβάνει τροχιοδεικτική ύλη (βλέπε επίσης 8° και II°).

Σημειώσεις:- Μη-εκρηκτικά εμπύρια (2°) επιτρέπονται στα είδη αυτά.

8° Είδη γεμισμένα με τροχιοδεικτικές ύλες ή ύλες προοριζόμενες για σηματοδότηση, μετά ή άνευ προωθητικού γεμίματος, μετά ή άνευ απορριπτικού γεμίματος, και άνευ εκρηκτικού γεμίματος, εις τα οποία η προωθητική ή τροχιοδεικτική ύλη συμπίεζεται κατά τέτοιο τρόπο ώστε τα είδη να δύνανται να εκραγούν όταν αναφλεγούν.

9° Καπνογόνοι μηχανισμοί περιέχοντες χλωρικά (άλατα) ή μεταφέροντες εκρηκτικό γέμισμα ή εκρηκτικό αναφλεκτικό γέμισμα.

Για καπνογόνες ύλες για αγροτικούς και δασικούς σκοπούς, βλέπε Κλάση Ιγ, περιθώριο 2171 27°.

10° Διατρητικοί μηχανισμοί περιέχοντες γέμισμα από δυναμίτη ή από εκρηκτική ύλη όμοια με δυναμίτη, μετά πυροσωλήνων και άνευ οιασδήποτε μηχανισμού παράγοντος διαρρηκτικό αποτέλεσμα (π.χ. πυροκροτητή), μηχανισμοί κοίλου-γεμί-

σματος για βιομηχανικούς σκοπούς, περιέχοντες όχι άνω του I KG εκρηκτικής ύλης ασφαλισμένης εντός θήκης, καθ' άνευ πυροκροτητή.

2Ι3Ι
(Συνεχίζεται)

II^ο Είδη με εκρηκτικό γέμισμα, είδη με προωθητικό και εκρηκτικό γέμισμα, άπαντα εφοδιασμένα με μηχανισμό παράγοντα διαρρηκτικόν αποτέλεσμα (π.χ. πυροκροτητής), το σύνολο καλώς ασφαλισμένο. Το βάρος κάθε είδους δεν πρέπει να υπερβαίνει τα 25 KG.

2.- Διατάξεις

A.- Κόλα

I.- Γενικοί όροι συσκευασίας

2Ι32

(I) Τα είδη συσκευασίας θα είναι έτσι κλεισμένα και στεγανά ώστε να εμποδίζουν την απώλεια του περιεχομένου. Η χρήση μεταλλικών ταινιών ή συρμάτων δεμένων γύρω από τον κόλλο για να εξασφαλίζουν το κλείσιμόν των επιτρέπεται· η χρήση των είναι υποχρεωτική σε κιβώτια πού έχουν καλύμματα με μεντεσέδες εάν τα καλύμματα δεν είναι εφοδιασμένα με αποτελεσματικό μηχανισμό ώστε να αποφεύγεται οποιαδήποτε χαλάρωση του κλεισίματος.

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και τα κλεισίματά των κατασκευάζονται πρέπει να μη κινδυνεύουν να προσβληθούν από το περιεχόμενό τους ή να σχηματίζουν με αυτό επιβλαβείς ή επικίνδυνες ενώσεις.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι σταθερά στερεωμένα στα είδη συσκευασίας των, και τα εσωτερικά είδη συσκευασίας σταθερά στερεωμένα στα εξωτερικά είδη συσκευασίας.

Εντός εάν αλλιώς ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία εμπορευμάτων του αυτού είδους", τα εσωτερικά είδη συσκευασίας μπορούν να εγκλεισθούν στα εξωτερικά, είτε ένα-ένα είτε σε ομάδες.

2132
(Συνεχίζεται)

(4) Το αποσβεστικό υλικό θα ταιριάζει στη φύση του περιεχομένου.

2.- Συσκευασία εμπορευμάτων του αυτού είδους

Είδη της I^ο θα συσκευάζονται ως εξής:

2133

- (α) είδη της I^ο(α) και (β): σε ξύλινες συσκευασίες ή σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα. Το κέλυφος δεν πρέπει να ζυγίζει πάνω από 120 KG· εν τούτοις, βαρέλι από ινώδη σανίδα δεν πρέπει να ζυγίζει πάνω από 75 KG.
- (β) είδη της I^ο(γ): ρολλαρισμένα σε μήκη των 250 μ. σε καρούλια από ξύλο ή ινώδη σανίδα. Τα καρούλια θα τοποθετούνται σε ξύλινα κιβώτια κατά τέτοιο τρόπο ώστε να μη μπορούν να έρχονται σε επαφή είτε το ένα με το άλλο είτε με τις πλευρές των κιβωτίων. Το κιβώτιο δεν πρέπει να περιέχει πάνω από 1.000 μ. πυροσωλήνα·
- (γ) είδη της I^ο(δ): ρολλαρισμένα σε μήκη μέχρι 125 μ. σε καρούλια από ξύλο ή ινώδη σανίδα τα οποία θα συσκευάζονται σε ξύλινα κιβώτια, κλεισμένο με βίδες, και έχον πλευρές πάχους όχι λιγώτερο των 18 MM (χιλ.), κατά τέτοιο τρόπο ώστε τα καρούλια να μη μπορούν να έλθουν σε επαφή είτε το ένα με το άλλο είτε με τις πλευρές του κιβωτίου. Το κιβώτιο δεν πρέπει να πε-

ριέχει πάνω από 1.000 μ. εκρηκτικού πυροσωλήνος στιγ- 2133
μιαίας ενεργείας. (Συνεχί-
ται)

(I) Είδη της 2^ο θα συσκευάζονται ως εξής:-

- (α) είδη της 2^ο(α): καψύλλια με ακάλυπτο εκρηκτικό γέμι-
σμα, όχι πάνω από 500 ανά κυτίο ή μικρό κιβώτιο, και
καψύλλια με καλυπτομένη εκρηκτική γόμωση, όχι πάνω
από 5.000 ανά κυτίο ή μικρό κιβώτιο, σε μεταλλικά κυ-
τία από ινώδη σανίδα ή μικρά ξύλινα κιβώτια. Οι συ-
σκευασίες αυτές θα τοποθετούνται σε ξύλινο ή μεταλλι-
κό κιβώτιο συσκευασίας.
- (β) είδη της 2^ο(β)1: εμπυρευμένοι θάλαμοι φυσιγγίων κεν-
τρικής κρούσεως, μη γεμισμένοι με προωθητική πυρίτι-
δα, για πυροβόλα όπλα όλων των διαμετρημάτων, σε κιβώ-
τια από ξύλο ή ινώδη σανίδα ή σε υφασματένιους σάκκους.
- (γ) είδη της 2^ο(β)2: εμπυρευμένοι θάλαμοι φυσιγγίων RIM-
FIRE, μη γεμισμένοι με προωθητική πυρίτιδα, για όπλα
FLOBERT και πυροβόλα όπλα ομοίων διαμετρημάτων, όχι
πάνω από 5000 ανά κυτίο, σε κυτία κατασκευασμένα από
μεταλλικό έλασμα ή ινώδη σανίδα τα οποία θα τοποθετούν-
ται σε κιβώτιο συσκευασίας κατασκευασμένο από ξύλο ή
μεταλλικό έλασμα. Ως εκ τούτου, οι εμπυρευμένοι αυτοί
θάλαμοι φυσιγγίων RIM-FIRE μπορούν επίσης να συσκευά-
ζονται, όχι πάνω από 25.000 ανά σάκκο, σε σάκκο ο
ποίος θα ασφαρίζεται με κυματοειδή ινώδη σανίδα σε κι-
βώτιο συσκευασίας κατασκευασμένο από ξύλο ή σίδηρο.
- (δ) είδη της 2^ο(γ) και (δ): σε κυτία από ινώδη σανίδα,
ξύλο ή μεταλλικό έλασμα τα οποία θα τοποθετούνται σε

είδη συσκευασίας κατασκευασμένα από ξύλο ή μέταλλο. 2I34

(2) Κόλον περιέχον είδη της 2^ο(α), (γ) ή (δ) (Συσεχίζε-
δεν πρέπει να ζυγίζει πάνω από 100 KG. ται)

(I) Είδη της 3^ο θα συσκευάζονται σε κιβώτια κατα- 2I35
σκευασμένα από σανίδες πάχους όχι μικρότερου των 18 MM
(χιλ.), με γλωσσίδι και αυλάκια και συναρμολογούμενα
με ξύλινες βίδες. Τα σήματα ομίχλης θα ασφαρίζονται σε
κιβώτια με αποσβεστικό υλικό κατά τέτοιο τρόπο ώστε να
μη μπορούν να έρχονται σε επαφή είτε το ένα με το άλλο
είτε με τις πλευρές του κιβωτίου.

(2) Το κόνον δεν πρέπει να ζυγίζει πάνω από 50KG.

(I) Είδη της 4^ο(α), (β) και (ε) θα τοποθετούνται 2I36
σφικτά σε σταθερά κλεισμένα κυτία κατασκευασμένα από
έλασμα, ξύλο ή ινώδη σανίδα· τα κυτία αυτά θα τοποθε-
τούνται, χωρίς κενά διαστήματα, σε κιβώτια συσκευασίας
κατασκευασμένα από μέταλλο, ξύλο, σκληρή σανίδα, στερεά
ινώδη σανίδα ή κυματοειδή ινώδη σανίδα· η ινώδης σανίδα
πρέπει να έχει γίνει αδιαπέραστη δι'εμποτισμού και να
να είναι επαρκούς μηχανικής αντοχής.

Κιβώτια από ινώδη σανίδα θα κλείνονται με κολ-
λητικές ταινίες επαρκούς αντοχής. Το μοντέλο παραγωγής
κιβωτίων κατασκευαζομένων από στερεά ινώδη σανίδα ή κυ-
ματοειδή ινώδη σανίδα πρέπει να εγκριθεί από την αρμόδια
αρχή της χώρας της αναχωρήσεως.

(2) Είδη της 4^ο(γ) και (δ) θα τοποθετούνται, όχι
πνω των 400 ανά κυτίο, σε κυτία κατασκευασμένα από μεταλ-
λικό φύλλο (έλασμα), ξύλο ή ινώδη σανίδα· τα κυτία αυτά

θα συσκευάζονται ασφαλώς σε κιβώτια συσκευασίας κατασκευασμένα από μέταλλο ή ξύλο.

2136
(Συνεχίζεται)

(3) Το κδλον δεν πρέπει να ζυγίζει πάνω από 100 KG. ε ~~ο η ως~~, όπου χρησιμοποιούνται κιβώτια από Χάρντμπόρντ (HARDBOARD) ή ινοσανίδα, το κδλον το περιέχον είδη της 4(α), (β) ή (ε) δεν πρέπει να ζυγίζει πάνω από 40 KG.

(I) Είδη της 5^ο θα συσκευάζονται ως κάτωθι:- 2137

(α) είδη της 5^ο(α): όχι άνω των 100 ανά δοχείον προκειμένου περί πυροκροτητών και όχι άνω των 50 ανά δοχείον προκειμένου περί συνδετικών τεμαχίων, σε δοχεία, κατασκευασμένα από έλασμα ή αδιαπέραστη ινοσανίδα, όπου και θα προστατεύονται καλώς κατά της αναφλέξεως και θα ασφαρίζονται με αποσβεστικό υλικό. Δοχεία από έλασμα (φύλλο-μετάλλου) θα επενδύονται με εύκαμπτο υλικό. Τα καλύμματα θα ασφαρίζονται γύρω-γύρω με κολλητικές ταινίες. Τα δοχεία, όχι άνω των 5 ανά πακέτο ή κυτίο προκειμένου περί πυροκροτητών και όχι άνω των 10 ανά πακέτο ή κυτίο προκειμένου περί συνδετικών τεμαχίων, θα κλείνονται σε πακέτο ή τοποθετούνται σε κυτίο από ινοσανίδα. Τα πακέτα ή κυτία θα συσκευάζονται σε ξύλινο κιβώτιο κλεισμένο με βίδες και με πλευρές πάχους όχι μικροτέρου των 18 MM (χιλ.). ή σε είδος συσκευασίας από φύλλο-μετάλλου, του είδους τούτου συσκευασίας ή του κιβωτίου ασφαλιζόμενων με αποσβεστικό υλικό σε κιβώτιο συσκευασίας με πλευρές όχι μικροτέρου πάχους των 18 MM (χιλ.)

κατά τέτοιο τρόπο ώστε να υπάρχει διάστημα όχι μι- 2137
κρότερο των 3 CM γεμισμένο με αποσβεστικό υλικό (Συνεχίζε-
σε όλα τα σημεία μεταξύ του ξυλίνου κιβωτίου ή της ται)
συσκευασίας εκ φύλλου-μετάλλου και του κιβωτίου συ-
σκευασίας.

(β) είδη της 5^ο(β): όχι άνω των 100 ανά πακέτο, σε πακέτα
με εναλλάξ πυροκροτητές κείμενους προς τα αντίθετα
άκρα του πακέτου. Όχι περισσότερα των 10 τούτων θα
δένονται μαζί για να σχηματίζουν ένα συλλογικό πακέ-
το. Όχι περισσότερα των πέντε συλλογικών τούτων πα-
κέτων θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινο
κιβώτιο συσκευασίας με πλευρές πάχους όχι μικρότερου
των 18 MM (χιλ.), ή σε συσκευασία από φύλλο-μετάλλου
κατά τέτοιο τρόπο ώστε να περιέχεται ένα διάστημα
όχι μικρότερο των 3 CM γεμισμένο με αποσβεστικό υ-
λικό σε όλα τα σημεία μεταξύ των συλλογικών πακέτων
και του κιβωτίου συσκευασίας ή της συσκευασίας από
φύλλο-μετάλλου.

(γ) είδη της 5^ο(γ): πυροσωλήνες εφοδιασμένοι με πυροκρο-
τητήρες, ρολλαρισμένοι σε πηνία· όχι άνω των 10 πην-
ίων θα γίνονται ρολλό το οποίο θα τυλίγεται με χαρ-
τί. Όχι περισσότεροι των 10 ρόλλοι θα ασφαρίζονται
με αποσβεστικό υλικό σε μικρό ξύλινο κιβώτιο κλει-
σμένο με βίδες και με πλευρές ^{πάχους} / όχι μικρότερου των 18
MM (χιλ.) κατά τέτοιο τρόπο ώστε να υπάρχει διάστη-
μα όχι μικρότερο των 3 CM γεμισμένο με αποσβεστικό
υλικό σε όλα τα σημεία μεταξύ των μικρών κιβωτίων

και του κιβωτίου της συσκευασίας·

2137

(δ) είδη της 5^ο(δ):

(Συνεχίζεται)

- 1.- όχι άνω των 100 πυροκροτητών ανά κιβώτιο, σε ξύλινα κιβώτια με πλευρές πάχους όχι μικρότερου των 18 MM (χιλ.), κατά τέτοιο τρόπο ώστε οι πυροκροτητές να χωρίζονται μεταξύ τους όχι λιγώτερο από 1 CM καθώς και από τις πλευρές του κιβωτίου. Οι ~~απεναντίας~~ πλευρές θα είναι ματισμένες και ο πυθμ~~ένος~~ και το κάλυμμα θα ασφαλίζονται με βίδες. Εάν το κιβώτιο είναι επενδεδυμένο με φύλλο ψευδαργύρου ή φύλλο αλουμινίου, πλευρικό πάχος 16 MM (χιλ.) είναι επαρκές. Το κιβώτιο θα ασφαλίζεται με αποσβεστικό υλικό σε κιβώτιο συσκευασίας με πλευρές πάχους όχι μικρότερου των 18 MM (χιλ.) κατά τέτοιο τρόπο ώστε να υπάρχει ένα διάστημα όχι μικρότερο των 3 CM γεμισμένο με αποσβεστικό υλικό σε όλα τα σημεία μεταξύ αυτού και του κιβωτίου συσκευασίας· ή
- 2.- όχι άνω των 5 πυροκροτητών ανά κυτίον; σε κυτία από φύλλο-μετάλλου, των πυροκροτητών τοποθετημένων εις αυτά εντός ξυλίνων πλαισίων από λεπτές λωρίδες ξύλου ή εντός διατρήτων τεμαχίων ξύλου. Το κάλυμμα θα ασφαλίζεται γύρω-γύρω με κολλητικές ταινίες. Όχι περισσότερα των 20 κυτίων από φύλλο-μετάλλου θα τοποθετούνται σε κιβώτιο συσκευασίας με πλευρές πάχους όχι μικρότερου των 18 MM (χιλ.)·

(ε) είδη της 5^ο(ε): όχι άνω των 50 ανά κιβώτιο, σε ξύλινα

κιβώτια με πλευρές πάχους όχι μικρότερου των 18 MM 2137
(χιλ.). Τα είδη θα ασφαρίζονται εντός των κιβωτίων (Συνεχίζεται)
δρα ξυλίνου κατασκευάσματος κατά τέτοιο τρόπο ώστε
να χωρίζονται όχι λιγώτερο του 1 CM μεταξύ των και
από τις πλευρές του κιβωτίου. Οι πλευρές του κιβωτίου
θα είναι ματισμένες και ο πυθμ~~νης~~ και το κάλυμμα θα α-
σφαρίζονται με αποσβεστικό υλικό σε κιβώτιο συσκευα-
σίας με πλευρές πάχους όχι μικρότερου των 18 MM (χιλ.)
κατά τέτοιο τρόπο ώστε να υπάρχει ένα διάστημα όχι μι-
κρότερο των 3 CM (εκ.) γεμισμένο με αποσβεστικό υλικό
σε όλα τα σημεία μεταξύ των κιβωτίων και του κιβωτίου
συσκευασίας. Το διάστημα μπορεί να μειωθεί όχι λιγώτε-
ρο του 1 CM (εκ.) εάν γεμισθεί με πλάκες από πορώδη ξύ-
λινη ίνα. Εάν τα είδη συσκευασ~~θούν~~ επί μέρους (ατομικά)
και έχουν σταθερά στερεωθεί σε ερμητικώς κλείνοντα κυ-
τία κατασκευασμένα από φύλλο μετάλλου ή πλαστική ύλη,
μπορούν να τοποθετηθούν σε ξύλινο κιβώτιο συσκευασίας
με πλευρές πάχους όχι μικρότερου των 18 MM (χιλ.). Τα
είδη πρέπει να χωρίζονται μεταξύ των και να έχουν στα-
θερά ασφαλισθεί με πλάκες από ινώδη σανίδα ή ξύλινη ίνα.
(ατ) είδη της 5^ο (στ):

I.- όχι άνω των 50 ανά κιβώτιο, σε ξύλινα ή μεταλλικά
κιβώτια· στα κιβώτια αυτά κάθε εκρηκτικό τμήμα
του "BOUCHON ALLUMEUR" (πυροκροτητού με καψύλλιο
κρούσεως) θα έχουν έτσι τακτοποιηθεί σε ξύλινο με
εγκοπές υποστήριγμα ώστε η απόστασις μεταξύ των
χειτνιαζόντων πυροκροτητών και μεταξύ των εξω-

έξω πυροκροτητών "BOUCHONS ALLUMEURS" και της 2Ι37 πλευράς του κιβωτίου δεν είναι μικρότερη των 2 CM (εκ.)· κλείνοντας το κάλυμμα του κιβωτίου θα εξασφαλίζεται πλήρης ακινησία του συνόλου· όχι περισσότερα των 3 κιβωτίων θα τοποθετούνται, μη αφήνοντας κενά διαστήματα, σε ξύλινο κιβώτιο συσκευασίας με πλευρές πάχους όχι μικρότερου των 18 MM (χιλ.)· ή

- 2.- σε κυτία κατασκευασμένα από ξύλο ή μέταλλο· στα κυτία αυτά κάθε "BOUCHON ALLUMEUR" θα υποστηρίζεται από πλαίσιο κατά τρόπο ώστε η απόσταση μεταξύ δύο "BOUCHON ALLUMEURS" και μεταξύ ενός "BOUCHON ALLUMEUR" και της πλευράς του κυτίου να μην είναι μικρότερη των 2 CM (εκ.) και να εξασφαλίζεται η ακινησία του συνόλου· τα κυτία αυτά θα τοποθετούνται σε κιβώτιο συσκευασίας με πλευρές πάχους όχι μικρότερου των 18 MM (χιλ.) κατά τέτοιο τρόπο ώστε να υπάρχει διάστημα όχι μικρότερο των 3 CM (εκ.) γεμισμένο με απορροστικό υλικό σε όλα τα σημεία μεταξύ των κυτίων και μεταξύ των κυτίων και του κιβωτίου συσκευασίας· το κέλυφος δεν πρέπει να περιέχει περισσότερα από 150 "BOUCHON ALLUMEURS".

(2) Το κάλυμμα του κιβωτίου συσκευασίας θα κλείνει με βίδες ή μεντεσέδες και πτυσσόμενες ράβδους/μπάρες.

(3) Κάθε κέλυφος περιέχον είδη της 5^ο θα είναι εφοδιασμένο με κλείσιμο προστατευόμενο είτε από μολυβδένιες

είτε άλλες σφραγίδες επί δύο κεφαλών κοχλίου εις τα άκρα 2I37
του κυρίου άξονος του καλύμματος ή των πτυσσομένων ρά- (Συνεχίζε-
βδων, είτε από λωρίδα, φέρουσα το εμπορικό σήμα, κολλη-
μένη με γόμμα στο κάλυμμα και στις δύο αντίθετες πλευρές
του κιβωτίου.

(4) Το κδλον δεν πρέπει να ζυγίζει πάνω από 75KG·
κδλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με χει-
ρολαβές.

(I) Είδη της 6^ο θα ρολλαρισθούν χωριστά σε χαρτί 2I38
και θα τοποθετηθούν σε περιτυλίγματα κυματοειδούς ινοσανί-
δας. Θα συσκευασθούν όχι περισσότερα των 25 ανά κυτίο, σε
κυτία από ινοσανίδα ή φύλλο μετάλλου. Τα καλύμματα θα σαφά-
ρίζονται γύρω-γύρω με κολλητικές ταινίες. Όχι πάνω από
20 κυτία θα τοποθετούνται σε ξύλινο κιβώτιο συσκευασίας.

(2) Το κδλον δεν πρέπει να ζυγίζει πάνω από 50KG.
Κδλα ζυγίζοντα άνω των 30 KG θα είναι εφοδιασμένα με χειρο-
λαβές.

(I) Είδη της 7^ο θα συσκευάζονται σε ξύλινα κι- 2I39
βώτια κλεισμένα με βίδες ή μεντεσέδες και πτυσσομένες ρά-
βδους (μπάρες) και με πλευρές πάχους όχι μικρότερου των
16 MM (χιλ.), ή σε δοχεία κατασκευασμένα από μέταλλο ή
κατάλληλη πλαστική ύλη επαρκούς αντοχής. Τα καλύμματα και
οι πυθμένες των ξυλίνων κιβωτίων μπορούν επίσης να κατα-
σκευάζονται από πολύ πεπιεσμένη χαρτοσανίδα με πλευρές ι-
σης αντοχής. Είδη ζυγίζοντα άνω των 20 KG μπορούν επίσης
να προωθούνται σε σκελετοκιβώτια ή χωρίς συσκευασία.

(2) Το κδλον δεν πρέπει να ζυγίζει πάνω από

100 KG εάν περιέχει είδη καθέβα των οποίων το περιεχόμε- 2139
νον ζυγίζει πάνω από 30 KG θα είναι εφοδιασμένα με χει- (Συνεχίζε-
ρολαβές. ται)

(1) Είδη της 8^ο θα συσκευάζονται σε ξύλινα κιβώ- 2140
τια, σε βαρέλια από ινοσανίδα η οποία έχει καταστεί αδια-
πέραστη, ή σε δοχεία μεταλλικά ή από κατάλληλη πλαστική
ύλη επαρκούς αντοχής. Η κεφαλή αναφλέξεως θα προστατεύε-
ται κατά τέτοιο τρόπο ώστε να αποφεύγεται οποιαδήποτε δια-
σπορά του γεμίσματος από το είδος.

(2) Το κδλον δεν πρέπει να ζυγίζει πάνω από 100KG.
Όμως, όταν χρησιμοποιούνται βαρέλια από ινοσανί-
δα, το κδλον δεν θα ζυγίζει πάνω από 75 KG. Κιβώτια των
οποίων το περιεχόμενο ζυγίζει πάνω από 30 KG θα είναι
εφοδιασμένα με χειρολαβές.

Είδη της 9^ο θα κλείνονται σε ξύλινα είδη συ- 2141
σκευασίας. Το κδλον δεν πρέπει να ζυγίζει πάνω από 75KG.
Κδλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με
χειρολαβές.

Είδη της 10^ο θα συσκευάζονται σε ξύλινα κι- 2142
βώτια. Κδλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα
με χειρολαβές.

Είδη της 11^ο θα συσκευάζονται ως εξής: 2143

(α) είδη διαμέτρου μικρότερης των 13.2 MM (χιλ.): όχι
περισσότερα των 25 ανά κυτίο, συσκευασμένα σφικτά
σε κυτία από ινοσανίδα κλείνοντα σταθερά σε δοχεία
κατασκευασμένα από κατάλληλη πλαστική ύλη επαρκούς
αντοχής. τα κυτία αυτά ή δοχεία θα τοποθετούνται,

χωρίς άδεια διαστήματα, σε ξύλινο κιβώτιο, με πλευ- 2143
ρές πάχους όχι μικρότερου των 18 MM (χιλ.), το ο- (Συνεχίζεται)
ποίο μπορεί να έχει επενδυθεί με πλάκες-κασσώτε-
ρου, φύλλο ψευδαργύρου ή φύλλο αλουμινίου, ή με κα-
τάλληλη πλαστική ύλη-έπαρκούς αντοχής.

Το κόλον δεν πρέπει να ζυγίζει πάνω από
60KG. Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμέ-
να με χειρολαβές.

(β) είδη διαμέτρου από 13.2 MM (χιλ.) μέχρι 57 MM (χιλ.):

I.- χωριστά

σε σωλήνα κατασκευασμένον από ινοσανίδα ή από
κατάλληλη πλαστική ύλη, γερδόν, εφαρμοστόν, κλει-
νοντα γερά και στα δύο άκρα· ή
σε σωλήνα κατασκευασμένον από ινοσανίδα ή κατάλ-
ληλη πλαστική ύλη, γερδόν, εφαρμοστόν, κλεισμένον
στο ένα άκρο και ανοικτόν στο άλλο· ή
σε σωλήνα κατασκευασμένον από ινοσανίδα ή κατάλ-
ληλη πλαστική ύλη, ανοικτόν, και στα δύο άκρα
αλλά με εσωτερική προεξοχή ή άλλον κατάλληλον
εσωτερικόν μηχανισμόν ώστε να αποδεύγεται η μετα-
κίνηση του είδους.

Συσκευασμένα κατά τον τρόπο αυτόν, όχι πε-
ρισσότερα από:-

300 είδη διαμέτρου όχι μικρότερης των 13.2 MM (χιλ.)
και όχι μεγαλύτερης των 21 MM (χιλ.)· ή
60 είδη διαμέτρου άνω των 21 MM (χιλ.), αλλά όχι
άνω των 37 MM (χιλ.)· ή

25 είδη διαμέτρου μεγαλύτερης των 37 MM (χιλ.) 2I43
αλλά όχι μεγαλύτερης των 57 MM (χιλ.) θα το- (Συνεχίζεται)
ποθετούνται σε στρώματα σε ξύλινο κιβώτιο με
πλευρές πάχους όχι μικρότερου των 18 MM (χιλ.),
το δε ξύλινο κιβώτιο θα είναι επενδεδυμένο
με πλάκα κασσιτέρου, φύλλο ψευδαργύρου, ή
φύλλο αλουμινίου.

Προκειμένου περί ειδών συσκευασμένων σε σωλήνες
ανοικτές και στα δύο άκρα ή στο ένα, το κιβώτιο της συ-
σκευασίας θα είναι επενδεδυμένο στη πλευρά ή στις πλευ-
ρές που γειτνιάζουν με τα ανοικτά άκρα των σωλήνων με
φύλλα πιλήματος πάχους όχι μικρότερου των 7 MM (χιλ.)
ή με φύλλο του αυτού πάχους διπλής όψεως κυματοειδούς
ινοσανίδος ή ομοίου υλικού.

Το κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG.
Κόλα ζυγίζοντά πάνω από 30 KG θα είναι εφοδιασμένα
με χειρολαβές.

- 2.- είδη διαμέτρου 20 MM (χιλ.) μπορούν επίσης να συσκευά-
ζονται, όχι περισσότερα των 10 ανά κυτίον, σε γερά κυ-
τία από ινοσανίδα επενδεδυμένα με κηρόν παραφίνης και
εφοδιασμένα με κυψελοειδές κάτω παρέμβλημα και με χω-
ρίσματα από ινοσανίδα επιχρισμένη με κηρόν παραφίνης.
Τα κυτία θα κλείνονται με κομμωμένη δικλείδα (κλαπέτο).
Όχι περισσότερα των 30 κυτίων θα συσκευάζονται σφικτά
σε ξύλινο κιβώτιο με πλευρές πάχους όχι μικρότερου των
18 MM (χιλ.), το δε ξύλινο κιβώτιο θα είναι επενδεδυμέ-
νο με φύλλο ψευδαργύρου, πλάκα κασσιτέρου ή φύλλο α-
λουμινίου.

Το κόλον δεν πρέπει να ζυγίζει πάνω από 100KG. 2143
Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με (Συνεχίζεται)
χειρολαβές.

- 3.- είδη διαμέτρου όχι μεγαλύτερης των 30 MM (χιλ.) μπορούν, σε αριθμό μη υπερβαίνοντα τον αναφερόμενον υπό στοιχείον I., ανωτέρω, να τοποθετούνται επίσης σε ταινίες και συσκευάζονται σε γερό χαλύβδινο δοχείο. Το δοχείο αυτό μπορεί να είναι κυλινδρικό.

Τα είδη αυτά τοποθετημένα σε ταινίες θα περιβάλλονται από κατάλληλο μηχανισμό ώστε να αποτελούν συμπαγή μονάδα και να αποφεύγεται η απόσπαση του καθενός των ειδών. Μία ή περισσότερες μονάδες θα στερεώνονται στο δοχείο κατά τέτοιο τρόπο ώστε να μη μετατοπίζονται.

Τα άκρα των ειδών των τοποθετημένων σε ταινίες θα ακουμπούν πάνω σε αντικραδατικά μη μεταλλικά υποστηρίγματα.

Το κάλυμμα του δοχείου πρέπει να κλείνει κατά τρόπον στεγανόν και να ασφαρίζεται με μηχανισμό ασφαλίσεως δυνάμενον να σφραγισθεί ώστε τα είδη να μη μπορούν να πέσουν.

Το κόλον δεν πρέπει να ζυγίζει πάνω από 100KG. Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές. Υποδοχείς ικανοί να ρολλαρισθούν θα έχουν τα καπάκια τους εφοδιασμένα με γερή χειρολαβή ώστε να μπορούν να μεταφερθούν.

- 4.- είδη διαμέτρου όχι μικρότερης των 30 MM (χιλ.) και όχι μεγαλύτερης των 57 MM (χιλ.) μπορούν επίσης να συσκευά-

ζονται χωριστά σε γερό, εφαρμοστό, ερμητικά-κλει- 2143
 σμένο κυλινδρικό κυτίο κατασκευασμένο από ινώδη (Συνεχίζεται)
 σανίδα, ίνα ή κατάλληλη πλαστική ύλη. Όχι περισ-
 σότερα των 40 των κυτίων αυτών θα τοποθετούνται σε
 στρώματα σε ξύλινο κιβώτιο με πλευρές πάχους όχι
 μικρότερου των 18 MM (χιλ.)

Το κόλον δεν πρέπει να ζυγίζει πάνω από 100KG.
 Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα
 με χειρολαβές.

- (γ) λοιπά είδη της II^ο: σύμφωνα με τις διατάξεις του περι-
 θωρίου 2139(I). Το κόλον δεν πρέπει να ζυγίζει πάνω
 από 100 KG. Κόλα ζυγίζοντα πάνω από 30 KG πρέπει να εί-
 ναι εφοδιασμένα με χειρολαβές.

Σημείωση:— Προκειμένου περί ειδών περιεχόντων
 τόσον προωθητικόν όσον και εκρηκτικόν γέμισμα,
 η διάμετρος εις την οποίαν αναφερόμεθα είναι
 εκείνη του κυλινδρικού τμήματος του περιέχοντος
 το εκρηκτικό γέμισμα.

3.- Μικτή συσκευασία

(I) Είδη αναφερόμενα υπό αριθμόν είδους του περι- 2144
 θωρίου 2131 μπορούν να μη συμπεριλαμβάνονται στο αυτό κό-
 λον είτε με είδη-διαφόρου είδους αλλά του αυτού αριθμού
 είδους, είτε με είδη άλλου αριθμού είδους του ανωτέρω περι-
 θωρίου, είτε με ύλες ή είδη ανήκοντα σε άλλες Κλάσεις, είτε
 με άλλα εμπορεύματα.

(2) Τά παρακάτω, όμως, είδη μπορούν να συμπεριλαμ-
 βάνονται στο αυτό κόλον:—

(α) είδη της I^0 , μεταξύ των.

2I44

Όταν είδη της I^0 (α) και (β) συμπεριληφθούν (Συνεχίζεται)
στο αυτό κώλον, θα συσκευάζονται σύμφωνα με το περι-
θώριο 2I33(α).

Όταν είδη της I^0 (γ) συμπεριληφθούν στο αυτό κώλον με είδη της I^0 (α) ή (β) ή αμφότερα, τα είδη της I^0 (γ) θα συσκευάζονται σύμφωνα με τις διατάξεις τις ισχύουσες γι' αυτά και η εξωτερική συσκευασία θα είναι η προβλεπομένη για είδη της I^0 (α) ή (β). Το κώλον δεν πρέπει να ζυγίζει πάνω από 120 KG.

(β) είδη της 2^0 (α) με εκείνα της 2^0 (β), υπό τον όρον ότι αμφότερα περιέχονται σε εσωτερικά είδη συσκευασίας αποτελούμενα εκ κυτίων τοποθετημένων σε ξύλινα κιβώτια. Το κώλον δεν πρέπει να ζυγίζει πάρα πάνω από 100 KG.

(γ) είδη της 4^0 , μεταξύ των, λαμβανομένων υπόψει των διατάξεων για εσωτερικά είδη συσκευασίας, εντός ξυλίνου εσωτερικής συσκευασίας. Το κώλον δεν πρέπει να ζυγίζει πάνω από 100 KG.

(δ) είδη της 7^0 με εκείνα της 5^0 (α), (δ), (ε) και (στ), υπό τον όρον ότι η συσκευασία των τελευταίων τούτων εμποδίζει την μετάδοσιν πιθανής εκφυρσοκροτήσεως στα είδη της 7^0 . Σε ένα κώλον, ο αριθμός των ειδών 5^0 (α), (δ), (ε) και (στ) πρέπει να είναι ο αυτός με εκείνον των ειδών 7^0 . Το κώλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG.

4.- Μαρκάρισμα και ετικέτες κινδύνου πάνω στα κώλα
(βλέπε Προσθήκη Α.9)

Κόδα περιέχοντα είδη της Κλάσεως Ιβ θα φέ- 2Ι45
ρουν ετικέτα σύμφωνον με το μοντέλο Νο.Ι. Όμως...
κόδα περιέχοντα είδη της Ι^ο(δ), 5^ο και 6^α θα φέρουν
δύο ετικέτες σύμφωνες προς το μοντέλο Νο.Ι.

2Ι46

Β.- Λεπτομέρειες (στοιχεία) του εγγράφου της μεταφοράς

(Ι) Η περιγραφή των εμπορευμάτων στο έγγραφο μετα- 2Ι47
φοράς πρέπει να συμφωνεί με μίαν των ονομασιών των υπο-
γραμμισμένων στο περιθώριο 2Ι3Ι· πρέπει να έχει κόκκινη
υπογράμμιση και να ακολουθείται από λεπτομέρειες (στοι-
χεία) της Κλάσεως, τον αριθμό του είδους, μαζί με το,
τυχόν, γράμμα, και τα αρχικά "ADR" ή "RID" (π.χ., Ιβ 2^ο(α),
ADR).

(2) Τα παρακάτω πρέπει να βεβαιώνονται στο έγ-
γραφο της μεταφοράς:-

"Η φύση των εμπορευμάτων, και το είδος συσκευασίας
συμφωνούν με τις διατάξεις της ADR".

2Ι48-

2Ι62

Γ.- Κενά είδη συσκευασίας

Καμμία διάταξη·.

2Ι63

2Ι64-

2Ι69

ΚΛΑΣΗ Ιγ.- ΑΝΑΦΛΕΚΤΗΡΕΣ, ΠΥΡΟΤΕΧΝΗΜΑΤΑ

ΚΑΙ ΠΑΡΟΜΟΙΑ ΕΜΠΟΡΕΥΜΑΤΑ

Ι.- Κατάλογος εμπορευμάτων

(Ι) Μεταξύ των υλών και των ειδών των καλυπτομέ- 2Ι70
νων υπό τον τίτλον της Κλάσεως Ιγ, μόνον τα αναγραφόμενα
στο περιθώριο 2Ι7Ι θα γίνονται δεκτά για μεταφορά, και
τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος
Παραρτήματος και του Παραρτήματος Β. Αυτές οι ύλες και
είδη που πρόκειται να γίνουν δεκτά για μεταφορά υπό ωρι-
σμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

(2) Τα είδη που πρόκειται να γίνουν δεκτά πρέπει
να πληρούν τους παρακάτω όρους:-

- (α) Το εκρηκτικό γέμισμα θα συγκροτείται, τακτοποιείται
και δεανέμεται κατά τοιούτον τρόπον ώστε ούτε η τρι-
βή, το κούνημα ή κρούση, ακόμη και η ανάφλεξη των συ-
σκευασμένων ειδών να μπορούν να οδηγήσουν σε μία έκ-
ρηξη του όλου περιεχομένου του κδλου.
- (β) λευκός ή κίτρινος φωσφόρος μπορεί να μη χρησιμοποιεί-
ται εκτός με είδη της 2^ο και 20^ο.
- (γ) η εκρηκτική σύνθεση των πυροτεχνημάτων (2Ι^ο-24^ο),
μαγνησίου (26^ο) και οι καπνογόνες συνθέσεις των πα-
ρασιτοκτόνων (27^ο), δεν πρέπει να περιέχουν χλωρικά
άλατα.
- (δ) το εκρηκτικό γέμισμα πρέπει να πληροί τους όρους στα-
θερότητας της Προσθήκης Α.Ι, περιθώριο 3ΙΙΙ.

Α.- Αναφλεκτήρες:

2Ι7Ι

- Ι^ο (α) Πυρεία ασφαλείας (με βάσιθ χλωρικού καλίου και
θείου.

(β) πυρεία με βάσιν χλωρικού καλίου και υποθειούχου φωσφόρου (σεσικισουλφίδιο του φωσφόρου), ως και αναφλεκτήρες τριβής. 2171

2° Ταινίες εμπυρίων για φανούς ασφαλείας και ταινίες εμποτισμένων σε κηρό παραφίνης εμπυρίων για φανούς ασφαλείας. 1.000 εμπύρια δεν πρέπει να περιέχουν εκρηκτικό πάνω από 7.5 γραμμάρια.

Για ταινίες καψυλλίων, βλέπε 15°.

3° Πυροσωλήνες βραδείας-καύσεως (πυροσωλήνες αποτελούμενοι από λεπτό αδιαπέραστο σωλήνα με στενό τμήμα πυρήνος μελανής πυρίτιδος).

Για άλλους πυροσωλήνες, βλέπε Κλάσιν Ιβ, 1° (περιθώριο 2131).

4° Νήμα πυροκυλίνης (PYROXIN THREAD) (βαμβακόνημα εμπλουτισμένο με άζωτο). Βλέπε επίσης Προσθήκη Α:Ι, περιθώριο 3101.

5° Σωληνωτοί αναφλεκτήρες ("LANCES D'ALLUMAGE") (σωλήνες από ινοσανίδα, περιέχοντες μικρή ποσότητα συνθέσεως πυροσωλήνος εξ οξυγονοποιημένων υλών και οργανικών υλών και, πιθανόν, εξ αρωματικών συνθέσεων εμπλουτισμένων με άζωτο) και καψύλλια θερμότη με δισκία αναφλεκτήρων.

6° Αναφλεκτήρες ασφαλείας για πυροσωλήνες (φυσίγγια από χαρτί περιέχοντα εμπύριον διαπερασμένο με νήμα (φυσίλλι) προοριζόμενο να προκαλέσει τριβήν, ή σκάονγ, ή παρόμοιους μηχανισμούς).

7° (α) Ηλεκτρικά εμπύρια χωρίς πυροκροτητή.

(β) δισκία για ηλεκτρικά εμπύρια.

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(Συνεχίζεται)

8^ο Ηλεκτρικοί αναφλεκτῆρες (π.χ. αναφλεκτῆρες προοριζόμενοι για ανάφλεξη φωτογραφικού μαγνησίου). Το γέμισμα του καθενός τούτων δεν πρέπει να υπερβαίνει τα 30 KG ούτε να περιέχει πάνω από 106τ^α εκατόν βροντώδη υδράργυρο.

Σημείωση:- Συσκευές τύπου ηλεκτρικού λαμπτήρος παράγουν ξαφνικό φως και περιέχουσιν γέμισμα αναφλέξεως όμοιο με εκείνο των ηλεκτρικών αναφλεκτῆρων δεν υπόκεινται στις διατάξεις της ADR.

B.- Πυροτεχνικά είδη και παιγνίδια:- καψύλλια και (ταινίες) καψυλλίων: εκρηκτικά είδη.

9^ο Πυροτεχνικά είδη εσωτερικού (π.χ. Κύλινδροι BOSCO, βόμβες κονφετί, κοτιγιδόν). Είδη με βάσιν εμπλουτισμένο με άζωτο βάμβακα (κολλοδιοβάμβακας) δεν πρέπει να περιέχουν περισσότερο από 1 γραμμάριο ανά είδος.

10^ο Εκρηγνυόμενα κουφέτα (μπομπόνια), λουλουδο-κροτίδες, ταινίες εμπλουτισμένες με αζωτούχο χαρτί (κολλοδιοχαρτο).

11^ο (α) Εκρηγνυόμενα μπιζέλια, εκρηγνυόμενες βομβίδες και λοιπά όμοια πυροτεχνικά παιγνίδια περιέχοντα βροντώδη άργυρο.

(β) εκρηγνυόμενα πυρεία (σπίρτα).

(γ) εξαρτήματα με βροντώση άργυρο.

προστίθεται ότι:- στα ανωτέρω (α), (β) και (γ):-

1.000 είδη δεν πρέπει να περιέχουν πάνω από 2.5 γραμμάρια βροντώδη άργύρο.

- Ι2° Ειρηνητικά χαλίκια, το καθένα μεταφέρον, εξωτερικά, 2Ι7Ι
γέμισμα ειρηνητικής ύλης πλην κροτικού άλατος όχι (Συνεχίζεται)
πάνω από 3 γραμμάρια.
- Ι3° Πυροτεχνικά πυρεία (π.χ. Βεγγαλικά πυρεία, πυρεία
χρυσής βροχής, ή πυρεία CASCADE-OF-FLOWERS).
- Ι4° Μαγικά κεριά χωρίς κεφαλές αναφλέξεως.
- Ι5° Καψύλλια για παιδικά παιχνίδια, ταινίες καψυλλίων
και ελατήρια καψυλλίων.
Ι.000 καψύλλια δεν πρέπει να περιέχουν πάνω από 7.5
γραμμάρια ειρηνητικής ύλης ελευθέρως από κροτικό άλας.
Για ταινίες καψυλλίων για φανούς ασφαλείας,
βλέπε 2°.
- Ι6° Ειρηνητικοί φελλοί με ειρηνητικό γέμισμα έχουν βάση
φωσφόρου και χλωρικού άλατος ή με γέμισμα κροτικού
άλατος ή ομοίας συνθέσεως πεπιεσμένο σε φυσίγγια
κάρντ-μπόρντ. Ι.000 φελλοί δεν πρέπει να περιέχουν
περισσότερο από 60 γραμμάρια ειρηνητικής ύλης εκ χλω-
ρικού άλατος ούτε περισσότερο από Ι0 γραμμάρια κρο-
τικού άλατος συνθέσεως με βάση κροτικού άλατος.
- Ι7° Στρόγγυλα βαρελότα με ειρηνητικό γέμισμα έχουν βάση
φωσφόρου και χλωρικού άλατος. Ι.000 βαρελότα δεν πρέ-
πει να περιέχουν πάνω από 45 γραμμάρια ειρηνητικής ύ-
λης.
- Ι8° Καψύλλια από κάρντ-μπόρντ (πυρομαχικά παιχνιδιών) με
ειρηνητικό γέμισμα έχουν βάση φωσφόρου και χλωρικού ά-
λατος ή με γέμισμα κροτικού άλατος ή ομοίας συνθέσεως.
Ι.000 καψύλλια δεν πρέπει να περιέχουν πάνω από 25
γραμμάρια ειρηνητικής ύλης.

19° Καψύλλια από κάρντ-μπόρντ εκρηγνυόμενα κάτω από το πόδι, με προστατευμένο γέμισμα έχον βάση φωσφόρου και χλωρικού αλατος. 1.000 καψύλλια δεν πρέπει να περιέχουν περισσότερα από 30 γραμμάρια εκρηκτικής ύλης.

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(Συνεχίζεται)

20° (α) Εκρηκτικά φύλλα (DETONATING SHEETS).
(β) MARTINIKAS (έτσι καλούνται τα Ισπανικά πυροτεχνήματα).

Αμφότερα περιλαμβάνουν ένα μίγμα από λευκό (κίτρινο) και ερυθρό φωσφόρο με χλωρικό κάλιο και όχι λιγώτερο του 50% εκατόν αδρανών υλών που δεν συμμετέχουν στην αποσύνθεση του μίγματος φωσφόρου και χλωρικού αλατος. Ένα φύλλο δεν πρέπει να ζυγίζει πάνω από 2,5 γραμμάρια και ένα MARTINIKΑ πάνω από 0,1 γραμμάρια.

Γ.- Πυροτεχνήματα

21° Πύραυλοι (ρουκέτες) ANTI-HAIL χωρίς πυροκροτητή, βόμβες και εσχάρες (όλμοι) (FIREPOTS).

Το γέμισμα, συμπεριλαμβανομένου του προωθητικού γεμίσματος, δεν πρέπει να ζυγίζει πάνω από 14 KG ανά είδος, ή βόμβα ή ο όλμος (FIREPOT) όχι πάνω από 18 KG συνολικά.

22° Εμπρηστικές βόμβες, ρουκέτες, Ρωμαϊκά κεριά, πηγές (πίδακες), τροχοί και παρόμοια πυροτεχνήματα, με γέμισμα μη ζυγίζον πάνω από 1.200 γραμμάρια ανά είδος.

23° CANNON SHOTS (Βλήματα Πυροβόλου), ζυγίζον το καθένα όχι πάνω από 600 γραμμάρια κοκκώδους μελανής πυρίτιδας ή 220 γραμμάρια εκρηκτικής ύλης όχι περισσότερον επιπλέον

δύνως της πυρίτιδας αλουμινίου με υπερχλωριόν κάλιο, 2Ι7Ι RIFLE SHOTS (Βλήματα Τυφελλού) (κροτινά) το καθένα πε- (Συνεχίζεται)
ριέχον όχι πάνω από 20 γραμμ. κοκινώδη πυρίτιδα, άπαντα
εφοδιασμένα με πυροσωλήνες με καλυμμένα άκρα και παρό-
μοια είδη παράγοντα δυνατή εκπυρσοκρότηση (κρότο).

Για σιδηροδρομικά σήματα ομίχλης, βλέπε Κλάση
Ιβ, 3^ο (περιθώριο 2Ι3Ι).

24^ο Μικρά πυροτεχνήματα (π.χ. στρακαστρούκες, οφείδια, χρυσή
βροχή, αργυρή βροχή, εάν περιέχουν όχι πάρα πάνω από
Ι.000 γραμμάρια κοκινώδη μελανή πυρίτιδα ανά Ι44 είδη·
υφαίστεια και κομήτες χειρός, εάν περιέχουν όχι πάρα
πάνω από 30 γραμμάρια κοκινώδους μελανής πυρίτιδος το κα-
θένα).

25^ο Βεγγαλικά χωρίς κεφαλές αναφλέξεως (π.χ. Βεγγαλικές δάδες,
φώτα, φλόγες).

26^ο MAGNESIUM FLASH-POWDERS (Μαγνήσιο για φλάς φωτογραφικών
μηχανών), όχι πάρα πάνω από 5 γραμμάρια ανά σακκούλα ή
σωλήνα, σε χάρτινες σακκούλες ή μικρούς γυάλινους σω-
λήνες.

Δ.- Παρασιτοκτόνα (ύλες και είδη):-

27^ο Καπνογόνες ύλες για γεωργικούς και δασικούς σκοπούς,
και καπνογόνα φυσίφγια προς χρήσιν ως παρασιτοκτόνα.

Για καπνογόνους μηχανισμούς περιέχοντας χλωρικά
άλατα ή μεταφέροντα εκρηκτικό γέμισμα ή εκρηκτικό ανα-
φλεκτικό γέμισμα, βλέπε Κλάσιν Ιβ, 9^ο (περιθώριο 2Ι3Ι).

2.- ΔιατάξειςΑ.- ΚόλαΙ.- Γενικοί όροι συσκευασίας

(1) Τα είδη συσκευασίας θα είναι έτσι κλεισμένα 2I72 και στεγανά ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου.

(2) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη τους ώστε να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους κανονικούς όρους μεταφοράς. Τα είδη θα πρέπει να ασφαλίζονται σταθερά, και οι εσωτερικές συσκευασίες σταθερά ασφαλισμένες στις εξωτερικές συσκευασίες. Εκτός εάν άλλως ειδικώς ορίζεται στο άρθρο υπό τον τρίτον "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους", τα εσωτερικά είδη συσκευασίας μπορούν να εσωκλείονται σε εξωτερικά είδη συσκευασίας, είτε ένα-ένα είτε ομαδικά.

(3) Το αποσβεστικό υλικό θα ταιριάζει με τη φύση του περιεχομένου.

2.- Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους

(I) Είδη της I^ο(α) θα συσκευάζονται σε κυτία ή 2I73 βιβλία. Τα κυτία αυτά ή βιβλία θα τυλίγονται με χοντρό χαρτί ώστε να αποτελούν ένα συλλογικό κόλον, όλες οι πτυχές του οποίου θα κολλούνται. Τα βιβλία μπορούν επίσης να τοποθετούνται σε κυτία κατασκευασμένα από ινώδη σανίδα ή από υλικό όχι ευχερώς εύφλεκτο (π.χ. ακετυλοκυτταρίνη).

Τα από ινώδη σανίδα κυτία ή τα συλλογικά κόλα θα τοπο- 2173
θετούνται σε γερό κιβώτιο κατασκευασμένο από ξύλο, μέ- (Συνεχίζεται)
ταλλο, σανίδα πεπιεσμένου ξύλου, γερή στερεά ινώδη σανίδα
ή διπλής όψεως κυματοειδούς ινώδους σανίδας.

Όλες οι ενώσεις των μεταλλικών κιβωτίων θα κλεί-
νονται με μαλακή κόλληση ή με διπλή-ραφή.

Τα κιβώτια από ινώδη σανίδα θα κλείνονται με
ενωμένα πτερύγια (κλαπέτα). Τα άκρα των εξωτερικών πτερυ-
γίων, και όλες οι ενώσεις, είτε θα κολλούνται είτε θα
κλείνουν σταθερά δι' άλλου καταλλήλου μέσου.

Εάν τα από ινώδη σανίδα κυτία ή τα συλλογικά
πακέτα συσκευάζονται σε κιβώτια από ινώδη σανίδα, το βά-
ρος του κόλου δεν θα υπερβαίνει τα 20 KG.

(2) Είδη της I⁰(β) θα είναι έτσι συσκευασμένα σε
κυτία ώστε να αποφεύγεται κάθε μετακινήσεις. Όχι περισ-
σότερα από I2 από αυτά τα κυτία θα εγκλείονται σε πακέτο,
όλες οι πτυχές του οποίου θα κολλούνται.

Όχι περισσότερα από I2 από αυτά τα πακέτα θα
τυλίγονται με γερό χαρτί ώστε να αποτελούν ένα συλλογικό
πακέτο, όλες οι πτυχές του οποίου θα κολλούνται. Τα συλ-
λογικά πακέτα θα τοποθετούνται σε γερό κιβώτιο κατα-
σκευασμένο από ξύλο, μέταλλο, χάρντ-μπόρντ πεπιεσμένου
ξύλου, γερή στερεά ινώδη σανίδα ή διπλής όψεως κυματοει-
δή ινώδη σανίδα.

Όλες οι ενώσεις των μεταλλικών κιβωτίων θα
ασφαλίζονται με μαλακή συγκόλληση ή διπλή ραφή.

Κιβώτια από ινώδη σανίδα θα κλείνονται με
ενωμένα πτερύγια (κλαπέτα). Τα άκρα των εξωτερικών πτε-

ρυγίων, και όλες οι ενώσεις, πρέπει είτε να κολλούνται 2Ι73
είτε να κλείνονται σταθερά δι' άλλου καταλλήλου μέσου. (Συνεχίζεται)

Εάν τα συλλογικά πακέτα συσκευάζονται σε
κιβώτια από ινώδη σανίδα, το βάρος του κόλου δεν πρέπει να υπερβαίνει τα 20 KG.

(Ι) Είδη της 2^ο θα συσκευάζονται σε κυτία κατα- 2Ι74
σκευασμένα από φύλλο μετάλλου ή ινώδη σανίδα. Όχι περισσότερα από 30 κιβώτια από φύλλο μετάλλου ή 144 κιβώτια από ινώδη σανίδα θα κλείνονται σε ένα πακέτο το οποίο δεν πρέπει να περιέχει περισσότερο από 90 γραμμάρια εκρηκτικής ύλης. Τα πακέτα αυτά θα τοποθετούνται σε κιβώτιο συσκευασίας, με καλώς ενωμένες πλευρές πάχους όχι μικροτέρου των 18 MM (χιλ.), επενδεδυμένο με γερό χαρτί ή με λεπτό φύλλο ψευδαργύρου ή αλουμινίου ή με φύλλο από πλαστική ύλη όχι ευχερώς εύφλεκτη. Πλευρικών πάχους 11 MM (χιλ.) αρκεί για κόλον που ζυγίζει όχι πάνω από 35 KG εάν το κιβώτιο περιβληθεί με σιδερένια ταινία.

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG.

(Ι) Είδη της 3^ο θα συσκευάζονται σε ξύλινα κι- 2Ι75
βώτια επενδεδυμένα με γερό χαρτί ή λεπτό φύλλο ψευδαργύρου ή αλουμινίου.

Μικρές αποστολές που ζυγίζουν όχι πάνω από 20 KG, περιτυλιγμένες με κυματοειδή ινώδη σανίδα, μπορούν επίσης να γίνονται πακέτα με γερό δι-φύλλο χαρτί συσκευασίας ασφαλώς δεμένα με σπάγγο.

(2) Οσάκις χρησιμοποιούνται βαρέλια από ινώδη

σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG.

(I) Νήμα πυροκυλίνης (PYROXYLIN THREAD) (4°) 2I76
θα ρολλάρεται, σε μήκη όχι υπερβαίνοντα τα 30 μ. ανά
ρόλλον, ή ρόλλους ινώδους σανίδας. Ο κάθε ρόλλος θα
τυλίγεται σε χαρτί. Όχι περισσότεροι από 10 από αυτούς.
τους ρόλλους θα τυλίγονται σε χαρτί συσκευασίας ώστε να
αποτελούν πακέτα τα οποία θα ασφαρίζονται με αποσβεστικό
υλικό σε μικρά ξύλινα κιβώτια. Τα κιβώτια θα τοποθε-
τούνται σε ξύλινο κιβώτιο συσκευασίας.

(2) Το κόλον δεν πρέπει να περιέχει πάνω από
6.000 μ. νήματος πυροκυλίνης (PYROXYLIN THREAD).

(I) Είδη της 5° θα συσκευάζονται, όχι περισσότερα 2I77
τερα των 25 ανά κυτίον, σε κυτία κατασκευασμένα από
πλάκα κασιτερού ή ινώση σανίδα· εν τούτοις, καψύλλια
θερμότη μπορούν να συσκευάζονται, όχι περισσότερα από
100 ανά κυτίον, σε κυτία από ινώδη σανίδα. Όχι περισ-
σότερα από 40 από αυτά τα κυτία θα ασφαρίζονται με
αποσβεστικό υλικό σε ξύλινο κιβώτιο κατά τέτοιο τρόπο
ώστε να μη μπορούν να έλθουν σε επαφή είτε μεταξύ των
είτε με τις πλευρές του κιβωτίου.

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από
100 KG.

(I) Είδη των 6° - 8° θα συσκευάζονται:- 2I78

(α) είδη της 6°: σε ξύλινα κιβώτια·

(β) είδη της 7°(α): σε ξύλινα κιβώτια ή σε ξύλινα βυ-
τία ή σε βαρέλκια κατασκευασμένα από αδιαπέραστη
ινώδη σανίδα·

(γ) είδη της 7^ο(β): όχι περισσότερα των 1.000 ανά κυτίο, ασφαλιζόμενα με αποσβεστικό υλικό από πριονόσκονη (πριονίδια) σε κυτία από ινώδη σανίδα διηρημένα σε όχι λιγώτερο από τρία διαμερίσματα περιέχοντα το καθένα περίπου τον αυτόν αριθμόν ειδών και διαχωριζόμενα με τιθέμενα μεταξύ αυτών φύλλα από ινώδη σανίδα. Τα καλύμματα των κυτίων θα ασφαλίζονται με κομμωμένες γύρω-γύρω ταινίες. Όχι περισσότερα από 100 από τα κυτία αυτά από ινώδη σανίδα θα τοποθετούνται σε διάτρητο δοχείο από φύλλο-σιδήρου. Το δοχείο τούτο θα ασφαλίζεται με αποσβεστικό υλικό σε κιβώτιο συσκευασίας ξύλινο το οποίο θα κλείνει με βίδες και του οποίου οι πλευρές θα έχουν πάχος όχι μικρότερο των 18 MM (χιλ.), κατά τοιούτο τρόπο ώστε να υπάρχει διάστημα όχι λιγότερο των 3 CM (εκ.) γεμισμένο με αποσβεστικό υλικό σε όλα τα σημεία μεταξύ του δοχείου από φύλλο-σιδήρου και του κιβωτίου συσκευασίας.

2178

(Συνεχίζεται)

(δ) είδη της 8^ο: σε κυτία από ινώδη σανίδα. Τα κυτία θα γίνονται πακέτο το οποίο θα περιέχει όχι περισσότερους από 1.000 ηλεκτρικούς αναφλεκτές. Το πακέτο θα τοποθετείται σε ξύλινο κιβώτιο συσκευασίας.

(2) Προκειμένου περί βαρελίων από ινώδη σανίδα, το κόλον που περιέχει είδη της 7^ο(α) δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλον που περιέχει είδη της 7^ο(β) δεν πρέπει να ζυγίζει περισσότερο από 50 KG.

εάν ζυγίζει περισσότερο από 30 KG θα είναι εφοδιασμέ- 2178
νο με χειρολαβές. (Συνεχίζε-

(Ι) Είδη των 9^ο - 26^ο θα εγκλείονται (εσω- 2179
τερική συσκευασία):-

(α) είδη των 9^ο και 10^ο: σε χάρτινα είδη συσκευασίας
ή σε κυτρία·

(β) είδη της II^ο(α): όχι περισσότερα των 500 ανά κυ-
τίο από ινώδη σανίδα ή ανά μικρό ξύλινο κιβώτιο,
ασφαλιζόμενα με αποσβεστικό υλικό από πριονίδια:

1.- σε κυτία από ινώδη σανίδα τα οποία θα τυλιγόν-
ται με χαρτί· ή

2.- σε μικρά ξύλινα κιβώτια·

(γ) είδη της II^ο(β): όχι περισσότερα των 10 ανά βιβλίο,
σε βιβλία· όχι περισσότερα των 100 βιβλίων μαζί θα
συσκευάζονται σε κυτίο από ινώδη σανίδα ή τυλιγόν-
ται με γερό χαρτί·

(δ) είδη της II^ο(γ): όχι περισσότερα από 10 ανά σακκού-
λα, σε σακκούλες χάρτινες ή από κατάλληλη πλαστική
ύλη· όχι περισσότερες από 100 σακκούλες μαζί θα
συσκευάζονται σε κυτίο από ινώδη σανίδα·

(ε) είδη της I2^ο: όχι περισσότερα από 25 ανά κυτίο,
σε κυτία από ινώδη σανίδα·

(στ) είδη της I3^ο: σε κυτία τυλιγμένα σε χαρτί ώστε να
αποτελούν πακέτα περιέχοντα το καθένα όχι περισσό-
τερα από 12 κυτία·

(ζ) είδη της I4^ο: σε κυτία ή σακκούλες από χαρτί ή
κατάλληλη πλαστική ύλη. Οι συσκευασίες αυτές θα

τυλίγονται σε χαρτί ώστε να αποτελούν πακέτα περιέχοντα το καθένα όχι περισσότερα των 144 των (Συνεχίζεται)
ειδών αυτών.

(η) είδη της I5^ο: σε κυτρία από ινώδη σανίδα περιέχονται το καθένα:-

όχι περισσότερα των 100 καφυλλίων, το καθένα, γεμισμένο με όχι περισσότερα των 5 MG εκρηκτικής ύλης.

ή

όχι περισσότερα των 50 καφυλλίων το καθένα γεμισμένο με όχι περισσότερα των 7,5MG εκρηκτικής ύλης.

Όχι περισσότερα των 12 από τα κυτρία αυτά θα γίνονται χάρτινος ρόλλος, και όχι περισσότεροι από 12 ρόλλοι θα τυλίγονται σε χαρτί συσκευασίας, ώστε να αποτελούν πακέτο.

Ταινίες των 50 καφυλλίων, το καθένα καφυλλίο γεμισμένο με όχι περισσότερα των 5 MG εκρηκτικής ύλης μπορούν να συσκευάζονται κατά τον ακόλουθο τρόπο:-

5 ταινίες ανά κυτρίο, σε κυτρία από ινώδη σανίδα τυλιγμένα 6 μαζί σε χαρτί ισοδύναμο σε αντοχή με χαρτί KRAFT (χοντρό χαρτί συσκευασίας) κατωτάτου βάρους 40 MG/μ². 12 μικρά πακέτα θα τυλίγονται μαζί σε χαρτί της αυτής ποιότητας ώστε να αποτελέσουν ένα μεγάλο πακέτο.

- (θ) είδη της I6⁰: ασφαλιζόμενα με αποσβεστικό υλικό, 2179
δχι περισσότερα των 50 ανά κυτίο, σε κυτία από (Συνεχίζεται)
ινώδη σανίδα. Οι φελλοί θα κολλούνται στον πυθ-
μένα των κυτίων ή θα τοποθετούνται στη θέση τους
με κάποια ισοδύναμο μέθοδο. Το κάθε κυτίο θα τυ-
λίγεται με χαρτί και δχι περισσότερα από 10 κυ-
τία θα τυλίγονται σε χαρτί συσκευασίας ώστε να
αποτελούν πακέτο.
- (ι) είδη της I7⁰: δχι περισσότερα των 5 ανά κυτίο,
σε κυτία από ινώδη σανίδα. Όχι περισσότερα των
200 κυτίων, τακτοποιημένων σε ρόλλους, θα τοποθε-
τούνται μαζί σε συλλογικό κυτίο από ινώδη σανίδα.
- (κ) είδη της I8⁰: ασφαλιζόμενα με αποσβεστικό υλικό,
δχι περισσότερα των 10 ανά κυτίο, σε κυτία από
ινώδη σανίδα. Όχι περισσότερα των 100 κυτίων,
τακτοποιημένων σε ρόλλους, θα τυλίγονται με χαρτί
ώστε να αποτελέσουν πακέτο.
- (λ) είδη της I9⁰: ασφαλιζόμενα με αποσβεστικό υλικό,
δχι περισσότερα των 15 ανά κυτίο, σε κυτία από
ινώδη σανίδα. Όχι περισσότερα των 144 κυτίων,
τακτοποιημένων σε ρόλλους, θα συσκευάζονται σε
δεύτερο κυτίο από ινώδη σανίδα.
- (μ) είδη της 20⁰(α): ασφαλιζόμενα με αποσβεστικό υλικό,
δχι περισσότερα των 144 ανά κιβώτιο, σε κιβώτια
από ινώδη σανίδα.
- (ν) είδη της 20⁰(β): δχι περισσότερα των 75 ανά κυτίο,
σε κυτία από ινώδη σανίδα. δχι περισσότερα των 72

κυτρίων θα τυλίγονται με ινώδη σανίδα ώστε να αποτελέσουν ένα πακέτο.

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(Συνεχί-
ζεται)

- (ξ) είδη της 21^ο: σε κυτρία από ινώδη σανίδα ή σε γε-
ρό χαρτί. Εάν το σημείο αναφλέξεως των ειδών
δεν καλύπτεται από προστατευτικό καψύλλιο, το
καθέβα είδος πρέπει πρώτα να τυλιχθεί χωριστά
με χαρτί. Το προωθητικό γέμισμα των βομβών που
ζυγίζουν πάνω από 5 KG θα προστατεύεται από χάρ-
τινο κιβώτιο καλύπτον το κάτω μέρος της βόμβας.
- (ο) είδη της 22^ο: σε κυτρία από ινώδη σανίδα ή σε
χοντρό χαρτί. Όμως, μεγάλα πυροτεχνήματα
δεν χρειάζεται να έχουν εσωτερική συσκευασία εάν
το σημείο αναφλέξεώς τους καλύπτεται από προστα-
τευτικό κάλυμμα.
- (π) είδη της 23^ο: ασφαλιζόμενα με αποσβεστικό υλικό
σε κυτρία κατασκευασμένα από ξύλο ή ινώδη σανίδα.
Οι κεφαλές αναφλέξεως θα προστατεύονται από προ-
στατευτικό κάλυμμα.
- (ρ) είδη της 24^ο: σε κυτρία από ινώδη σανίδα ή σε γερό
χαρτί.
- (σ) είδη της 25^ο: σε κυτρία από ινώδη σανίδα ή σε γερό
χαρτί. Εν τούτοις, μεγάλα πυροτεχνήματα δεν χρειά-
ζεται να έχουν εσωτερική συσκευασία εάν το σημείο
αναφλέξεώς τους έχει καλυφθεί με προστατευτικό κά-
λυμμα.
- (τ) είδη της 26^ο: σε κυτρία από ινώδη σανίδα. Το κυτρίο
δεν πρέπει να περιέχει περισσότερους από 3 γυάλι-

• νους σωλήνες.

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(2) Οι εσωτερικές συσκευασίες οι αναφερόμενες στο (I) θα συσκευάζονται:- (Συνεχίζεται)

(α) συσκευασίες περιέχουσες είδη των 10^ο, 13^ο και 14^ο, σε ξύλινα κιβώτια συσκευασίας·

(β) συσκευασίες περιέχουσες ύλες ή είδη των 9^ο, 11^ο, 12^ο και 15^ο - 26^ο, σε ξύλινα κιβώτια συσκευασίας με καλά ενωμένες πλευρές πάχους όχι μικρότερου των 18 MM (χιλ.), επενδεδυμένα με γερό χαρτί ή λεπτό φύλλο ψευδαργύρου ή φύλλο αλουμινίου. Πλευρικό πάχος 11 MM (χιλ.) αρκεί για κόλον που ζυγίζει όχι πάνω από 35 KG εάν το κιβώτιο περιβάλλεται από σιδερή ταινία.

Το περιεχόμενο του κιβωτίου συσκευασίας περιορίζεται ως κάτωθι:-

προκειμένου για είδη της 17^ο, σε εξωτερικά κυττά από ινώδη σανίδα·

προκειμένου για είδη της 18^ο, σε 25 πακέτα·

προκειμένου για είδη της 20^ο(α), σε 50 κιβώτια από ινώδη σανίδα·

προκειμένου για είδη της 20^ο(β), σε 50 πακέτα,

το καθένα των 72 κυττών από ινώδη σανίδα· και

προκειμένου για είδη της 21^ο, σε αριθμό ειδών τέτοιο ώστε το βάρος του ολικού γεμίσματος να μην υπερβαίνει τα 56 KG·

(γ) συσκευασία περιέχουσα MAGNESIUM FLASH-POWDERS

(Μαγνήσιον Φωτογραφιών) (26^ο), είτε σύμφωνα με

την (β) ανωτέρω, είτε σε ξύλινα κιβώτια συσκευασίας, 2179
το καθένα ζυγίζον όχι πάνω από 5 KG, ή, προκειμένου (Συνεχίζεται)
για συσκευασίες χαρτίνων σακουλών, σε γερά κιβώτια
από ινώδη σανίδα το καθένα ζυγίζον όχι πάνω από 5 KG.

(3) Ξύλινα κιβώτια περιέχοντα είδη με εκρηκτικό γέμισμα με βάσιν φωσφόρου και χλωρικού αλατος πρέπει να κλείνονται με βίδες.

(4) Κόλον περιέχον είδη των 9^ο, 11^ο, 12^ο, 15^ο - 22^ο ή 24^ο - 26^ο δεν πρέπει να ζυγίζει πάνω από 100 KG· δεν πρέπει να ζυγίζει πάνω από 50 KG εάν περιέχει είδη της 23^ο ή πάνω από 35 KG εάν οι πλευρές του κιβωτίου είναι πάχους μόνον 11 MM (χιλ.) και το κιβώτιο περιβάλλεται από σιδερένια ταινία.

(1) Ύλεις των ειδών της 27^ο θα συσκευάζονται 2180
σε ξύλινα κιβώτια επενδεδυμένα με χαρτί συσκευασίας, λαδόχαρτο ή κυματοειδή ινώδη σανίδα. Ουδεμία επένδυση απαιτείται εάν οι ύλεις αυτές και τα είδη τυλιχθούν με χαρτί ή ινώδη σανίδα.

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από 100KG.

(3) Καπνογόνα φυσίγγια προς χρήση ως παρασιτοκτόνα μπορούν, εάν είναι τυλιγμένα με χαρτί ή ινώδη σανίδα να συσκευασθούν επίσης:-

(α) σε κυτία από κυματοειδή ινώδη σανίδα ή σε γερά κιβώτια από ινώδη σανίδα· τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 20 KG· ή

(β) σε συνήθη κιβώτια από ινώδη σανίδα· τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 5 KG.

Μικτή Συσκευασία

(1), Ύλεις και είδη ομαδοποιημένα υπό τον αυτόν 2181 αριθμόν είδους μπορούν να συμπεριλαμβάνονται στο ίδιο κώλον. Οι εσωτερικές συσκευασίες θα είναι σύμφωνες με όσα έχουν καταχωρηθεί για κάθε επικίνδυνη ύλη, και η εξωτερική συσκευασία θα είναι εκείνη που έχει καταχωρηθεί για τις επικίνδυνες ύλες του ~~επ~~ θέμα αριθμού είδους. Εν προκειμένω, κιβώτιο από ινώδη σανίδα περιέχον είδη της 20^ο(α) θα θεωρείται ισοδύναμο με πακέτο περιέχον είδη της 20^ο(β).

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται υπό του άρθρου του φέροντος τον τίτλον "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους", οι επικίνδυνες ύλες της Κλάσεως αυτής, σε ποσότητες μη υπερβαίνουσες τα 6 KG για όλες τις επικίνδυνες ύλες τις αναφερόμενες υπό τον αυτόν αριθμόν είδους ή υπό το αυτό γράμμα, μπορούν να εγκλείονται στο ίδιο κώλον είτε με επικίνδυνες ύλες άλλου αριθμού είδους ή άλλου γράμματος της αυτής Κλάσεως, ή με επικίνδυνες ύλες ανήκουσες σε άλλες Κλάσεις (εάν μικτή συσκευασία επιτρέπεται επίσης προκειμένου για τέτοιες ύλες), ή με άλλα εμπορεύματα υπό την επιφύλαξη των παρακάτω ειδικών όρων.

Τα εσωτερικά είδη συσκευασίες πρέπει να πληρούν τους γενικούς και ειδικούς όρους συσκευασίας. Επιπροσθέτως πρέπει να τηρούνται οι γενικές διατάξεις οι περιεχόμενες στα περιθώρια 2001(5) και 2002(6) και (7).

Το κόλον δεν πρέπει να ζυγίζεται πάνω από
100 KG, ή πάνω από 50 KG εάν περιέχει είδη της 25^ο.

2181
(Συνεχίζεται)

Ειδικοί όροι:-

| Αριθμός Είδους | Περιγραφή Υλής | Ανωτάτη Ποσότητα ανά δο- ανά κό- χείο λον | | Ειδικές Διατάξεις |
|----------------------------------|---|---|------|---|
| 1 ^ο | Πυρελα | 5 KG | 5 KG | Δεν πρέπει να συσκευάζονται μαζί με ύλες των Κλάσεων 3, 4.1 και 4.2 |
| 2 ^ο & 3 ^ο | Ταινίες εμπυρίων και πυροσωλήνες βραδείας καύσεως | Μικτή συσκευασία απαγορεύεται | | |
| 4 ^ο | Νήμα Πυροκυλίνης | 1.500 μ. νήματος πυροκυλίνης | | |
| 5 ^ο - 8 ^ο | Όλα τα είδη | Μικτή συσκευασία απαγορεύεται | | |
| 9 ^ο - 20 ^ο | Όλα τα είδη | Μικτή συσκευασία επιτρέπεται μόνον με μικρά είδη ή μη- πυροτεχνικά παιγνί- δια, από τα οποία πρέπει να τηρούνται χωριστά. Το συλλο- γικό κιβώτιο πρέπει να πληροί τους προ- βλεπομένους για τα | | |

| Αριθμός Είδους | Περιγραφή Υλης | Ανωτάτη Ποσότητα ανά δο- ανά κδ- χείο λον | Ειδικές Διατάξεις |
|-------------------|-------------------|---|--|
| | | | περιεχόμενα εις αυτά είδη για τα οποία το περιθώριο 2Ι79(2) και (3) επιβάλλει τους πειό αυστηρούς όρους |

| | |
|---|---|
| 2Ι ^ο - 25 ^ο Όλα τα είδη | Μικτή συσκευασία επι- τρέπεται μόνο μετα- ξύ των. Το συλλογι- κό κιβώτιο πρέπει να πληροί τους προ- βλεπομένους για τα περιεχόμενα εις αυτά είδη για τα οποία το περιθώριο Ι79(2) και (3) επιβάλλει τους πειό αυστηρούς όρους. |
|---|---|

| | |
|---|----------------------------------|
| 26 ^ο & 27 ^ο Όλα τα είδη και ύλες | Μικτή συσκευασία απαγορεύεται |
|---|----------------------------------|

4.- Μαρκάρισμα και ετικέτες κινδύνου επί των κδλων

(βλέπε Προσθήκη Α.9)

(Ι) Κδλα περιέχοντα είδη της Κλάσεως Ιγ, Ι6^ο, ή 2Ι82
2Ι^ο έως 23^ο, θα φέρουν ετικέτα σύμφωνον με το μοντέ-
λο Νο.Ι.

(2) Κδλα περιέχοντα εύθραυστα δοχεία μη ορατά 2Ι83
από έξω θα φέρουν ετικέτα σύμφωνον με το μοντέλο Νο.9.

Β.- Λεπτομέρειες του εγγράφου της μεταφοράς

(1) Η περιγραφή των εμπορευμάτων στο έγγραφο της 2184 μεταφοράς πρέπει να συμφωνεί με μία των ονομασιών των υπογραμμισμένων στο περθώριο 2171· πρέπει να έχει κω-
κίνη υπογράμμιση και να ακολουθείται από τις λεπτομέ-
ρειες της Κλάσεως, τον αριθμόν του είδους (μαζί με το,
τυχόν, γράμμα), και τα αρχικά της "ADR" ή της "RID"
(π.χ., Iγ, I⁰(α), ADR). Η διατύπωση "Πυροτεχνήματα της
ADR, Iγ, αριθμός είδους", με λεπτομέρειες των α-
ριθμών του είδους υπό τους οποίους αι μεταφερόμενες
ύλες ή είδη αναγράφονται, επιτρέπεται επίσης στο έγ-
γραφο μεταφοράς.

(2) Προκειμένου περί υλών και ειδών των 2⁰, 4⁰,
5⁰, 8⁰, 9⁰, 11⁰, 12⁰ και 15⁰ - 27⁰, τα παρακάτω πρέπει
να βεβαιώνονται στο έγγραφο της μεταφοράς: "Η φύσις των
εμπορευμάτων, και η συσκευασία, συμφωνούν με τις διατά-
ξεις της ADR".

2185-

2189

Γ.- Κενά Είδη Συσκευασίας

Καμμία διάταξη

2190

2191-

2199

ΚΛΑΣΗ 2.- ΑΕΡΙΑ: ΠΕΠΙΕΣΜΕΝΑ, ΥΓΡΟΠΟΙΗΜΕΝΑ

Η ΔΙΑΛΥΟΜΕΝΑ ΥΠΟ ΠΙΕΣΗ

I.- Κατάλογος υλών

(1) Μεταξύ των υλών και ειδών που καλύπτονται 2200 από τον τίτλον της Κλάσεως 2, μόνον τα απαριθμούμενα στο περιθώριο 220I θα γίνονται δεκτά για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και των διατάξεων του Παραρτήματος Β. Οι ύλες και είδη που γίνονται δεκτά για μεταφορά υπό ορισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

(2) Οι ύλες που έχουν κριτικήν θερμοκρασίαν κατωτέραν των 50°C ή, εις 50°C , πίεση ατμού μεγαλύτεραν των 3 KG/CM^2 θεωρούνται ως ύλες της Κλάσεως 2.

(3) Οι ύλες και τα είδη της Κλάσεως 2 ταξινομούνται ως κάτωθι:-

A : Πεπιεσμένα αέρια έχοντα κριτικήν θερμοκρασίαν κάτω των -10°C .

B : Υγροποιημένα αέρια έχοντα κριτικήν θερμοκρασίαν -10°C ή άνω:

(α) Υγροποιημένα αέρια έχοντα κριτικήν θερμοκρασίαν 70°C ή άνω.

(β) Υγροποιημένα αέρια έχοντα κριτικήν θερμοκρασίαν -10°C ή άνω, αλλά κάτω των 70°C .

Γ : Βαθεία-κατεψυγμένα (DEEPLY-REFRIGIRATED) υγροποιημένα αέρια:

Δ : Αέρια διαλυόμενα υπό πίεση.

Ε : Διανεμητές Αεροζόλ και μη-ξαναγεμιζόμενα δοχεία

(CONTAINERS) αερίου υπό πίεση·

2200

ΣΤ : Αέρια υποκείμενα σε ειδικούς όρους· και

(Συνεχίζεται)

Z : Κενά δοχεία και κενές δεξαμενές.

Οι ύλες και τα είδη της Κλάσεως 2 υποδιαιρούνται συμφώνως προς τις χημικές τους ιδιότητες, ως κάτωθι:-

(α) άφλεκτα·

(α T) άφλεκτα, τοξικά·

(β) εύφλεκτα·

(β T) εύφλεκτα, τοξικά·

(γ) χημικώς ασταθή·

(γ T) Χημικώς ασταθή, τοξικά.

Εκτός εάν αλλιώς ορίζεται, οι χημικώς ασταθείς ύλες θα θεωρούνται ότι είναι άφλεκτες.

Τις ονομασίες των διαβρωτικών αερίων και ειδών που περιέχουν τέτοια αέρια θα ακολουθεί η λέξη "διαβρωτικό" σε εισαγωγικά.

(4) Οι ύλες της Κλάσεως 2 που απαριθμούνται μεταξύ των χημικών ασταθών αερίων θα φέρονται δεκτές για μεταφορά μόνον εάν τα απαραίτητα μέτρα έχουν παρθεί ώστε να αποφεύγεται η επικίνδυνη αποσύνθεσή τους, αυτοξειδοαναγωγή ή πολυμερισμός διαρκούσης της μεταφοράς.

Προς τον σκοπόν αυτόν, πρέπει να λαμβάνεται ειδικότερη μέριμνα να εξασφαλίζεται ότι τα δοχεία και οι δεξαμενές δεν περιέχουν ύλες που θα μπορούσαν να προαγάγουν αυτές τις αντιδράσεις.

A.- Πεπιεσμένα αέρια (βλέπε επίσης περιθώριο 220Iα υπό 220I στοιχείο (α). Για αέρια της I^ο(α) και (β) και 2^ο(α) μέσα σε

διανεμητές αεροζόλ ή σε μη-ξαναγεμιζόμενα δοχεία CONTAIN- 220I
ERS) για αέρια υπό πίεση, βλέπε υπό στοιχεία ΙΟ^ο και ΙΙ^ο). (Συνε-
χίζεται)

Αέρια έχοντα κριτικήν θερμοκρασίαν κάτω των -10^ο C
θεωρούνται ότι είναι πεπιεσμένα αέρια για τους σκοπούς της
ADR.

Ι^ο Καθαρά αέρια και τεχνικώς-καθαρά αέρια

(α) Άφλεκτα

ΑΡΓΟΝ· ήλιον· κρυπτόν· νέον· άζωτον· οξυγόνον·
τετραφθορομεθάνιο (R I4).

(α T) Άφλεκτα, τοξικά

Τριφθοριούχο βόριο· φθόριο (διαβρωτικόν)· τετρα-
φθοριούχο πυρίτιο (διαβρωτικόν).

(β) Εύφλεκτα

Δευτέριο· υδρογόνο· μεθάνιο.

(β T) Εύφλεκτα, τοξικά

Μονοξείδιο του άνθρακος

(γ T) Χημικώς ασταθή, τοξικά

Μονοξείδιο ταιάζωτου NO (άφλεκτο).

2^ο Μίγματα αερίων

(α) Άφλεκτα

Μίγματα δύο ή περισσότερων των παρακάτω αερίων:
σπάνια αέρια (περιέχοντα όχι περισσότερο του 10^ο/ο
ξένο (XENON) κατ'όγκον), άζωτο, οξυγόνο, διοξεί-
διο του άνθρακος (όχι περισσότερο του 30^ο/ο κατ'
όγκον)· άφλεκτα μίγματα των δύο ή περισσότερων των

παρακάτω αερίων: υδρογόνου, μεθανίου, αζώτου, σπανίων αερίων (περιεχόντων όχι περισσότερον του 10⁰/ο Ξένον κατ'όγκον), όχι περισσότερον του 30⁰/ο διοξειδίου του άνθρακος κατ'όγκον· άζωτον περιέχον όχι άνω του 6⁰/ο αιθυλενίου κατ'όγκον· αήρ. 2201 (Συνεχίζεται)

(β) Εύφλεκτα

Μίγματα όχι λιγώτερο του 90⁰/ο μεθανίου κατ'όγκον με υδρογονάνθρακες των 3⁰(β) και 5⁰(β)· εύφλεκτα μίγματα δύο ή περισσότερων των παρακάτω αερίων: υδρογόνου, μεθανίου, αζώτου, σπανίων αερίων (περιεχόντων όχι άνω του 10⁰/ο Ξένον κατ'όγκον), όχι άνω του 30⁰/ο διοξειδίου του άνθρακος κατ'όγκον· φυσικόν αέριον.

(β T) Εύφλεκτα, τοξικά

Αέριο Πόλεως (Δήμου): μίγματα υδρογόνου μέ όχι άνω του 10⁰/ο σεληνιούχου υδρογόνου (HYDROGEN SELENIDE) ή φωσφίνην ή σιλάνιον ή γερμανομεθάνιο κατ'όγκον ή με όχι άνω του 15⁰/ο αρσίνη κατ'όγκον· μίγματα αζώτου ή σπανίων αερίων (περιεχόντων όχι άνω του 10⁰/ο Ξένον κατ'όγκον) με όχι άνω του 10⁰/ο σεληνιούχου υδρογόνου ή φωσφίνην ή σιλάνιον ή γερμανομεθάνιον κατ'όγκον ή με όχι άνω του 15⁰/ο αρσίνη κατ'όγκον· υδράεριο· αέριο χημικής συνθέσεως (π.χ. εκ της μεθόδου FISCHER-TROPSCH)· μίγματα μονοξειδίου του άνθρακος με υδρογόνο ή με μεθάνιο.

(γ T) Χημικώς ασταθή, τοξικά

Μίγματα υδρογόνου με όχι άνω του 10⁰/ο διβοράνιο κατ'

δγκον· μίγματα αζώτου ή σπανίων αερίων (περιεχόντων 220I
δχι άνω του 10°/ο Ξένον κατ'δγκον) με δχι άνω του (Συνεχί-
10°/ο διβοράνιο κατ'δγκον. ζεται)

B.- Υγροποιημένα αέρια (βλέπε επίσης περιθώριο 220Iα υπό
στοιχεία (β) και (ε). Για αέρια των 3° έως 6° μέσα σε δια-
νεμητές αεροζδλ ή μέσα σε μη-ξαναγεμιζόμενα δοχεία (CONTAIN-
ERS) για αέρια υπό πίεση, βλέπε υπό στοιχεία 10° και 11°):

Αέρια έχοντα κριτικήν θερμοκρασίαν -10°C ή άνω θεω-
ρούνται ότι είναι υγροποιημένα αέρια για τους σκοπούς της ADR.

(α) Υγροποιημένα αέρια έχοντα κριτικήν θερμοκρασίαν
70° (ή άνω:

3° Καθαρά αέρια και τεχνικώς-καθαρά αέρια

(α) Άφλεκτα

Βρωμοχλωριοδιφθοριομεθάνιον (R 12 B 1)· χλωριο-
διφθοριομεθάνιο (R 22)· χλωριοπενταφθοριοαιθάνιο
(R 115)· 1-χλωριο-2,2,2-τριφθοριοαιθάνιο (R 133α)
διχλωριοδιέφθοριομεθάνιο (R 12)· διχλωριοφθοριο-
μεθάνιο (R 21)· 1,2-διχλωριο-1,1,2,2-τετραφθοριο-
αιθάνιο (R 114)· οκταφθοριοκυκλοβουτάνιο (R 318).

(α T) Άφλεκτα, τοξικά

Αμμωνία: χλωριούχο βόριο (διαβρωτικόν)· χλώριο
(διαβρωτικόν)· τριφθοριούχον χλώριο (διαβρωτικόν)·
εξαφθοριοπροπυλένιον (R 216)· υδροβρώμιο (διαβρω-
τικόν)· μεθυλοβρωμίδιο· νιτροζυχλωρίδιο (διαβρωτι-
κόν)· διοξειδίου του αζώτου NO₂ (υπεροξειδίου αζώ-
του, τετροξειδίου του αζώτου N₂O₄) (διαβρωτικόν)·
φωσγένιον (διαβρωτικόν)· διοξειδίου του θείου·

φθοριούχο SULPHURYL· εξαφθοριούχο βολφράμιο. 220I

(β) Εύφλεκτα

(Συνεχίζεται)

Βουτάνιο· I-Βουτυλένιο (I-βουτένιο)· I-χλωρο-

I, I-διφθοριοαιθάνιο (R I42β)· CIS-2-βουτυλένιο

(CIS-2-βουτένιο)· κυκλοπροπάνιο·

I, I-διφθοριοαιθάνιο (R I52α)· ισοβουτάνιο· ισο-

βουτυλένιο (ισοβουτένιο)· μεθυλαιθάνιο· προπάνιο·

προπυλένιο· TRANS-2-βουτυλένιο (TRANS-2-βουτένιο)·

I, I I-τριφθοριοαιθάνιο.

(β T) Εύφλεκτα, τοξικά

Αρσίνη· διχλωροσιλάνιο· διμεθυλαμίνη· διμεθυλαι-

θέρας· διμεθυλαιθάνιο· αιθυλαμίνη· αιθυλοχλωρίδιο·

σεληνιούχο υδρογόνο· υδροθείο· μεθυλαμίνη· μεθυλο-

χλωρίδιο· μεθυλική μερκαπτάνη· τριμεθυλαμίνη· πνικ

τριμεθυλαιθάνιο.

(γ) Χημικώς ασταθή

I, 3-βουταδιένιο· χλωριούχο βινύλιο.

(γ-T) Χημικώς ασταθή, τοξικά

Κυανογόνο· χλωροκυανίδιο (άφλεκτον) (διαβρωτικόν)·

οξείδιο αιθυλενίου· μεθυλοβινυλαιθέρας·

τριφθοριοχλωροαιθυλένιο (R III3)· βινυλοβρωμίδιο.

Σημειώσεις:- Στη περίπτωση των αλογόνων υδραγονανθράκων,

η χρήση ονομασιών συνήθων στο εμπόριο, όπως οι παρακάτω,

επιτρέπεται: ALGOFRENE, ARCTON, EDIFREN, FLUGENE, FORANE,

FREON, FRESANE, FRIGEN, ISCEN, KALTRON, ακολουθούμενες

από τον αριθμόν αναγνώρισεως της ύλης χωρίς το γράμμα R.

4^ο Μίγματα αερίων220I
(Συνεχίζεται)(α) Αφλεκτα

Μίγματα υλών της 3^ο(α) μετά ή άνευ εξαφθοριοπυ-
πυλενίου της 3^ο(α Τ), τα οποία ως:

μίγμα F I έχουν πίεση ατμού εις 70^οC μη υπερβαί-
νουσιν τα 13 KG/CM² και πυκνότητα εις 50^οC όχι
μικροτέραν της πυκνότητας του διχλωροφθοριομεθα-
νίου (I.30)·

μίγμα F 2 έχουν πίεση ατμού εις 70^οC μη υπερβαί-
νουσιν τα 19 KG/CM² και πυκνότητα εις 50^οC όχι
μικροτέραν της πυκνότητας του διχλωροφθοριομεθα-
νίου (I.2I)·

μίγμα F 3 έχουν πίεση ατμού εις 70^οC μη υπερβαί-
νουσιν τα 30 KG/CM² και πυκνότητα εις 50^οC όχι
μικροτέραν της πυκνότητας του χλωροδιφθοριομεθα-
νίου (I.09)·

Σημειώσεις:- I.- Τριχλωροφθοριομεθάνιον (R II), τριχλωρο-
τριφθοριομεθάνιον (R II3) και χλωροτριφθοριομεθάνιον (R I33)
δεν είναι υγροποιημένα αέρια εντός της εννοίας της ADR και
επομένως δεν υπόκεινται στους όρους της ADR. Μπορούν εν
τούτοις να συμπεριληφθούν εις την σύνθεση των μιγμάτων F I
έως F 3.

2.- Βλέπε Σημειώσιν υπό στοιχείον 3^ο.

Το αζεοτροπικόν μίγμα του διχλωροδιφθοριο-
μεθανίου (R I2) και I,I-διφθοριοαιθανίου (R I52α), γνωστόν
ως R 500·

Το αζεοτροπικόν μίγμα του χλωροπενταφθοριο-
μεθανίου (R II5) και χλωροδιφθοριομεθανίου (R 22), γνωστόν

ως R 502

2201

(Συνεχίζεται.)

Το μίγμα του I9 έως 2I τους εκατόν κατά βάρος διχλωροδιφθοριομεθανίου (R I2) και 79 έως 8I εκατόν κατά βάρος βρωμοχλωροδιφθοριομεθανίου (R I2 BI).

(α Τ) Άφλεκτα, τοξικά

Μίγματα μεθυλοβρωμιδίου και χλωροπικρίνης έχοντα πίεση ατμού άνω των 3 KG/CM² εις 50°C.

(β) Εύφλεκτα

Μίγματα υδρογονανθράκων της 3^ο(β) και αιθανίου και αιθυλενίου της 5^ο(β), τα οποία ως:

μίγμα Α έχουν πίεση ατμού εις 70°C μη υπερβαίνουσιν τα 11 KG/CM² και πυκνότητα εις 50°C όχι κάτω των 0.525.

μίγμα Α Ο έχουν πίεση ατμού εις τους 70°C μη υπερβαίνουσιν τα 16 KG/CM² και πυκνότητα εις 50°C/όχι κάτω των 0.495.

μίγμα Α Ι έχουν πίεση ατμού εις 70°C μη υπερβαίνουσιν τα 21 KG/CM² και πυκνότητα εις 50°C όχι κάτω των 0.485.

μίγμα Β έχουν πίεση ατμού εις 70°C μη υπερβαίνουσιν τα 26 KG/CM² και πυκνότητα εις 50°C όχι κάτω των 0.450.

μίγμα Γ έχουν πίεση ατμού εις 70°C μη υπερβαίνουσιν τα 31 KG/CM² και πυκνότητα εις 50°C όχι κάτω των 0.440.

Σημειώσεις:- Στη περίπτωση των ανωτέρω μιγμάτων επιτρέπεται η χρήση των παρακάτω συνήθων στο εμπόριο ονομασιών για τη περιγραφή των υλών αυτών:

Ονομασία υπό στοιχείον 4^ο(β)Ονομασία συνήθης στο εμπόριο

Μίγμα Α, μίγμα Α Ο

βουτάνιον

Μίγμα Γ

προπάνιον

Μίγματα υδρογονανθράκων των 3^ο(β) και 5^ο(β) περιέχοντα μεθάνιον.

(β Τ) Εύφλεκτα, τοξικά

2201

(Συνεχίζεται)

Μίγματα δύο ή περισσότερων των παρακάτω αερίων:-
μεθυλσιλανίου, διμεθυλσιλανίου, τριμεθυλσιλανίου,
μεθυλοχλωριδίου και μεθυλενοχλωριδίου σε μίγματα
έχοντα πίεση ατμού άνω των 3 KG/CM^2 εις 50°C .
μίγματα μεθυλοχλωριδίου και χλωροπικρίνης και μίγ-
ματα μεθυλοβρωμιδίου και αιθυλενιοβρωμιδίου έχοντα
σε εκατέρα περίπτωση πίεση ατμού άνω των 3 KG/CM^2
εις 50°C .

(γ) Χημικώς ασταθή

Μίγματα μεθυλακετυλίνης και προπαδιένης (PROPADIENE)
με υδρογονάνθρακες της 3° (β), τα οποία ως:
μίγμα P 1 περιέχουν όχι άνω του 63% μεθυλακετυλε-
νίου και προπαδιένης κατ'όγκον και όχι άνω του 24%
προπανίου και προπυλενίου κατ'όγκον, του ποσοστού των
 C_4 -κεκορεσμένων υδρογονανθράκων όντος όχι κάτω των
14% κατ'όγκον και ως
μίγμα P 2 περιέχουν όχι άνω του 48% μεθυλακετυλε-
νίου και προπαδιένης κατ'όγκον και όχι άνω του 50%
προπανίου και προπυλενίου κατ'όγκον, του ποσοστού των
 C_4 -κεκορεσμένων υδρογονανθράκων όντος όχι κάτω του
5% κατ'όγκον.

(γ Τ) Χημικώς ασταθή, τοξικά

Αιθυλενοξείδιο περιέχον όχι άνω του 10% διοξειδίου
του άνθρακος κατ'όγκον· αιθυλενοξείδιο περιέχον όχι
άνω του 50 τοις εκατόν μεθυλικού άλατος μυρμηκικού
οξέος κατ'όγκον, με άζωτο μέχρι συνολική πίεση 10 KG/CM^2
εις 50°C · διχλωροδιφθοριομεθάνιο περιέχον 12%

αιθυλενοξειδίο κατά βάρος.

220I

(β) Υγροποιημένα αέρια έχοντα κριτικήν θερμοκρασίαν (Συνεχίζεται)
 -10°C ως άνω, αλλά κάτω των 70°C :

5° Καθαρά αέρια και τεχνικώς-καθαρά αέρια

(α) Αφλεκτα

Βρωμοτριφθοριομεθάνιο (R 13 B I)* διοξειδίο του
άνθρακος* χλωροτριφθοριομεθάνιο (R 13)* εξαφθοριο-
αιθάνιο (R 116)* νιτρώδες οξύ N_2O * εξαφθοριούχο θείον*
τριφθοριομεθάνιο (R 23)* ξένον.

Αναφορικά με το διοξειδίο του άνθρακος, βλέπε επίσης
 περιθώριο 220Iα υπό στοιχείον (γ).

Σημειώσεις:- I.- Το νιτρώδες οξύ θα γίνεται δεκτό για μεταφορά
 μόνον εάν δεν είναι κάτω του 99°/ο καθαρόν.

2.- Βλέπε Σημειώσιν υπό στοιχείον 3°.

(α T) Αφλεκτα, τοξικά

Υδροχλώριο (διαβρωτικόν).

(β) Εύφλεκτα

Αιθάνιο* αιθυλένιο* σιλάνιο.

(β T) Εύφλεκτα, τοξικά

Γερμανομεθάνιο* φωσφίνη.

(γ) Χημικώς ασταθή

I, I-διφθοριοαιθυλένιο* φθοριούχο βινύλιο.

(γ T) Χημικώς ασταθή, τοξικά

Διβοράνιο.

6° Μίγματα αερίων

(α) Αφλεκτα

Διοξειδίο του άνθρακος περιέχον όχι κάτω του 1°/ο και

και όχι άνω του 10⁰/ο άζωτον, οξυγόνον, αέρα ή σπάνια αέρια κατά βάρος· το αζεοτροπικόν μίγμα (Συνεχίζεται)
του χλωροτριφθοριομεθανίου (R 13) και τριφθοριο-
μεθανίου (R 23), γνωστόν ως R 503.

220I

(Συνεχίζεται)

Σημειώσεις:- Διοξείδιο του άνθρακος περιέχον όχι κάτω του 1⁰/ο άζωτον, οξυγόνον, αέρα ή σπάνια αέρια κατά βάρος είναι ύλη της 5⁰(α).

(γ) Χημικώς ασταθή

Διοξείδιο του άνθρακος περιέχον όχι άνω του 35⁰/ο αιθυλενοξειδίου κατά βάρος.

(γ T) Χημικώς ασταθή, τοξικά

Αιθυλενοξειδίο περιέχον άνω του 10⁰/ο αλλά όχι άνω του 50⁰/ο διοξείδιο του άνθρακος κατά βάρος.

Γ.- Βαθειά-κατεψυγμένα (DEEPLY-REFRIGERATED) υγροποιημένα αέρια

7⁰ Καθαρά αέρια και τεχνικώς-καθαρά αέρια

(α) Αφλεκτα

Αργόν· διοξείδιο του άνθρακος· ήλιον· κρυπτόν· νέον·
άζωτον· νιτρώδες οξύ N₂O· οξυγόνον· ξένον.

(β) Εύφλεκτα

αιθάνιο· αιθυλένιο· υδρογόνο· μεθάνιο.

8⁰ Μίγματα αερίων

(α) Αφλεκτα

Αήρ· μίγματα υλών της 7⁰(α)

(β) Εύφλεκτα

Μίγματα υλών της 7⁰(β)· φυσικόν αέριον.

Δ.- Αέρια διαλυόμενα υπό πίεση

Καθαρά αέρια και τεχνικώς-καθαρά αέρια

220I

(α Τ) Αφλεκτα, τοξικά

(Συνεχίζε-
ται)

Αμμωνία διαλυομένη στο νερό με άνω του 35^ο/ο

αλλά όχι άνω του 40^ο/ο αμμωνία κατά βάρος·

αμμωνία διαλυομένη στο νερό με άνω του 40^ο/ο

αλλά όχι άνω του 50^ο/ο αμμωνία κατά βάρος.

Σημειώσεις:- Διάλυμα αμμωνίας με περιεχόμενο σε αμμωνία μη υπερβαίνον το 35^ο/ο κατά βάρος δεν υπόκειται στους όρους της ADR.

(γ) Χημικώς ασταθή

Ακετυλένιο διαλυόμενο σε διαλύτη (π.χ. ακετόνη)

απορροφούμενο από πορώδεις ύλες.

Ε.- Διανεμητές αεροζόλ και μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) αερίου υπό πίεση (βλέπε επίσης περιθώριο 220Iα υπό στοιχείο (δ)):

Σημειώσεις:- Ι.- Οι διανεμητές αεροζόλ είναι δοχεία που μπορούν να χρησιμοποιηθούν μία μόνο φορά, είναι εφοδιασμένα με βαλβίδα αφέσεως ή μηχανισμό διασποράς, και περιέχουν, υπό πίεση, αέριο ή μίγμα αερίων του περιθωρίου 2208(2) ή περιέχουν ενεργόν ύλην (εντομοκτόνον, κοσμητικήν (καλλυντικήν) κλπ.) μαζί με αέριο ή μίγμα αερίων σαν προωθητική γέωση.

2.- Μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) αερίων υπό πίεση είναι δοχεία που μπορούν να χρησιμοποιηθούν μόνο μία φορά και περιέχουν αέριο ή μίγμα αερίων του περιθωρίου 2208(2) και (3) (π.χ. βουτάνιο για μαγειρεία-καταυλισμών, ψυκτικά αέρια κλπ.), αλλά δεν είναι εφοδιασμένα με βαλβίδα αφέσεως.

3.- Ο όρος "εύφλεκτες ύλες" σημαίνει: 220I

(I) αέρια (προωθητική γόμωση διανεμητών αεροζόλ· (Συνεχίζεται)
περιεχόμενο μη-ξαναγεμιζομένων δοχείων (CONTAINERS)
αερίου υπό πίεση)) των οποίων τα μίγματα με άβρα μπορούν να αναφλεγούν και έχουν κατώτερο και ανώτερο όριο εκρήξεως·

(II) υγρά (ενεργείς ύλες διανεμητών αεροζόλ) της Κλάσεως 3.

4.- Ο όρος "χημικώς ασταθής" εφαρμόζεται σε περιεχόμενο το οποίο ελλείπει ειδικών προφυλάξεων υφίσταται επικίνδυνον αποσύνθεση ή αυτο-πολυμερισμόν εις θερμοκρασίαν όχι άνω των 70°C.

10^ο Διανεμητές Αεροζόλ

(α) Άφλεκτοι

Με όχι εύφλεκτον περιεχόμενο.

(α T) Άφλεκτοι, τοξικοί

Με άφλεκτο τοξικό περιεχόμενο.

(β) Εύφλεκτοι

1.- Με όχι άνω του 45^ο/ο εύφλεκτο περιεχόμενο κατά βάρος.

2.- Με άνω του 45^ο/ο εύφλεκτο περιεχόμενο κατά βάρος.

(β T) Εύφλεκτες, τοξικές

1.- Με τοξικό περιεχόμενο και όχι άνω του 45^ο/ο εύφλεκτο περιεχόμενο κατά βάρος.

2.- Με τοξικό περιεχόμενο και άνω του 45^ο/ο εύφλεκτο περιεχόμενο κατά βάρος.

(γ) Χημικώς ασταθείς

220I

Με χημικώς-ασταθείς περιεχόμενο.

(Συνεχίζεται),

(γ Τ) Χημικώς ασταθείς, τοξικοί

Με χημικώς-ασταθείς τοξικό περιεχόμενο.

II^ο Μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) αερίου υπό πίεση

(α) Άφλεκτα

Με άφλεκτο περιεχόμενο.

(β) Εύφλεκτα

Με εύφλεκτο ~~πηκτικό~~ περιεχόμενο.

(β Τ) Εύφλεκτα, τοξικά

Με εύφλεκτο τοξικό περιεχόμενο.

(γ) Χημικώς ασταθή

Με χημικώς-ασταθείς περιεχόμενο.

(γ Τ) Χημικώς ασταθή, τοξικά

Με χημικώς-ασταθείς τοξικό περιεχόμενο.

ΣΤ.- Αέρια υποκειμένα σε ειδικούς όρους

I2^ο Διάφορα μίγματα αερίων

Μίγματα περιέχοντα αέρια αναφερόμενα σε άλλους αριθμούς είδους της παρούσης Κλάσεως, και μίγματα ενός ή περισσοτέρων αερίων αναφερομένων υπό άλλους αριθμούς είδους της παρούσης Κλάσεως με έναν ή περισσότερους ατμούς υλών δεν εξαιρούνται της μεταφοράς συμφώνως προς της ADR, υπό τον όρον ότι κατά την μεταφορά:

1.- το μίγμα παραμένει εξ ολοκλήρου αεριώδες· και

2.- αποκλείεται κάθε δυνατότης επικινδύνου αντιδράσεως.

I3^ο Αέρια Δοκιμών

Αέρια και μίγματα αερίων μη αναφερόμενα υπό άλλους αριθ-

220I

(Συνεχίζεται)

μούς της παρούσης Κλάσεως και χρησιμοποιούμενα
μόνον για εργαστηριακές δοκιμές, υπό τον όρον ότι
κατά τη μεταφορά:-

(α) το αέριο ή μίγμα αερίων παραμένει εξ ολοκλήρου
αεριώδες και

(β) αποκλείεται κάθε δυνατότης επικινδύνου αντιφράσεως.

Ζ.- Αδεια δοχεία και άδειες δεξαμενές

I4^ο Κενά δοχεία και κενές δεξαμενές, ακαθάριστα, που περι-
είχαν τετραφθοριομεθάνιο της I^ο(α), ύλεις της I^ο, (A T)
- (γ T)^ο 2^ο, (β) - (γ T)^ο 3^ο - 6^ο διοξειδίο του άν-
θρακος και νιτρώδες οξύ της 7^ο(α)^ο ή ύλεις των 7^ο(β),
8^ο(β), 9^ο, I2^ο ή I3^ο.

Σημειώσεις:- I.- Δοχεία και δεξαμενές που μετά το άδειασμα
των υλών της I4^ο εξακολουθούν να περιέχουν μικρά κατά-
λοιπα θεωρούνται ως κενά ακαθάριστα δοχεία ή δεξαμενές.

2.- Ακαθάριστα κενά δοχεία ή κενές δεξαμε-
νές που περιείχαν αέρια της I^ο(α) πλην του τετραφθοριο-
μεθανίου (R I4), ή αέρια της 2^ο(α), 7^ο(α) πλην του διο-
ξειδίου του άνθρακος και νιτρώδους οξέος, ή της 8^ο(α),
δεν υπόκεινται στους όρους της ADR.

Αέρια και είδη παραδιδόμενα για μεταφορά σύμφωνα προς 220Iα
τις παρακάτω διατάξεις δεν υπόκεινται στους όρους ή τις
διατάξεις τις σχετικές με τη παρούσα Κλάση που διαλαμβάνον-
ται αλλού στο παρόν Παράρτημα ή το Παράρτημα B:

(α) πεπιεσμένα αέρια τα οποία δεν είναι ούτε εύφλεκτα ούτε
τοξικά ούτε διαβρωτικά και η πίεση των οποίων στο δο-
χείο, αναφερομένη σε θερμοκρασία 15^οC, δεν υπερβαίνει

- τα 2 KG/CM^2 . ο αυτός κανόνας ισχύει για μίγματα 2201α
αερίων περιέχοντα όχι άνω του 2% εύφλεκτα συ- (Συνεχίζεται)
στατικά μέρη.
- (β) υγροποιημένα αέρια περιεχόμενα σε ποσότητες μη
υπερβαίνουσες τα 60 L, ή σε ποσότητες μικρότερες
των 5 L με όχι άνω των 25 γραμμαρίων υδρογόνου,
μέσα σε φυκτικές συσκευές (φυγεία, μηχανές πάγου,
κλπ.) και απαραίτητα για τη λειτουργία τους.
- (γ) διοξείδιο άνθρακος ($5^{\circ}(\alpha)$) σε μεταλλικά καψύλλια
(SODORS, SPARKLETS) εάν το διοξείδιο του άνθρακος
σε αεριώδη κατάσταση δεν περιέχει άνω του 0.5%
αέρα και τα καψύλλια περιέχουν όχι άνω των 25 γραμ-
μαρίων διοξειδίου του άνθρακος και όχι άνω των
0.75 γραμμαρίων ανά CM^3 χωρητικότητας.
- (δ) είδη των IO° και II° χωρητικότητας μη υπερβαινούσης
τα 50 CM^3 . Κόλον με τέτοια είδη δεν θα ζυγίζει άνω
των 10 KG.
- (ε) υγροποιημένα αέρια πετρελαίου περιεχόμενα σε δεξαμε-
νές αυτοκινήτων σταθερά στερεωμένες στα οχήματα.
η στρόφιγγα του καυσίμου μεταξύ της δεξαμενής και
της μηχανής πρέπει να είναι κλειστή και η ηλεκτρική
επαφή ανοικτή.

2.- Διατάξεις

A.- Κόλα

I.- Γενικοί όροι συσκευασίας

2202

- (I) Τα υλικά από τα οποία τα δοχεία και τα κλεισίμα-
τά τους κατασκευάζονται δεν πρέπει να κινδυνεύουν να προσ-

- βληθούν από το περιεχόμενο ή να σχηματίζουν επιβλαβείς 2202
ή επικινδύνους συνθήσεις (ενώσεις). (Συνεχίζεται)

Σημειώσεις:- Μέριμνα πρέπει να λαμβάνεται ώστε να μην επιτραπεί οποιαδήποτε υγρασία να εισέλθει στα δοχεία όταν γεμίζονται, και να ξηραίνονται τα δοχεία πλήρως μετά τις δοκιμές υδραυλικής πίεσεως (βλέπε περιθώριο 22I6) τις διεξαγόμενες με νερό ή με υδατώδη διαλύματα.

(2) Οι συσκευασίες, συμπεριλαμβανομένων των κλεισμάτων των, θα είναι επαρκώς άκαμπτες και γερές σε όλα τα μέρη τους ώστε να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούς της μεταφοράς και να τηρούνται οι κανονικοί όροι της μεταφοράς. Όταν προβλέπονται εξωτερικές συσκευασίες, τα δοχεία θα στερεώνονται στερεά σ' αυτές. Εκτός εάν άλλως ορίζεται στο άρθρο το τι εμπορεύμενο "Συσκευασία μίας ύλης ή εμπορευμάτων του αυτού είδους", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται στις εξωτερικές συσκευασίες, είτε μία-μία είτε ομαδικά.

(3) Μεταλλικά δοχεία προοριζόμενα για τη μεταφορά αερίων των I^ο έως 6^ο και 9^ο θα περιέχουν μόνον το αέριο για το οποίο δοκιμάστηκαν και του οποίου η ονομασία έχει γραφεί πάνω στο δοχείο (βλέπε περιθώριο 22I8(I)(α)).

Ανακλήσεις επιτρέπονται:-

- (I) για μεταλλικά δοχεία δοκιμασθέντα για μία των υλών των 3^ο(α) ή 4^ο(α) ή για βρωμοτριφθοριομεθάνιο, χλωροτρι- ή τριφθοριομεθάνιο της 5^ο(α). Τα δοχεία αυτά μπορούν επίσης να γεμισθούν με κάποια άλλη ύλη των προαναφερθέντων

ειδών υπό τον όρον ότι η προβλεπομένη για την ύλη 2202 αυτή κατωτάτη πίεση δοκιμής δεν υπερβαίνει τη πίεση (Συνεχίζεται) δοκιμής του δοχείου και ότι η ονομασία της ύλης και το επιτρεπτόν ανώτατο βάρος γεμίσματος αναγράφονται επί του δοχείου·

- 2.- για μεταλλικά δοχεία δοκιμασθέντα για υδρογονάνθρακες των 3^ο(β) ή 4^ο(β). Τα δοχεία αυτά μπορούν επίσης να γεμισθούν με κάποιον άλλον υδρογονάνθρακα υπό τον όρον ότι η προβλεπομένη για την ύλη αυτή κατωτάτη πίεση δοκιμής δεν υπερβαίνει τη πίεση δοκιμής του δοχείου και ότι η ονομασία της ύλης και το επιτρεπτόν ανώτατο βάρος γεμίσματος αναγράφονται επί του δοχείου.

Για I και 2, βλέπε επίσης περιθώρια 22I5, 22I8 (I)(α) και 2220, (I) έως (3).

(4) Αλλαγή της ορισθείσας για ένα δοχείο χρήσεως επιτρέπεται κατ'αρχήν εάν δεν αντιβαίνει στους εθνικούς κανονισμούς· χρειάζεται όμως η έγκριση της αρμόδιας αρχής και η αντικατάσταση των αρχικών ενδείξεων (μαρκαρισμάτων) με τις ενδείξεις (μαρκαρίσματα) τις σχετικές με τη νέα χρήση.

- 2.- Συσκευασία μιάς ύλης ή εμπορευμάτων του αυτού είδους

Σημειώσεις:- Το διοξειδίο του άνθρακος και νιτρώδες οξύ (7^ο(α)) και μίγματα των δύο αυτών αερίων (8^ο(α)) δεν μπορούν να μεταφέρονται άλλως, παρά μόνο ειδικά-εξοπλισμένες δεξαμενές (βλέπε Παράρτημα Β, περιθώριο 2I 400).

- α.- Φύσις δοχείων

(I) Τα δοχεία τα προοριζόμενα για τη μεταφορά αε-

αερίων των 1° έως 6° , 9° , 12° και 13° θα είναι έτσι 2203 κλεισμένα και στεγανά ώστε να αποφεύγεται οποιαδήποτε διαρροή των αερίων. (Συνεχίζεται)

(2) Τα δοχεία αυτά θα είναι κατασκευασμένα από ανθρακούχο χάλυβα ή κράμα χάλυβος (ειδικοί χάλυβες).

Τα κατωτέρω μπορούν εν τούτοις να χρησιμοποιούνται:-

(α) χάλκινα δοχεία για:-

1.- πεπιεσμένα αέρια της 1° , (α), (β) και (β Τ), και 2° , (α) και (β), των οποίων η πίεση πληρώσεως (γεμίσματος) η αναφερομένη σε θερμοκρασία 15°C δεν υπερβαίνει τα 20 KG/CM^2 και

2.- πεπιεσμένα αέρια της 3° (α)· διοξειδίο του θείου της 3° (α Τ)· διμεθυλαιθέρας, αιθυλοχλωρίδιο και μεθυλενοχλωρίδιο της 3° (β Τ)· βινυλχλωρίδιο της 3° (γ)· βινυβρωμίδιο της 3° (γ Τ)· μίγματα F 1, F 2 και F 3 της 4° (α)· και αιθυλενοξειδίο περιέχον όχι άνω του 10% διοξειδίο του άνθρακος κατά βάρος, της 4° (γ Τ)·

(β) δοχεία από κράμα-αλουμινίου (βλέπε Προσθήκη Α.2) για:-

1.- πεπιεσμένα αέρια της 1° , (α), (β) και (β Τ)· νιτρώδες οξύ (μονοξειδίο αζώτου) NO της 1° (γ Τ)· και πεπιεσμένα αέρια της 2° , (α), (β) και (β Τ)·

2.- υγροποιημένα αέρια της 3° (α)· διοξειδίο του θείου της 3° (α Τ)· υγροποιημένα αέρια της 3° (β) πλην μεθυσιλανίου· διμεθυλαιθέρας, σεληνούχο υδρογόνο, και μεθυλική μερκαπτάνη της 3° (β Τ)·

αιθυλενοξειδίο της 3^ο (γ Τ)* υγροποιημένα 2203
 αέρια της 4^ο, (α) και (β)* αιθυλενοξειδίο (Συνεχί-
 ζεται)
 περιέχον όχι άνω του 10^ο/ο διοξειδίου του
 άνθρακος κατά βάρος, της 4^ο (γ Τ)* και υγρο-
 ποιημένα αέρια της 5^ο, (α) και (β), και 6^ο,
 (α) και (γ). Διοξειδίο του θείου της 3^ο (α Τ)
 και ύλες της 3^ο (α) και 4^ο (α) θα είναι ξηρές
 και

3.- διαλυόμενο ακετυλένιο της 9^ο (γ).

Όλα τα αέρια τα οποία πρόκειται να μεταφερθούν μέσα
 σε δοχεία από κράμα αλουμινίου θα είναι απαλλαγμένα
 από αλκαλικές ακαθαρσίες.

(Ι) Τα δοχεία για διαλυόμενο ακετυλένιο (9^ο (γ)) θα 2204
 πληρούνται εξ ολοκλήρου με πορώδες υλικό, ομοιόμορφα κατανε-
 μημένο, τύπου εγκεκριμένου από την αρμόδια αρχή και το οποίο
 (α) δεν προσβάλλει τα δοχεία ή σχηματίζει επιβλαβείς ή επικίν-
 δυνες ενώσεις είτε με το ακετυλένιο είτε με τον διαλύτη.
 (β) δεν εκτινάσσεται, ακόμη και μετά από παρατεταμένη χρήση
 ή από τράνταγμα, σε θερμοκρασίες μέχρι 60^ο C.
 (γ) είναι ικανό να εμποδίζει την εξάπλωση της αποσυνθέσεως
 του ακετυλενίου στη μάζα.

(2) Το διαλυτικό δεν πρέπει να προσβάλει τα δοχεία.

(Ι) Τα παρακάτω υγροποιημένα αέρια μπορούν, επι- 2205
 προσθέτως, να μεταφέρονται μέσα σε γυιάλινους σωλήνες με
 χονδρά τοιχώματα υπό τον όρον ότι η ποσότης της ύλης σε κάθε
 σωλήνα και ο βαθμός πληρώσεως των σωλήνων δεν υπερβαίνουν
 τους παρακάτω σημειούμενους αριθμούς:

2205

(Συνεχίζεται)

| <u>Όνομασία Αερίων</u> | <u>Ποσότης</u> <u>Ύλης</u> | <u>Βαθμός πληρώσεως</u> <u>του σωλήνος</u> |
|---|-------------------------------|---|
| Διοξειδίο του άνθρακος, υποξειδίο του αζώτου N_2O ($5^0(\alpha)$), αιθάνιο, αιθυλέ- νιο ($5^0(\beta)$) | 3 Γραμμ. | ήμισυ της χωρητικό- τητος |
| Αμμωνία, χλώριο, μεθυλο- βρωμίδιο ($3^0(\alpha T)$), κυκλοπροπάνιο ($3^0(\beta)$), αιθυλενοχλωρίδιο ($3^0(\beta T)$) | 20 Γραμμ. | δύο-τρίτα της χωρητι- κότητας |
| Φωσγένιο, διοξειδίο του θείου ($3^0(\alpha T)$) | 100 Γραμμ. | τρία-τέταρτα της χω- ρητικότητας |

(2) Οι γυάλινοι σωλήνες στεγανοί κατά της φλόγας και ασφαλισμένοι χωριστά με γη-διατόμων σε κλειστά καψύλλια από έλασμα τα οποία θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία κατάλληλης αντοχής (βλέπε επίσης περιθώριο 2222).

(3) Για διοξειδίο του θείου της $3^0(\alpha T)$ γερά γυάλινα σιφόνια περιέχοντα όχι άνω των 1.5 KG ύλης και γεμάτα όχι άνω του 88 6/100 εκατόν της χωρητικότητός των επιτρέπονται επίσης. Τα σιφόνια θα ασφαρίζονται με γη-διατόμων, πριονίδιο ή κονιοποιημένο ανθρακικό ασβέστιο, ή με μίγμα από τα δύο τελευταία, μέσα σε ξύλινα κιβώτια ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Το κέλον δεν θα ζυγίζει άνω των 100 KG. Εάν ζυγίζει άνω των 30 KG θα είναι εφοδιασμένο με χειρολαβές.

(I) Αέρια της $3^0(\alpha)$ · $3^0(\beta)$ πλην μεθυλοδιλανίου·

2206

3^ο (β Τ) πλήν αρσίνης, διχλωροσιλανίου, διμεθυλοσιλανίου, σεληνούχου υδρογόνου και τριμεθυλοσιλανίου. 2206
(Συνεχίζεται)

3^ο (γ). 3^ο (γ Τ) πλήν χλωροκυανιδίου και μίγματα της 4^ο (α) και 4^ο (β), μπορούν επίσης, υπό τον όρον ότι το βάρος του περιεχομένου ανά λίτραν υγρού δεν υπερβαίνει είτε το ανώτατο βάρος του περιεχομένου του οριζομένου στο περιθώριο 2220 είτε 150 γραμμ. ανά σωλήνα, να περιληφθούν σε γυάλινους σωλήνες με χονδρό τοίχωμα, ή σε μεταλλικούς σωλήνες με χονδρό τοίχωμα κατασκευασμένους από μέταλλο επιτρεπόμενο υπό του περιθωρίου 2203(2). Οι σωλήνες θα είναι απαλλαγμένοι από βλάβες δυνάμενες να εξασθενήσουν την αντοχήν τους· ειδικώτερα, οι εσωτερικές τάσεις των γυάλινων σωλήνων θα έχουν καταλλήλως ελαττωθεί και το πάχος των τοιχωμάτων του σωλήνος δεν θα είναι μικρότερο των 2 MM (χιλ.). Η στεγανότητα του συστήματος κλεισίματος θα εξασφαλίζεται με πρόσθετο μηχανισμό (κάλυμμα, κορώνα, σφραγίδα, δέσιμο, κλπ.) ικανόν να εμποδίζει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της μεταφοράς. Οι σωλήνες θα ασφαρίζονται με αποσβεστικό υλικό σε μικρά κυττία κατασκευασμένα από ξύλο ή ινώδη σανίδα, του αριθμού των σωλήνων ανά κυτίον όντος τοιούτου ώστε το βάρος του υγρού του περιεχομένου στο κυτίο να μην υπερβαίνει τα 600 γραμμάρια. Τα μικρά αυτά κυττία θα τοποθετούνται σε ξύλινα κιβώτια ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής· εάν το εις υγρόν περιεχόμενον του κιβωτίου ζυγίζει περισσότερον των 5 KG το κιβώτιο θα επενδύεται με έλασμα μαλακής συγκολλησεως.

(2) Το κέλον δεν θα ζυγίζει άνω των 75 KG.

(I) Τα άέρια της 7^ο(α) πλήν του διοξειδίου του 2207 άνθρακος και του υποξειδίου του αζώτου, και της 8^ο(α) πλήν των μιγμάτων των περιεχόντων διοξείδιο του άνθρακος και υποξειδίου του αζώτου, θα εγκλείονται σε κλειστά, μεταλλικά με διπλό ποίχωμα δοχεία που είναι έτσι μονωμένα ώστε να μή μπορούν να επικαλυφθούν από δρόσον ή παγετόν και τα οποία είναι εφοδιασμένα με βαλβίδες ασφαλείας.

(2) Τα άέρια της 7^ο(α) πλήν του διοξειδίου του άνθρακος και του υποξειδίου του αζώτου, και της 8^ο(α) πλην των μιγμάτων των περιεχόντων διοξείδιο του άνθρακος και υποξειδίου του αζώτου, μπορούν επίσης να εγκλείονται σε δοχεία τα οποία είναι ερμητικώς κλεισμένα και τα οποία:

- (α) είναι γυάλινα δοχεία διπλού τοιχώματος περιβεβλημένα δια κενού (VACUUM-JACKETED) ως και δια μίας απορροφητικής μονωτικής ύλης· τα δοχεία αυτά θα προστατεύονται μέ συμμάτινογς κάλαθους και θα τοποθετούνται σε μεταλλικά κιβώτια· ή
- (β) είναι μεταλλικά δοχεία προστατευόμενα κατά της μεταδόσεως της θερμότητας κατά τέτοιο τρόπο ώστε να μη μπορούν να επικαλυφθούν με δρόσον ή παγετόν· η χωρητικότητα των δοχείων αυτών δεν θα υπερβαίνει τα 100 λίτρα.

(3) Τα μεταλλικά κιβώτια τα αναφερόμενα στο εδάφιο (2)(α) και τα δοχεία τα αναφερόμενα στο εδάφιο (2)(β) ανωτέρω θα είναι εφοδιασμένα με χειρολαβές. Τα ανοίγματα των δοχείων των αναφερομένων στα εδάφια (2)(α) και (β) θα

είναι εφοδιασμένα με μηχανισμούς επιτρέποντας τα αέρια 2207
να διαφεύγουν, εμποδίζοντας πιτσίλισμα του υγρού, και (Συνεχίζεται)
έτσι στερεωμένους ώστε να μη πέσουν. Στη περίπτωση του
οξυγόνου 7^ο(α), και μιγμάτων περιεχόντων οξυγόνο της
8^ο(α), οι ανωτέρω αναφερόμενοι μηχανισμοί και η απορρο-
φητική μονωτική ύλη η περιβάλλουσα τα δοχεία η αναφερομέ-
νη στο εδάφιο (2)(α) θα είναι από άκαυστο υλικό.

(I) Οι διανεμητές αεροζόλ (IO^ο) και τα μη-ξανα- 2208
γεμιζόμενα δοχεία (CONTAINERS) για αέριο υπό πίεση (II^ο)
θα πληρούν τους παρακάτω όρους:-

(α) οι διανεμητές αεροζόλ που περιέχουν μόνον αέριον ή
μίγμα αερίων, και τα μη-ξαναγεμιζόμενα δοχεία (CONTAIN-
ERS) για αέριο υπό πίεση, θα είναι από μέταλλο. Ο όρος
αυτός δεν θα ισχύει για μη-ξαναγεμιζόμενα δοχεία
(CONTAINERS) για αέριο υπό πίεση με ανώτατη χωρητι-
κότητα 100 ML για βουτάνιο. Άλλοι διανεμητές αεροζόλ
θα είναι κατασκευασμένοι από μέταλλο, πλαστική ύλη ή
αέριο. Δοχεία κατασκευασμένα από μέταλλο και έχοντα
εξωτερική διάμετρο όχι μικρότερη των 40 MM (χιλ.) θα
έχουν κοίλο πυθμένα.

(β) δοχεία κατασκευασμένα από υλικά υποκειμένα σε θρυμμα-
τισμό, όπως το γυαλί ή ωρισμένες πλαστικές ύλες, θα
εγκλείονται σε συσκευή (στενά-πλεγμένο συρμάτινο δίκτυ,
εύκαμπτο κάλυμμα κατασκευασμένο από πλαστική ύλη, κλπ.)
παρέχουσα προστασίαν για θραύσματα και διασποράν αυτών.
Δοχεία των οποίων η χωρητικότητα δεν υπερβαίνει τα
150 CM³ και των οποίων η εσωτερική πίεση στους 20^οC

είναι κάτω των 1.5 KG/CM^2 εξαιρούνται από τον όρον 2208 αυτόν.

(γ) η χωρητικότητα των δοχείων των κατασκευασμένων από μέταλλο δεν θα υπερβαίνει τα 1.000 CM^3 . των δοχείων των κατασκευασμένων από πλαστική ύλη ή ύalon δεν θα υπερβαίνει τα 500 CM^3 .

(δ) κάθε μοντέλο δοχείου, προτού τεθεί σε υπηρεσία, θα ικανοποιεί δοκιμήν υδραυλικής πίεσεως διεξαγομένην συμφώνως προς την Προσθήκην Α.2, περιθώριο 329Ι.

Η εσωτερική πίεση που πρόκειται να εφαρμοσθεί (πίεση δοκιμής) θα είναι 1.5 φορές την εσωτερική πίεση στους 50° , με κατωτάτη πίεση 10 KG/CM^2 .

(ε) οι βαλβίδες αφέσεως των διανεμητών αεροζόλ, και οι μηχανισμοί διασποράς (διανομής) αυτών, θα εξασφαλίζουν οι διανεμητές να είναι έτσι κλεισμένοι ώστε να είναι στεγανοί και θα προστατεύονται από τυχαίο άνοιγμα. Οι βαλβίδες και οι μηχανισμοί διασποράς (διανομής) που κλείνουν μόνον δι' εσωτερικής πίεσεως δεν θα γίνονται δεκτοί.

(2) Τα παρακάτω αέρια θα γίνονται δεκτά ως προωθητά, ή ως αέρια πληρώσεως, για διανεμητές αεροζόλ:-
αέρια της 1° , (α) και (β)· 2° , (α) και (β)· 3° , (α) και (β) πλην μεθυλοσιλανίου· αιθυλοχλωρίδιο και διμεθυλαιθέρας της 3° (β Τ)· 1,3-βουταδιένιο της 3° (γ)· τριφθοριοχλωροαιθυλένιο της 3° (γ Τ)· αέρια της 4° , (α) και (β)· αέρια της 5° , (α) και (β) πλην του σιλανίου· αέρια της 5° (γ) και 6° (α) και (γ).

(3) Όλα τα αέρια της (2) και, επιπροσθέτως, 2208
τα παρακάτω αέρια θα γίνονται δεκτά ως αέρια πληρώσεως (Συνεχίζε-
(γεμίσματος) για μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) ται)
για αέριο υπό πίεση: μεθυλοβρωμίδιο της 3^ο (α Τ): διμε-
θυλαμίνη, αιθυλαμίνη, μεθυλαμίνη, μεθυλική μερκαπτάνη
και τριμεθυλαμίνη της 3^ο (β Τ): αιθυλενοξειδίο, μεθυλο-
βινυλαιθέρας και βινυβρωμίδιο της 3^ο (γ Τ): αιθυλενοξει-
δίο περιέχον όχι άνω του 10^ο/ο διοξειδίο του άνθρακος
κατά βάρος, της 4^ο (γ Τ).

(I) Η εσωτερική πίεση στους 50^ο C των διανεμητών 2209
αεροζόλ και των μη-ξαναγεμιζομένων δοχείων αερίου υπό
πίεση/θα ^{δεν} υπερβαίνει ούτε τα δύο-τρίτα της πίεσεως δοκι-
μής του δοχείου ούτε τα 12 KG/CM².

(2) Οι διανεμητές αερίου και τα μη-ξαναγεμιζόμενα
δοχεία (CONTAINERS) αερίου υπό πίεση θα είναι έτσι γεμι-
σμένα ώστε στους 50^ο C η φάση του υγρού να μην υπερβαίνει
το 95^ο/ο της χωρητικότητάς των. Η χωρητικότητα των διανε-
μητών αεροζόλ είναι ο διαθέσιμος όγκος σε κλειστό διανε-
μητή εφοδιασμένο με το υποστήριγμα της βαλβίδας, την βαλ-
βίδα και τον σωλήνα εμβυθίσεως.

(3) Όλοι οι διανεμητές αεροζόλ και τα μη-ξαναγε-
μιζόμενα δοχεία (CONTAINERS) για αέριο υπό πίεση θα ικα-
νοποιούν δοκιμήν στεγανότητας σύμφωνα με τη Προσθήκη Α.2,
περιθώριο 3292.

(I) Οι διανεμητές αεροζόλ και τα μη-ξαναγεμιζόμενα
δοχεία (CONTAINERS) αερίου υπό πίεση θα τοποθετούνται σε
ξύλινα κιβώτια ή γερά από ινώδη σανίδα ή μέταλλο κυτρία.

οι διανεμητές αεροζόλ οι κατασκευασμένοι από γυαλί ή πλαστική ύλη και υποκείμενοι σε θρυμματισμό θα διαχωρίζονται ο ένας από τον άλλον δι' ενδιαμέσου τοποθετήσεως φύλλων από ινώδη σανίδα ή άλλη κατάλληλη ύλη.

2210
(Συνεχίζεται)

(2) Το κόλον δεν θα ζυγίζει άνω των 50 KG εάν χρησιμοποιούνται κυτία από ινώδη σανίδα ή άνω των 75 KG εάν χρησιμοποιούνται άλλα μέσα συσκευασίας.

(3) Όσον η μεταφορά είναι μεταφορά πλήρους φορτίου, εκάστου φορτίου περιλαμβάνοντος μόνον διανεμητές αεροζόλ κατασκευασμένους από μέταλλο, οι διανεμητές μπορούν να ομαδοποιηθούν και στερεωθούν σε δίσκους με τη βοήθεια κατάλληλης πλαστικής ύλης, μέσω μεθόδου συρρικνώσεως και θερμο-στεγανότητας, υπό τον όρον ότι ότι οι ομάδες των διανεμητών θα στοιβαχθούν και καταλλήλως ασφαλισθούν πάνω σε παλλέτες.

β.- Όροι διέποντες τα μεταλλικά δοχεία

(Οι όροι αυτοί δεν έχουν εφαρμογή για μεταλλικούς σωλήνες αναφερόμενους στο περιθώριο 2206, για δοχεία αναφερόμενα στο περιθώριο 2207(2))(β), ή για διανεμητές αεροζόλ ή μη-ξαναγεμιζόμενα μεταλλικά δοχεία (CONTAINERS) για αέριο υπό πίεση, αναφερόμενα στο περιθώριο 2208).

Γ.- Κατασκευή και εφαρμογές (βλέπε επίσης περιθώριο 2238).

(Ι) Στη πίεση δοκιμής, η τάση του μετάλλου στο σημείο της μεγαλύτερης τάσεως του δοχείου (περιθώρια 2215, 2219 και 2220), δεν πρέπει να υπερβαίνει τα τρία-τέταρτα της εγγυημένης κατωτάτης τάσεως αποδόσεως (Re). Με τον όρο "τάσις αποδόσεως" νοείται η τάση που παρήχθη

η μόνιμη επιμήκυνση εκ $2^0/00$ (τ.έ. 0.26% εκατόν) ή, 22II
για χάλυβες μετά ωστενίτου, $1^0/0$ του μήκους του πιεζο- (Συνεχί-
μέτρου επί του τεμαχίου-δοκιμής. ζεται)

Σημειώσεις:- Στη περίπτωση φύλλου-μετάλλου (ελάσματος)
ο άξων του τεμαχίου-δοκιμής αντοχής εις εφελκυσμόν θα
είναι σε ορθές γωνίες προς τη κατεύθυνση της ελάσεως.
Η μόνιμη επιμήκυνση του θραύσματος ($L = 5 \delta$) θα μετρά-
ται επί τεμαχίου-δοκιμής κυκλικής διατομής ένθα το μή-
κος του πιεζομέτρου L ισούται προς πέντε φορές τη διά-
μετρο δ . Εάν τεμάχια-δοκιμής ορθογωνίου διατομής χρησι-
μοποιηθούν, το μήκος του πιεζομέτρου θα υπολογίζεται
με τον τύπο $L = 5.65 \sqrt{F_0}$, όπου F_0 δεικνύει την αρχική
περιοχή (εμβαδόν) διατομής του δοχείου-δοκιμής.

(2) (α) Χαλύβδινα δοχεία των οποίων η πίεση δο-
κιμής υπερβαίνει τα 60 KG/CM^2 πρέπει να είναι κατασκευής
άνευ ραφών ή συγκολλημένα. Για συγκολλημένα δοχεία, χάλ-
υβες (ανθρακούχοι ή κράματα) πλήρως ικανοποιητικής ικα-
νότητας συγκολλήσεως πρέπει να χρησιμοποιούνται.

(β) Δοχεία των οποίων η πίεση-δοκιμής δεν
υπερβαίνει τα 60 KG/CM^2 είτε θα είναι σύμφωνα προς τις
διατάξεις του ανωτέρω εδαφίου (α), είτε θα είναι πριτσι-
νωμένα είτε θα υποστούν σκληρή συγκόλληση υπό τον όρον
ότι ο κατασκευαστής εγγυάται την εργασία του πριτσινώ-
ματος και της σκληρής συγκολλήσεως και ότι οι αρμόδιες
αρχές της χώρας προελεύσεως έχουν δώσει την έγκρισή τους.

(3) Τα εκ κράματος αργυλλίου (αλουμινίου) δο-
χεία πρέπει να είναι χωρίς ραφές ή συγκολλημένα.

(4) Συγκολλημένα δοχεία γίνονται δεκτά μόνον
υπό τον όρον ότι ο κατασκευαστής εγγυάται την ποιότητα
της εργασίας της συγκολλήσεως και ότι οι αρμόδιες αρχές
της χώρας προελεύσεως έχουν δώσει την έγκρισή τους. 22ΠΙ
(Συνεχίζεται)

(I) Διάκριση γίνεται μεταξύ των παρακάτω τύ- 22Ι2
πων δοχείων:-

- (α) κύλινδροι με χωρητικότητα μη υπερβαίνουσα τις 150 λίτρες·
- (β) δοχεία με χωρητικότητα όχι μικρότερη των 100 λιτρών (εξαιρέσει κυλίνδρων συμμορφούμενων προς το εδάφιο (α)) και όχι μεγαλύτερη των 1.000 λιτρών (π.χ. κυλινδρικά δοχεία εφοδιασμένα με τσέρκια (στεφάνες) σπειροειδείς, και δοχεία επί πελμάτων (SKIDS)·
- (γ) δεξαμενές (βλέπε Παράρτημα Β)·
- (δ) συγκροτήματα, γνωστά ως "πλαίσια", κυλίνδρων, συμμορφούμενα προς προς το εδάφιο (I)(α), των κυλίνδρων συνδεομένων μεταξύ των δια σωληνώσεως και συγκρατούμενων σταθερά μεταξύ των δια μεταλλικού εξαρτήματος·

(2) (α) Εάν, συμφώνως προς τους κανονισμούς της χώρας αναχωρήσεως, οι κύλινδροι οι αναφερόμενοι στο εδάφιο (I)(α) υποχρεούνται να είναι εφοδιασμένοι με μηχανισμό προλήψεως του κυλίσματος, ο μηχανισμός αυτός δεν θα πρέπει να είναι τμήμα του πώματος της βαλβίδας (περιθώριο 22Ι3 (2)).

(β) Δοχεία συμφώνως προς το εδάφιο (I)(β) τα οποία είναι ικανά να κυλιθούν πρέπει να είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS) ή άλλως να

προστατεύονται από ζημιές οφειλόμενες στο κύλισμα (π.χ. 22Ι2 δια μετάλλου ανθεκτικού στη διάβρωση φεκασμένου επί της εξωτερικής επιφανείας του δοχείου). (Συνεχίζεται)

Δοχεία συμφώνως προς το εδάφιο (Ι)(β) και (Ι) (γ) που είναι ικανά να κυλιθούν πρέπει να είναι εφοδιασμένα με μηχανισμούς (πέλματα, δακτύλιοι, ταινίες) που να εξασφαλίζουν ότι μπορούν ασφαλώς να χειρισθούν δια μηχανικού μέσου και να είναι έτσι διευθετημένοι ώστε να μην εξασθενείται η αντοχή και να μη προκαλούνται αδικαιολόγητοι τάσεις στο τοίχωμα του δοχείου.

(γ) Πλαίσια κυλίνδρων, συμφώνως προς το εδάφιο (Ι) (δ) πρέπει να είναι εφοδιασμένα με μηχανισμούς εξασφαλίζοντας ότι μπορούν να χειρισθούν ασφαλώς. Η σωλήνωση και ο κύριος κρουνός πρέπει να ευρίσκονται εντός του πλαισίου και να είναι έτσι στερεωμένα ώστε να προστατεύονται κατά οποιασδήποτε ζημίας.

(3) (α) Εξαιρέσει των αερίων των 7^ο και 8^ο, τα αέρια της Κλάσεως 2 μπορούν να μεταφέρονται σε κυλίνδρους συμφώνως προς το εδάφιο (Ι)(α).

Σημειώσεις:- Για πιθανούς περιορισμούς αναφορικά με τη χωρητικότητα κυλίνδρων για ωρισμένα αέρια, βλέπε περιθώριο 22Ι9.

(β) Εξαιρέσει των φθορίου και τετραφθοριούχου πυριτίου (I^ο(α Τ))· μονοξειδίου του αζώτου (NO) (I^ο(γ Τ))· μιγμάτων υδρογόνου με όχι άνω του 10^ο/ο σεληνούχου υδρογόνου ή/σιλανίου ή γερμανομεθανίου κατ'όγκον ή με όχι άνω του 15^ο/ο αρσίνης κατ'όγκον· μιγμάτων αζώτου ή σπανίων αε-

ρίων (περιεχόντων όχι άνω του 10⁰/ο Ξένον κατ'όγκον) 2212
 με όχι άνω του 10⁰/ο σεληνούχο υδρογόνο ή φωσφίνη (Συνεχίζε-
 ή σιλάνιο ή γερμανομεθάνιο κατ'όγκον ή με όχι άνω ται)
 του 15⁰/ο αρσίνη κατ'όγκον (2⁰(β T))· μιγμάτων υδρο-
 γόνου με όχι άνω του 10⁰/ο διβοράνιο κατ'όγκον· μιγ-
 μάτων αζώτου ή σπανίων αερίων (περιεχόντων όχι άνω
 του 10⁰/ο Ξένον κατ'όγκον) με όχι άνω του 10⁰/ο διβο-
 ράνιο κατ'όγκον (2⁰(γ T))· χλωριούχου βορίου, τριφθο-
 ριούχου χλωρίου, χλωριούχου νιτριζύλ (NITROSYL), φθο-
 ριούχου SULPHURYL και εξαφθοριούχου βολφραμίου (3⁰
 (α T))· μεθυλοσιλανίου (3⁰(β)), αρσίνης, διχλωροσιλα-
 νίου, διμεθυλοσιλανίου, σεληνούχου υδρογόνου και τρι-
 μεθυλοσιλανίου (3⁰(β T))· χλωροκυανιδίου, κυανογόνου
 και αιθυλενοξειδίου (3⁰(γ T))· μιγμάτων μεθυλοσιλανίων
 (4⁰(β T))· υλών της 4⁰(γ) και 4⁰(γ T) πλην διχλωροδι-
 φθοριομεθανίου περιέχοντος 12⁰/ο αιθυλενοξείδιο κατ'
 , όγκον· υποξειδίου του αζώτου (5⁰(α))· σιλανίου (5⁰(β))·
 και υλών της 5⁰(β T), 5⁰(γ T), 7⁰, 8⁰, 12⁰ και 13⁰,
 άέρια της Κλάσεως 2 μπορούν να μεταφέρονται σε δο-
 χεία συμφώνως προς το εδάφιο (I) (β).

(γ) Εξαίρσει των τετραφθοριούχου πυριτίου
 (1⁰(α T))· μονοξειδίου του αζώτου (1⁰(γ T))· μιγμάτων
 υδρογόνου με όχι άνω του 10⁰/ο σεληνούχο υδρογόνο ή
 φωσφίνη ή σιλάνιο ή γερμανομεθάνιο κατ'όγκον ή με όχι
 άνω του 15⁰/ο αρσίνη κατ'όγκον· μιγμάτων αζώτου ή σπα-
 νίων αερίων (περιεχόντων όχι άνω του 10⁰/ο Ξένον κατ'
 όγκον) με όχι άνω του 10⁰/ο σεληνούχο υδρογόνο ή φωσφίνη

ή σιλάνιο ή γερμανομεθάνιο κατ'όγκον ή με όχι άνω του 2212
 15^ο/ο αρσίνη κατ'όγκον (2^ο(β Τ))· μιγμάτων υδρογόνου (Συνεχίζε-
 με όχι άνω του 10^ο/ο διβοράνιο κατ'όγκον· μιγμάτων α-
 ζώτου ή σπανίων αερίων (περιεχόντων όχι άνω του 10^ο/ο
 Ξένον κατ'όγκον) με όχι άνω του 10^ο/ο διβοράνιο κατ'
 όγκον (2^ο(γ Τ))· χλωριούχου βορίου, τριφθοριούχου χλω-
 ρίου, χλωριούχου NITROSYL, φθοριούχου SULPHURYL και
 εξαφθοριούχου βολφραμίου (3^ο(α Τ))· μεθυλοσιλανίου, σελην-
 νούχου υδρογόνου και τριμεθυλοσιλανίου (3^ο(β Τ))· χλω-
 φοκυανιδίου, κυανογόνου και αιθυλενοξειδίου (3^ο(γ Τ))·
 μιγμάτων μεθυλοσιλανίων (4^ο(β Τ))· υλών της 4^ο(γ) και
 4^ο(γ Τ)) πλην διχλωροδιφθοριομεθανίου περιέχοντος 12^ο/ο
 αιθυλενοξειδίο κατ'όγκον· υποξειδίου του αζώτου (5^ο(α))·
 σιλανίου (5^ο(β))· και υλών της 5^ο(β Τ), 5^ο(γ Τ), 7^ο,
 8^ο, 12^ο και 13^ο; αέρια της Κλάσεως 2 μπορούν να μεταφέ-
 ρονται σε πλαίσια κυλίνδρων συμφώνως προς το εδάφιο
 (Ι)(δ). Ο καθένας των κυλίνδρων σε πλαίσιο κυλίνδρων θα
 περιέχει μόνο ένα και το αυτό πεπιεσμένο αέριο, υγροποιη-
 μένο αέριο ή αέριο διαλυμένο υπό πίεση. Κάθε κύλινδρος
 σε πλαίσιο κυλίνδρων για φθόριο (1^ο(α Τ)) ή διαλυμένο
 ακετυλένιο (9^ο(γ)) θα είναι εν τούτοις εφοδιασμένος με
 κρουνόν. Οι κύλινδροι σε πλαίσιο κυλίνδρων για ακετυλέ-
 νιο πρέπει όλοι να περιέχουν το αυτό πορώδες υλικό (πε-
 ριθώριο 2204).

(Ι). Τα ανοίγματα για γέμισμα και άδειασμα δο- 2213
 χείων θα είναι εφοδιασμένα με βαλβίδες τύπου θυρίδας
 ή βελονειδείς βαλβίδες. Βαλβίδες άλλων τύπων μπορούν

να γίνουν, όπως , δεκτές εάν παρέχουν ίδιες εγγυήσεις 2213 ασφαλείας και έχουν την έγκριση της χώρας προελεύσεως. Παρ'όλο τούτο, οποιοσδήποτε τύπος βαλβίδος υιοθετηθεί, το σύστημα προσαρτήτεώς της πρέπει να είναι γερό και τέτοιο ώστε η ικανοποιητική της κατάσταση να επαληθεύεται εύκολα προτού από κάθε γέμισμα.

Εντός από ανθρωποθυρίδα, η οποία εάν παρέχεται θα είναι κλειστή με αποτελεσματικό κλείσιμο (κάλυμμα), και από τις απαραίτητες οπές για την αφαίρεση των ιζημάτων, τα δοχεία και οι δεξαμενές συμφώνως προς το περιθώριο 2212 (I)(β) και (γ) θα είναι εφοδιασμένα με άνω των δύο ανοιγμάτων, για γέμισμα και άνοιγμα αντιστοίχως. Εν τούτοις, χωρητικότητες όχι μικρότερας των 100 L προοριζόμενα για τη μεταφορά διαλυμένου ακετυλενίου ($9^{\circ}(\gamma)$) μπορούν να έχουν άνω των δύο ανοιγμάτων (οπών) για γέμισμα και άδειασμα.

Ομοίως, δοχεία και δεξαμενές συμφώνως προς περιθώριον 2212 (I), (β) και (γ), προοριζόμενα για τη μεταφορά των υλών της $3^{\circ}(\beta)$ και $4^{\circ}(\beta)$ μπορούν να διαθέτουν και άλλα ανοίγματα (οπές, στόμια) προοριζόμενα ειδικότερα για την επαλήθευση της στάθμης του υγρού και της πίεσεως του πιεζομέτρου.

(2) Οι βαλβίδες (κρουνοί) θα προστατεύονται αποτελεσματικά με πώματα ή μόνιμες φλάντζες. Τα πώματα θα διαθέτουν οπές αερισμού καταλλήλου διατομής για να εκκενώνουν τα αέρια εάν προκύψει διαρροή στις βαλβίδες. Τα πώματα ή οι φλάντζες θα προστατεύουν καταλλήλως την βαλβίδα εάν ο κύλινδρος πέσει και διαρκούσης της μεταφοράς και

στοιβάσας. Βαλβίδες τοποθετημένες εσωτερικά του λαιμού των δοχείων και προστατευόμενες από κοχλιωτό πώμα, και δοχεία που μεταφέρονται συσκευασμένα σε προστατευτικά κιβώτια, δεν θα χρειάζονται πώμα. Ομοίως, προστατευτικό πώμα δεν θα χρειασθεί για βαλβίδες (κρουνοί) επί πλαϊσών κυλίνδρων. 22I3 (Συνεχίζεται)

(3) Δοχεία περιέχοντα φθόριο ($I^0(\alpha T)$)· τριφθοριούχο χλώριο ($3^0(\alpha T)$)· ή χλωροκυανίδιο ($3^0(\gamma T)$), ανεξαρτήτως εάν μεταφέρονται ή όχι συσκευασμένα σε προστατευτικά κιβώτια, θα είναι εφοδιασμένα με πώματα από χάλυβα. Τα πώματα αυτά δεν θα έχουν ανοίγματα και, καθ' όλη τη μεταφορά, θα είναι εφοδιασμένα με παρέμβυσμα εξασφαλίζον αεριο-στεγανότητα και κατασκευασμένο από υλικό που δεν κινδυνεύει να προσβληθεί από το περιεχόμενο του δοχείου.

(I) Προκειμένου περί δοχείων περιεχόντων τριφθοριούχο βόριο ή φθόριο ($I^0(\alpha T)$)· τριφθοριούχο χλώριο ή υδροποιημένη αμμωνία ($3^0(\alpha T)$)· αμμωνία διαλυμένη στο νερό ($9^0(\alpha T)$)· χλωριούχο NITROSYL ($3^0(\alpha T)$)· ή διμεθυλαμίνη, αιθυλαμίνη, μεθυλαμίνη ή τριμεθυλαμίνη ($3^0(\beta T)$), βαλβίδες κατασκευασμένες από χαλκό ή οποιοδήποτε άλλο μέταλλο κινδυνεύον να προσβληθεί από τα αέρια αυτά δεν θα γίνονται δεκτές. 22I4

(2) Η χρήση υλικών περιεχόντων λίπος ή έλαιον (ραφών) προς εξασφάλιση της στεγανότητας των ενώσεων/ή προς συντήρηση των μηχανισμών κλεισίματος των δοχείων των χρησιμοποιημένων για οξυγόνο ($I^0(\alpha)$)· φθόριο ($I^0(\alpha T)$)· μίγματα με οξυγόνο ($2^0(\alpha)$)· διοξείδιο του αζώτου, τριφθοριούχο

χλώριο ($3^{\circ}(\alpha \text{ T})$)* υποξειδίο του αζώτου ($5^{\circ}(\alpha)$)* ή μίγμα- 2214
τα της 12° περιέχοντα άνω του $10^{\circ}/\sigma$ οξυγόνον κατ'όγκον (Ευνεχίζε-
ται)
απαγορεύεται.

(3) Οι παρακάτω όροι θα ισχύουν για τη κατασκευή των δοχείων των αναφερομένων στο περιθώριο 2207(I):-

(α) Τα υλικά και η κατασκευή των δοχείων θα είναι σύμφωνα προς τους όρους της Προσθήκης Α.2, Β, περιθώρια 3250 έως 3254. Όλα τα μηχανικά και τεχνολογικά χαρακτηριστικά του χρησιμοποιηθέντος υλικού θα καθιερώνονται για κάθε δοχείο κατά τη πρώτη δοκιμή* αναφορικά με την αντοχήν εις κρούσιν και τον συντελεστήν κάμψεως, βλέπε Προσθήκη Α.2, Β, περιθώρια 3265 έως 3285.

(β) Τα δοχεία θα είναι εφοδιασμένα με βαλβίδα ασφαλείας η ποία θα είναι ικανή να ανοίγει στη καθωρισμένη πίεση που εικονίζεται στο δοχείο. Οι βαλβίδες θα είναι έτσι κατασκευασμένες, ώστε να λειτουργούν άριστα ακόμη και στη πολύ χαμηλή πίεση λειτουργίας. Το ασφαλές της λειτουργίας των στη θερμοκρασία αυτή θα καθιερούται και ελέγχεται με δοκιμή κάθε βαλβίδας ή δείγματος βαλβίδων του αυτού τύπου κατασκευής.

(γ) Οι οπές αερισμού και βαλβίδες ασφαλείας των δοχείων θα έχουν έτσι σχεδιασθεί ώστε να εμποδίζουν το πιτσέλισμα του υγρού.

(δ) Οι μηχανισμοί κλεισίματος θα είναι έτσι ρυθμισμένοι ώστε να μη μπορούν να ανοίγουν από αναρμόδια πρόσωπα.

(ε) Δοχεία των οποίων το γέμισμα μετράται κατ'όγκον θα διαθέτουν δείκτην στάθμης.

(στ) Τα δοχεία θα είναι θερμικώς μονωμένα. Η θερμική μό- 2214
 νωση θα προστατεύεται κατά της κρούσεως δια συνε- (Συνεχίζεται)
 χούς μεταλλικής επενδύσεως. Εάν ο χώρος μεταξύ του
 δοχείου και της μεταλλικής επενδύσεως είναι χωρίς
 αέρα (μόνωση δια κενού), η προστατευτική επένδυση
 θα σχεδιάζεται να αντέχει χωρίς παραμόρφωση σε εξωτε-
 ρική πίεση τουλάχιστον 1 KG/CM^2 . Εάν η επένδυση έχει
 έτσι κλεισθεί ώστε να είναι αεριο-στεγής (π.χ. στη
 περίπτωση της μονώσεως δια κενού), θα διατίθεται μη-
 χανισμός εμποδίζων οποιαδήποτε επικίνδυνη πίεση να
 αναπτυχθεί στο μονωτικό στρώμα στη περίπτωση ακατα-
 λήλου αεριο-στεγανότητας του δοχείου ή των εξαρτημά-
 των του. Ο μηχανισμός θα εμποδίζει την υγρασία να
 εισχωρήσει στη μόνωση.

(4) Στη περίπτωση δοχείων περιεχόντων μίγματα της
 $4^{\circ}(\gamma)$ ή διαλυμένο ακετυλένιο ($9^{\circ}(\gamma)$), τα μεταλλικά τμήμα-
 τα των μηχανισμών κλεισίματος τα ερχόμενα σε επαφή με το
 περιεχόμενο δεν πρέπει να περιέχουν χαλκόν άνω του 70 εκα-
 εκατόν. Δοχεία για διαλυμένο ακετυλένιο ($9^{\circ}(\gamma)$) μπορούν
 επίσης να διαθέτουν ατμοφράκτες.

(5) Δοχεία περιέχοντα οξυγόνο της $1^{\circ}(\alpha)$ έως $7^{\circ}(\alpha)$
 και εφαρμοσμένα σε ιχθυοθεξαμενές γίνονται ομοίως δεκτά
 εάν διαθέτουν συσκευές παρέχουσες τη δυνατότητα στο οξυ-
 γόνο να διαφεύγει βαθμιαία.

2.- Επίσημος έλεγχος δοχείων (για δοχεία από κράμα α-
 λουμινίου, βλέπε επίσης Προσθήκη Α.2)

(I) Τα μεταλλικά δοχεία πρέπει να υποβάλλονται σε

αρχικούς και περιοδικούς ελέγχους υπό την επίβλεψη εμπειρογνώμονα αναγνωρισμένου υπό της αρμοδίας αρχής. Η φύση των ελέγχων αυτών καθορίζεται στα περιθώρια 22I6 και 22I7.

(2) Για να εξασφαλισθεί ότι τηρούνται οι διατάξεις των περιθωρίων 2204 και 222I (2), οι έλεγχοι των δοχείων των προοριζομένων να περιλάβουν διαλυμένο ακετυλένιο (9° (γ)) θα περιλαμβάνουν, επιπροσθέτως, έλεγχοι της φύσεως του πορώδους υλικού και της ποσότητας του διαλυτικού μέσου.

(I) Ο αρχικός έλεγχος καινούργιών ή μη-μεταχειρισμένων δοχείων θα περιλαμβάνει:- 22I6

A.- Επί καταλλήλου δείγματος δοχείων:-

(α) έλεγχοι του υλικού κατασκευής για τουλάχιστον την τάση αποδόσεως, την αντοχήν εις εφελκυσμόν, και την μόνιμη επιμήκυνση του θραύσματος· οι εκ των ελέγχων αυτών προκύπτουσες τιμές πρέπει να συμφωνούν με τους εθνικούς κανονισμούς·

(β) μέτρηση του πάχους στο λεπτότερο σημείο του τοιχώματος και υπολογισμός της τάσεως·

(γ) έλεγχοι της ομοιογένειας του υλικού για κάθε παρτίδα κατασκευής, και επιθεώρηση της εξωτερικής και εσωτερικής καταστάσεως των δοχείων·

B.- Για όλα τα δοχεία:-

(δ) έλεγχοι υδραυλικής πιέσεως συμφώνως προς τις διατάξεις των περιθωρίων 22I9 έως 222I·

(ε) επιθεώρηση των ενδείξεων επί των δοχείων (βλέπε περιθώριο 22I8).

Γ.- Επιπροσθέτως, για δοχεία προοριζόμενα για τη μετα- 2216
 φορά διαλυμένου ακετυλενίου ($9^{\circ}(\gamma)$):- (Συνεχίζεται)
 (στ) επιθεώρηση όπως απαιτείται εκ των εθνικών κανονισμών.

(2) Τα δοχεία πρέπει να αντέχουν στη πίεση του ελέγχου χωρίς να υφίστανται μόνιμο παραμόρφωση ή να παρουσιάζουν ρωγμές.

(3) Στις περιοδικές επιθεωρήσεις θα επαναλαμβάνονται τα παρακάτω:-

ο έλεγχος υδραυλικής πίεσεως· έλεγχος της εξωτερικής και εσωτερικής καταστάσεως του δοχείου (π.χ., δια ζυγίσεως, εσωτερικής επιθεωρήσεως, ελέγχων του πάχους του τοιχώματος)· επαλήθευση του εξοπλισμού και των ενδείξεων και, εάν χρειασθεί, επαλήθευση των χαρακτηριστικών του υλικού δια καταλλήλων ελέγχων.

Οι περιοδικές επιθεωρήσεις θα διεξάγονται:-

- (α) κάθε 2 χρόνια προκειμένου περί δοχείων προοριζομένων για τη μεταφορά των αερίων της $1^{\circ}(\alpha \text{ T})$ και $1^{\circ}(\gamma \text{ T})$ · αερίου πόλεως (δήμου) της $2^{\circ}(\beta \text{ T})$ · αερίων της $3^{\circ}(\alpha \text{ T})$ πλην της αμμωνίας, εξαφθοριοπροπυλενίου και μεθυλοβρωμιδίου· χλωροκυανιδίου της $3^{\circ}(\gamma \text{ T})$ · και υλών της $5^{\circ}(\alpha \text{ T})$ ·
- (β) κάθε 5 χρόνια προκειμένου περί δοχείων προοριζομένων για τη μεταφορά άλλων πεπιεσμένων και υγροποιημένων αερίων (υπό την επιφύλαξη των διατάξεων του παρακάτω εδαφίου (γ)) και δοχείων για τη μεταφορά αμμωνίας διαλυμένης υπό πίεση ($9^{\circ}(\alpha \text{ T})$)·

(γ) κάθε 10 χρόνια προκειμένου περί δοχείων προο- 2216
ριζομένων για τη μεταφορά αερίων της 1^ο(α) (Συνεχίζε-
ται)
πλην του οξυγόνου* μιγμάτων αζώτου με σπάνια
αέρια, της 2^ο(α)* αερίων της 3^ο(α) και 3^ο(β)
πλην I,I-διφθοριομεθανίου, I-χλώρο-I,I-διφθο-
ριομεθανίου, μεθυλοσιλανίου και I,I,I-τριφθο-
ριομεθανίου, και μιγμάτων αερίων της 4^ο(α) και
4^ο(β), εάν τα δοχεία έχουν χωρητικότητα όχι
άνω των 150 λιτρών και η χώρα προελεύσεως δεν
βροβλέπει βραχύτερο χρονικό διάστημα.

(δ) προκειμένου περί δοχείων προοριζομένων για τη
μεταφορά διαλυμένου ακετυλενίου (9^ο(γ)),/περι-
θώριο 2217(I) θα ισχύει, και προκειμένου περί
των συμφώνως προς το περιθώριο 2207(I) δοχείων,
το περιθώριο 2217(2) θα ισχύει.

(1) Η εξωτερική κατάσταση (διάβρωση, παραμόρφωση)
και η κατάσταση (χαλάρωση, καθίζηση) του πορώδους υλι-
κού σε δοχεία προοριζόμενα για τη μεταφορά διαλυμένου α-
κετυλενίου (9^ο(γ)) θα ελέγχονται κάθε 5 χρόνια. Η δειγμα-
τοληψία θα εκτελείται δια της κοπής, εάν θεωρηθεί απαραί-
τητο, καταλλήλου αριθμού δοχείων και επιθεωρήσεως αυτών
εσωτερικώς για διάβρωση και για οποιεσδήποτε αλλαγές που
ενδέχεται να προέκυψαν στα συστατικά υλικά και το πορώδες
υλικό.

(2) Τα συμφώνως προς το περιθώριο 2207(I) δοχεία
θα υποβάλλονται κάθε 5 χρόνια σε εξωτερική επιθεώρηση και
σε έλεγχο της στεγανότητας. Ο έλεγχος στεγανότητας θα διε-

ελέγχεται με το αέριο περιλαμβανόμενο στο δοχείο ή με α- 22I7
δρανές αέριο σε πίεση 2 KG/CM^2 . Ο έλεγχος θα εκτελεστεί (Συνεχίζεται)
δια πιεζομέτρου ή μετρήσεως δια κενού. Η θερμική μόνωση
δεν θα αφαιρείται. Η πίεση δεν θα υποχωρεί διαρκούσης της
8-ώρου περιόδου ελέγχου. Αλλαγές απορρέουσες εκ της φύσεως
του αερίου δοκιμής (ελέγχου) ή εκ διακυμάνσεων της θερμοκρα-
σίας θα λαμβάνονται υπ' όψει.

(3) - Ενδείξεις επί των δοχείων

(I) Τα μεταλλικά δοχεία θα φέρουν τα παρακάτω 22I8
στοιχεία με γράμματα καθαρώς ευανάγνωστα και διαρκείας:-

- (α) μία των ονομασιών του αερίου ή του μίγματος αερίων,
πλήρη, όπως δίδεται στο περιθώριο 220I, I^ο έως 9^ο.
την επωνυμία ή το σήμα του κατασκευαστή ή ιδιοκτητή*
και τον αριθμό του δοχείου (βλέπε επίσης περιθώριο
2202 (3)). Προκειμένου περί αλογόνων υδρογονανθράκων
των I^ο(α), 3^ο(α), 3^ο(α T), 3^ο(β), 3^ο(γ T), 4^ο(α), 5^ο(α)
και 6^ο(α), η χρήση του γράμματος R ακολουθουμένου υπό
του αριθμού αναγνωρίσεως της ύλης επιτρέπεται επίσης.
- (β) προκειμένου περί δοχείων προοριζομένων για υγροποιη-
μένα αέρια, το απόβαρον του δοχείου συμπεριλαμβανομέ-
νων των τοιούτων εξαρτημάτων και παρακολουθημάτων ως
βαλβίδων, κρουνών, μεταλλικών πωμάτων, κλπ., αλλά ε-
ξαιρουμένου του προστατευτικού καλύμματος.
- (γ) προκειμένου περί δοχείων προοριζομένων για πεπιεσμένα
αέρια, το απόβαρο του κανονικού δοχείου.
- (δ) τη πίεση δοκιμής (βλέπε περιθώρια 22I9 έως 222I) και
την ημερομηνία (μήνα, έτος) της γενομένης τελευταίας

- δοκιμής (ελέγχου)(βλέπε περιθώρια 2216 και 2217)* 2218
(ε) τη σφραγίδα του εμπειρογνώμονα που διεξήγαγε (συνεχίζεται)
τους ελέγχους και επιθεωρήσεις και επιπροσθέτως:
- (στ) προκειμένου περί πεπιεσμένων αερίων ή μιγμάτων πεπιεσμένων αερίων (1° , 2° , 12° και 13°): την ανωτάτη πίεση πληρώσεως στους 15°C την επιτρεπομένη για το δοχείο (βλέπε περιθώριο 2219)*
- (ζ) προκειμένου περί φθοριούχου βορίου ($1^{\circ}(\alpha \text{ T})$), υγροποιημένων αερίων (3° έως 6°) και αμμωνίας διαλυμένης στο νερό ($9^{\circ}(\alpha \text{ T})$): το επιτρεπόμενο ανώτατο γέμισμα, καθ' τη χωρητικότητα. Προκειμένου για βαθειάκατεψυγμένα αέρια (DEEPLY-REFRIGERATED GASES) των 7° και 8° : τη χωρητικότητα*
- (η) προκειμένου περί ακετυλενίου διαλυμένου σε διαλυτικό μέσο ($9^{\circ}(\gamma)$): την επιτρεπομένη πίεση πληρώσεως (βλέπε περιθώριο 2221(2)), και το βάρος του κενού δοχείου συμπεριλαμβανομένου του βάρους των εξαρτημάτων και παρακολουθημάτων, του πορώδους υλικού, και του διαλυτικού μέσου*
- (θ) προκειμένου περί μιγμάτων αερίων της 12° και αερίων δοκιμών(ελέγχων) της 13° , οι λέξεις "μίγματα αερίων" ή "αέρια ελέγχων", αναλόγως της περιπτώσεως θα χάρασσονται στο δοχείο σάν γενική ένδειξη του περιεχομένου. Ακριβής περιγραφή του περιεχομένου θα εικονίζεται καθ' όλη τη μεταφορά*
- (ι) προκειμένου περί μεταλλικών δοχείων τα οποία, συμφώνως προς το περιθώριο 2202(3), γίνονται δεκτά για τη μεταφορά ενός αριθμού διαφορετικών αερίων (δοχεία

(ανεξέτητος)
 πολλαπλής χρήσεως), ακριβής, διαρκείας/περιγραφή 2218
 του περιεχομένου θα εικονίζεται διαρκούσης της (Συνεχίζε-
 μεταφοράς. ται)

(2) Οι ενδείξεις θα χαρασσονται είτε επί ενισχυ-
 μένου τμήματος του δοχείου, είτε επί δακτυλίου, είτε επί
 πλάκας αναγράφουσας στοιχεία, τοποθετημένης χωρίς να κι-
 νείται στο δοχείο. Επιπροσθέτως, η ονομασία της ύλης μπο-
 ρεί να σημειούται στο δοχείο δι' ορατής ευκρινούς επιγραφής
 δια βαφής ή οιασδήποτε άλλης ισοδυνάμου μεθόδου.

(γ) Πίεση δοκιμής, βαθμός πληρώσεως, και
όριον χωρητικότητας, των δοχείων (βλέπε
 επίσης περιθώρια 2238, 2II 180 και
 2I2 180)

(I) Προκειμένου περί δοχείων προοριζομένων για τη 2219
 μεταφορά πεπιεσμένων αερίων των I^ο, 2^ο και I2^ο, η εσωτε-
 ρική πίεση (πίεση δοκιμής) η εφαρμοστέα για έλεγχο υδραυ-
 λικής πίεσεως πρέπει να είναι τούλάχιστον μιά-μισυ φορά
 η πίεση πληρώσεως στους 15^οC η σημειούμενη στο δοχείο, αλλά
 όχι μικρότερη των 10 KG/CM².

(2) Προκειμένου περί δοχείων προοριζομένων για τη
 μεταφορά υλών της I^ο(α) πλην του τετραφθοριομεθανίου· δευ-
 τερίου και υδρογόνου της I^ο(β)· ή αερίων της 2^ο(α), η πίεση
 πληρώσεως δεν θα υπερβαίνει τα 300 KG/CM² τα αναφερόμενα
 για θερμοκρασία 15^οC. Στη περίπτωση των δεξαμενών, η πίεση
 πληρώσεως δεν θα υπερβαίνει τα 250 KG/CM² τα αναφερόμενα
 σε θερμοκρασία 15^οC.

Προκειμένου περί δοχείων και δεξαμενών προορι-

ζομένων για τη μεταφορά άλλων αερίων των 1° και 2° η 2219
 πίεση πληρώσεως δεν θα υπερβαίνει τα 200 KG/CM^2 τα ανα- (Συνεχίζεται)
 φερόμενα σε θερμοκρασία 15°C .

(3) Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά φθορίου ($1^{\circ}(\alpha \text{ F})$) η εσωτερική πίεση (πίεση ελέγχου) η εφαρμοστέα για τον έλεγχο της υδραυλικής πίεσεως θα είναι 200 KG/CM^2 και η πίεση πληρώσεως δεν θα υπερβαίνει τα 28 KG/CM^2 σε θερμοκρασία 15°C · επιπροσθέτως, κανένα δοχείο δεν θα περιέχει περισσότερα των 5 KG φθορίου.

Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά τριφθοριούχου βορίου ($1^{\circ}(\alpha \text{ F})$) η υδραυλική πίεση η εφαρμοστέα στην πίεση δοκιμής (ελέγχου) θα είναι είτε 300 KG/CM^2 , οπότε το ανώτατο βάρος του περιεχομένου ανά λίτρο χωρητικότητας δεν θα υπερβαίνει τα 0.715 KG .

(4) Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά μονοξειδίου του αζώτου NO ($1^{\circ}(\gamma \text{ F})$), η χωρητικότητα θα περιορίζεται στα 50 L · η υδραυλική πίεση η εφαρμοστέα κατά την δοκιμή (πίεση δοκιμής) θα είναι 200 KG/CM^2 · και η πίεση πληρώσεως δεν θα υπερβαίνει τα 50 KG/CM^2 σε θερμοκρασία 15°C .

(5) Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά μιγμάτων υδρογόνου με όχι άνω του 10 τοις εκατόν σεληνούχου υδρογόνου ή φωσφίνης ή σιλανίου ή γερμανομεθανίου κατ'όγκον ή με όχι άνω των 156 τοις εκατόν αρσίνης κατ'όγκον· μιγμάτων αζώτου ή σπανίων αερίων (περιεχόντων όχι άνω του 106 τοις εκατόν Ξένον κατ'όγκον) με όχι

άνω του ΙΟ6τα εκατόν σεληνούχου υδρογόνου ή φωσφίνης 22Ι9 ή σιλανίου ή γερμανομεθανίου κατ'όγκον ή με όχι άνω (Συνεχίζεται) του Ι56τα εκατόν αρσίνης κατ'όγκον ($2^{\circ}(\beta \text{ T})$)· μιγμάτων υδρογόνου με όχι άνω του ΙΟ6τα εκατόν διβορανίου κατ'όγκον· ή μιγμάτων αζώτου ή σπανίων αερίων (περιεχόντων όχι άνω του ΙΟ6τα εκατόν Ξένον κατ'όγκον) με όχι άνω του ΙΟ6τα εκατόν διβορανίου κατ'όγκον ($2^{\circ}(\gamma \text{ T})$), η χωρητικότητα θα περιορίζεται σε 50 L· η υδραυλική πίεση η εφαρμοστέα στη δοκιμή (πίεση δοκιμής) δεν θα είναι μικρότερη των 200 KG/CM²· και η πίεση πληρώσεως δεν θα υπερβαίνει τα 50 KG/CM² σε θερμοκρασία 15°C.

(6)- Δοχεία συμφώνως με το περιθώριο 2207(Ι), στη θερμοκρασία πληρώσεως και σε πίεση 1 KG/CM², δεν θα γεμίζονται πέραν του 986τα εκατόν της χωρητικότητας των.

Οσάκις μεταφέρεται όξυγόνο της 7^ο(α), θα λαμβάνονται μέτρα αποφυγής οιοудήποτε χυσίματος της υγρής φάσεως (LIQUID PHASE).

(7) Οσάκις διαλυμένο ακετυλένιο (9^ο(γ)) μεταφέρεται σε δοχεία συμφώνως προς το περιθώριο 22Ι2(Ι) (β), η χωρητικότητας των δοχείων δεν θα υπερβαίνει τα 150 L.

(8) Η χωρητικότης των δοχείων των προοριζομένων για τη μεταφορά μιγμάτων αερίων της Ι2^ο δεν θα υπερβαίνει τα 50 L. Η πίεση του μίγματος δεν θα υπερβαίνει τα 150 KG/CM² σε θερμοκρασία 15°C.

(9) Η χωρητικότητα των δοχείων των προοριζομένων για τη μεταφορά αερίων δοκιμής (ελέγχου) της I_3^0 δεν θα υπερβαίνει τα 50 L. Η πίεση πληρώσεως σε θερμοκρασία 15^0C δεν θα υπερβαίνει το 76 τοις εκατόν της πίεσεως δοκιμής (ελέγχου) του δοχείου.

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(Συνεχίζεται)

(10) Στη περίπτωση του εξαφθοριούχου βολφραμίου ($3^0(\alpha \text{ T})$) η χωρητικότητα των δοχείων θα περιορίζεται στα 60 L.

Η χωρητικότητα δοχείων για τετραφθοριούχο πυρίτιο ($I^0(\alpha \text{ T})$), χλωριούχο βόριο, χλωριούχο NITROSYL και φθοριούχο SULPHURYL ($3^0(\alpha \text{ T})$), μεθυλοσιλανίου ($3^0(\beta)$), αρσίνης, διχλωροσιλανίου, διμεθυλοσιλανίου, σεληνούχου υδρογόνου και τριμεθυλοσιλανίου ($3^0(\beta \text{ T})$), χλωροκυανιδίου και κυανιδίου ($3^0(\gamma \text{ T})$), μιγμάτων μεθυλοσιλανίου ($4^0(\beta \text{ T})$), υλών της $4^0(\gamma \text{ T})$ πλην διχλωροδιφθοριομεθανίου περιεχουσών I_2 τοις εκατόν αιθυλενοξειδίου κατά βάρος, σιλανίου ($5^0(\beta)$), και υλών της $5^0(\beta \text{ T})$ και ($\gamma \text{ T}$), θα περιορίζεται στα 50.

(11) Προκειμένου περί δοχείων προοριζομένων για τριφθοριούχον χλώριο ($3^0(\alpha \text{ T})$) η χωρητικότητά θα περιορίζεται στα 40 L. Μετά το γέμισμα, δοχείον περιέχον τριφθοριούχον χλώριο ($3^0(\alpha \text{ T})$), προτού παραδοθεί για μεταφορά, θα κρατείται επί όχι ολιγοτέρων των 7 ημερών προς επαλήθευσιν της στεγανότητάς του.

(I) Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά υγροποιημένων αερίων των 3^0 έως 6^0 , και δοχείων προοριζομένων για τη μεταφορά αερίων διαλυθέντων υπό πίεση της 9^0 , η εφαρμοστέα υδραυλική πίεση

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κατά την δοκιμήν (πίεση δοκιμής) δεν θα είναι μικρότερα 2220 των 10 KG/CM². (Συνεχίζεται)

(2) Προκειμένου περί υγροποιημένων αερίων των 3^ο και 4^ο θα τηρούνται αι κατωτέρω τιμαί για την υδραυλική πίεση την εφαρμοστέα κατά την δοκιμήν (πίεση δοκιμής) και για τον επιτρεπόμενον ανώτατον βαθμόν πληρώσεως: 1/

Βλέπε στο τέλος του πίνακα της παραγράφου (2).

| Περιγραφή Ύλης | Αριθμός Είδους | Κατωτάτη Πίεση Δοκιμής/ Ελέγχου. KG/CM ² | Ανώτατο Βάρος Περιεχομένου ανά λίτρο χω- ρητικότητας KG |
|---|----------------------|---|---|
| Βρωμοχλωροδιφθοριομεθάνιο (R 12 B I) | 3 ^ο (α) | 10 | 1.61 |
| Χλωροδιφθοριομεθάνιο (R 22) | 3 ^ο (α) | 29 | 1.03 |
| Χλωροπενταφθοριομεθάνιο (R 115) | 3 ^ο (α) | 25 | 1.06 |
| Ι-χλωρο-2,2,2-τριφθοριομεθάνιο (R 133α) | 3 ^ο (α) | 10 | 1.18 |
| Διχλωροδιφθοριομεθάνιο (R 12) | 3 ^ο (α) | 18 | 1.15 |
| Διχλωροφθοριομεθάνιο (R 21) | 3 ^ο (α) | 10 | 1.23 |
| Ι,2-Διχλωρο-Ι,Ι,2,2-τετραφθοριο- μεθάνιο (R 114) | 3 ^ο (α) | 10 | 1.30 |
| Οκταφθοριοκυκλοβουτάνιο (RC 318) | 3 ^ο (α) | 11 | 1.34 |
| Αμμωνία | 3 ^ο (α T) | 33 | 0.53 |
| Χλωριούχο Βόριο | 3 ^ο (α T) | 10 | 1.19 |
| Χλώριο | 3 ^ο (α T) | 22 | 1.25 |
| Τριφθοριούχο Χλώριο | 3 ^ο (α T) | 30 | 1.40 |

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(Συνεχίζεται)

| Περιγραφή Ύλης | Αριθμός Είδους | Κατωτάτη Πίεση Δοκιμής/ Ελέγχου. KG/CM ² | Ανώτατο Βάρος Περιεχομένου ανά λίτρο χω- ρητικότητας KG |
|----------------|-------------------|---|---|
|----------------|-------------------|---|---|

(Σ υ ν έ χ ε ι α)

| | | | |
|---|----------------------|-----|------|
| Εξαφθοριοπροπυλένιο (R 216) | 3 ⁰ (α T) | 22 | I.11 |
| Υδροβρώμιο | 3 ⁰ (α T) | 60 | I.20 |
| Μεθυλοβρωμίδιο | 3 ⁰ (α T) | 10 | I.5I |
| Διοξείδιο Αζώτου | 3 ⁰ (α T) | 10 | I.30 |
| Χλωριούχο NITROSYL | 3 ⁰ (α T) | 13 | I.10 |
| Φωσγένιο | 3 ⁰ (α T) | 20 | I.23 |
| Διοξείδιο Θείου | 3 ⁰ (α T) | 14 | I.23 |
| Φθοριούχο SULPHURYL | 3 ⁰ (α T) | 50 | I.10 |
| Εξαφθοριούχο Βολφράμιο | 3 ⁰ (α T) | 10 | 2.70 |
| Βουτάνιο | 3 ⁰ (β) | 10 | 0.5I |
| I-Βουτάνιο | 3 ⁰ (β) | 10 | 0.53 |
| I-Χλωρο-I,I-διφθοριομεθάνιο (R 142β) | 3 ⁰ (β) | 10 | 0.99 |
| CIS-2-βουτάνιο | 3 ⁰ (β) | 10 | 0.55 |
| Κυκλοπροπάνιο | 3 ⁰ (β) | 20 | 0.53 |
| I,I-Διφθοριομεθάνιο (R 152α) | 3 ⁰ (β) | 18 | 0.79 |
| Ισοβοτάνιο | 3 ⁰ (β) | 10 | 0.49 |
| Ισοβουτάνιο | 3 ⁰ (β) | 10 | 0.52 |
| Μεθυλοδιλάνιο | 3 ⁰ (β) | 225 | 0.39 |
| Προπάνιο | 3 ⁰ (β) | 25 | 0.42 |
| Προπυλένιο | 3 ⁰ (β) | 30 | 0.43 |
| TRANS-2-βουτάνιο | 3 ⁰ (β) | 10 | 0.54 |

2220

(Συνεχίζεται)

| Περιγραφή Ύλης | Αριθμός Είδους | Κατωτάτη Πίεση Δοκιμής/ Ελέγχου. KG/CM ² | Ανώτατο Βάρος Περιεχομένου ανά λίτρο χω- ρητικότητας KG |
|----------------|-------------------|---|---|
|----------------|-------------------|---|---|

(Σ υ ν έ χ ε ι α)

| | | | |
|--------------------------|----------------------|-----|------|
| I, I, I-Τριφθοριομεθάνιο | 3 ⁰ (β) | 35 | 0.75 |
| Αρσίνη | 3 ⁰ (β T) | 42 | 1.10 |
| Διχλωροσιλάνιο | 3 ⁰ (β T) | 10 | 0.90 |
| Διμεθυλαμίνη | 3 ⁰ (β T) | 10 | 0.59 |
| Διμεθυλαιθέρας | 3 ⁰ (β T) | 18 | 0.58 |
| Διμεθυλοσιλάνιο | 3 ⁰ (β T) | 225 | 0.39 |
| Αιθυλαμίνη | 3 ⁰ (β T) | 10 | 0.61 |
| Αιθυλοχλωρίδιο | 3 ⁰ (β T) | 10 | 0.80 |
| Σεληνούχο Υδρογόνο | 3 ⁰ (β T) | 31 | 1.60 |
| Υδροσουλφίδιο | 3 ⁰ (β T) | 55 | 0.67 |
| Μεθυλαμίνη | 3 ⁰ (β T) | 13 | 0.58 |
| Μεθυλοχλωρίδιο | 3 ⁰ (β T) | 17 | 0.81 |
| Μεθυλική Μερκαπτάνη | 3 ⁰ (β T) | 10 | 0.78 |
| Τριμεθυλαμίνη | 3 ⁰ (β T) | 10 | 0.56 |
| Τριμεθυλοσιλάνιο | 3 ⁰ (β T) | 225 | 0.39 |
| I, 3-Βουταδιένιο | 3 ⁰ (γ) | 10 | 0.55 |
| Βινυλχλωρίδιο | 3 ⁰ (γ) | 12 | 0.81 |
| Κυανογόνο | 3 ⁰ (γ T) | 100 | 0.70 |
| Χλωροκυανίδιο | 3 ⁰ (γ T) | 20 | 1.03 |
| Αιθυλενοξείδιο | 3 ⁰ (γ T) | 10 | 0.78 |
| Μεθυλοβινυλαιθέρας | 3 ⁰ (γ T) | 10 | 0.67 |

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(Συνεχίζεται)

| Περιγραφή Ύλης | Αριθμός Είδους | Κατωτάτη Πίεση Δοκιμής/ Ελέγχου. KG/CM ² | Ανώτατο Περιεχόμενου ανά λίτρο χω- ρητικότητας KG |
|----------------|-------------------|--|--|
|----------------|-------------------|--|--|

(Σ υ ν έ χ ε ι α)

| | | | |
|---|----------------------|------------|----------------|
| Τριφθοριοχλωροαιθυλένιο (R III3) | 3 ^ο (γ T) | 19 | I.13 |
| Βινυβρωμίδιο | 3 ^ο (γ T) | 10 | I.37 |
| Μίγμα F I | 4 ^ο (α) | 12 | I.23 |
| Μίγμα F 2 | 4 ^ο (α) | 18 | I.15 |
| Μίγμα F 3 | 4 ^ο (α) | 29 | I.03 |
| Μίγμα αερίων R 500 | 4 ^ο (α) | 22 | I.01 |
| Μίγμα αερίων R 502 | 4 ^ο (α) | 31 | I.05 |
| Μίγμα I9 έως 216 τοις εκατόν κατά βάρος διχλωροδιφθοριομεθανίου (R I2) και 79 έως 81 τοις εκα- τόν κατά βάρος βρωμοχλωροδιφθο- ρομεθανίου (R I2 BI) | 4 ^ο (α) | 12 | I.50 |
| Μίγματα μεθυλοβρωμίδιου και χλω- ροπικρίνης | 4 ^ο (α T) | 10 | I.51 |
| Μίγμα A (εμπορική ονομασία: βου- τάνιο) | 4 ^ο (β) | 10 | 0.50 |
| Μίγμα A O (εμπορική ονομασία: βου- τάνιο) | 4 ^ο (β) | 15 | 0.47 |
| Μίγμα A I | 4 ^ο (β) | 20 | 0.46 |
| Μίγμα B | 4 ^ο (β) | 25 | 0.43 |
| Μίγμα Γ (εμπορική ονομασία: προπύ- νιο) | 4 ^ο (β) | 30 | 0.42 |
| Μίγματα υδρογονανθράκων περιέχοντα μεθάνιο | 4 ^ο (β) | 225 300 | 0.187 0.244 |

2220

(Συνεχίζεται)

| Περιγραφή Ύλης | Αριθμός Είδους | Κατωτάτη Πίεση Δοκιμής/ Ελέγχου KG/CM ² | Ανώτατο Βάρος περιεχομένου ανά λίτρο χω- ρητικότητας KG |
|---|----------------------|--|---|
| (Σ υ ν ε χ ί ζ ε τ α ι) | | | |
| Μίγματα μεθυλοσιλανίων | 4 ^ο (β T) | 225 | 0.39 |
| Μίγματα μεθυλοχλωριδίου και μεθυλενοχλωριδίου | 4 ^ο (B T) | I7 | 0.8I |
| Μίγματα μεθυλοχλωριδίου και χλωροπικρίνης | 4 ^ο (β T) | I7 | 0.8I |
| Μίγματα μεθυλοβρωμιδίου και αιθυ- λενοβρωμιδίου | 4 ^ο (β T) | IO | I.5I |
| Μίγματα μεθυλακετυλενίου/προπα- διένης και υδρογονανθράκων | | | |
| Μίγμα P I | 4 ^ο (γ) | 30 | 0.49 |
| Μίγμα P 2 | 4 ^ο (γ) | 24 | 0.47 |
| Αιθυλενοξειδίο περιέχον όχι άνω του IO τοις εκατόν διοξειδίου του άνθρακος κατά βάρος | 4 ^ο (γ T) | 28 | 0.73 |
| Αιθυλενοξειδίο περιέχαν όχι άνω του 50 τοις εκατόν μεθυλικού άλατος μυρμηκικοπού οξέος κατά βάρος με ά- ζωτο μέχρι ανωτάτης ολικής πίεσεως IO KG/CM ² στους 50 ^ο C. | 4 ^ο (γ T) | 25 | 0.80 |
| Αιθυλενοξειδίο με άζωτο μέχρι ολι- κής πίεσεως IO KG/CM ² στους 50 ^ο C | 4 ^ο (γ T) | I5 | 0.78 |
| Διχλωροδιφθοριομεθάνιο περιέχον I2 τοις εκατόν αιθυλενοξειδίο κατά βάρος | 4 ^ο (γ T) | I8 | I.09 |

2226

(συνεχίζεται)

II.- Οι προβλεπόμενες πιέσεις δοκιμής/ελέγχου είναι τουλάχιστον ίσες προς τις πιέσεις ατμού των υγρών στους 70°C , μειωμένες κατά 1 KG/CM^2 , της απαιτούμενης κατωτάτης πίεσεως δοκιμής/ελέγχου ούσης, εν τούτοις, 10 KG/CM^2 .

2.- Ενόψει του υψηλού βαθμού τοξικότητας του φωσγενίου (χλωριούχο καρβονύλιο) ($3^{\circ}(\alpha \text{ T})$) και του χλωροκυανιδίου ($3^{\circ}(\gamma \text{ T})$), η κατωτάτη πίεση δοκιμής/ελέγχου για τα αέρια αυτά έχει ορισθεί στα 20 KG/CM^2 .

3.- Οι ανώτατες προβλεπόμενες τιμές για τον βαθμόν πληρώσεως σε KG/LITRE έχουν καθορισθεί ως κάτωθι:- ανώτατο βάρος περιεχομένου ανά λίτρο χωρητικότητας = 0.95 φορές τη πυκνότητα της υγρής φάσεως στους 50°C . επιπροσθέτως, η φάση ατμού δεν πρέπει να εξαφανίζεται κάτω των 60°C .

(3) Προκειμένου περί δοχείων προοριζομένων να περιέχουν υγροποιημένα αέρια των 5° και 6° ο βαθμός πληρώσεως θα είναι τέτοιος ώστε η εσωτερική πίεση στους 65°C μην υπερβαίνει τη πίεση δοκιμής/ελέγχου των δοχείων.

Θα τηρούνται οι παρακάτω τιμές (βλέπε επίσης παράγραφον

(4)):-

2220

(Συνεχίζεται)

| Περιγραφή Ύλης | Αριθμός Είδους | Κατωτάτη Ανώτατο Βάρος | |
|---------------------------------------|-----------------------|--|---|
| | | Πίεση Δοκιμής/ Ελέγχου KG/CM ² | Περιεχομένου ανα λίτρο χωρητι- κότητας. KG |
| Βρωμοτριφθοριομεθάνιο (R 13 B 1) | 5 ^ο (α) | 42 120 250 | 1.13 1.44 1.60 |
| Διοξείδιο Άνθρακος | 5 ^ο (α) | 190 250 | 0.66 0.75 |
| Χλωροτριφθοριομεθάνιο (R 13) | 5 ^ο (α) | 100 120 190 250 | 0.83 0.90 1.04 1.10 |
| Εξαφθοριοαιθάνιο (R 116) | 5 ^ο (α) | 200 | 1.10 |
| Υποξείδιο του Αζώτου N ₂ O | 5 ^ο (α) | 180 225 250 | 0.68 0.74 0.75 |
| Εξαφθοριούχο Θείο | 5 ^ο (α) | 70 140 | 1.04 1.37 |
| Τριφθοριομεθάνιο (R 23) | 5 ^ο (α) | 190 250 | 0.87 0.95 |
| Ξένον | 5 ^ο (α) | 130 | 1.24 |
| Υδροχλωρίδιο | 5 ^ο (α, T) | 100 120 150 200 | 0.30 0.56 0.67 0.74 |
| Αιθάνιο | 5 ^ο (β) | 95 120 300 | 0.25 0.29 0.39 |
| Σιλάνιο | 5 ^ο (β) | 225 250 | 0.32 0.41 |
| Αιθυλένιο | 5 ^ο (β) | 225 300 | 0.34 0.37 |

2220

(Συνεχίζεται)

| Περιγραφή Ύλης | Αριθμός Είδους | Κατωτάτη Πίεση Δοκιμής/ Ελέγχου KG/CM ² | Ανώτατο Περιεχόμενου ανά λίτρο χωρη- τικότητας KG |
|----------------|-------------------|---|--|
|----------------|-------------------|---|--|

(Σ υ ν ε χ ε ι α)

| | | | |
|-----------------------|----------------------|------------|--------------|
| Γερμανομεθάνιο | 5 ^ο (β T) | 250 | 1.02 |
| Φωσφίνη | 5 ^ο (β T) | 225 250 | 0.30 0.51 |
| I.I-Διφθοριοαιθυλένιο | 5 ^ο (γ) | 250 | 0.77 |
| Φθοριούχο βινύλιο | 5 ^ο (γ) | 250 | 0.64 |
| Διβοράνιο | 5 ^ο (γ T) | 250 | 0.072 |

Συστατικά

(βάρος τοις εκατόν)

| | | | |
|---|--------------------|-----------------|----------------------|
| Διοξειδίο του άνθρακος περιέχον 6 ^ο (α) | I90 | I | 0.64 |
| I-IO τοις εκατόν άζωτον, οξυ- γόνον, αέρα ή σπάνια αέρια κατά βάρος | I90 | I-IO | 0.48 |
| | 250 | I | 0.73 |
| | 250 | I-IO | 0.59 |
| Μίγμα αερίων R 503 | 6 ^ο (α) | 3I 42 I00 | 0.11 0.20 0.66 |
| Διοξειδίο του άνθρακος περιέχον 6 ^ο (γ) | I90 | | 0.66 |
| όχι άνω του 35 τοις εκατόν αιθυλενοξειδίο κατά βάρος | 250 | | 0.75 |
| Αιθυλενοξειδίο περιέχον άνω του 6 ^ο (γ T) | I90 | | 0.66 |
| IO τοις εκατόν αλλά όχι άνω του 50 τοις εκατόν διοξειδίου του άνθρακος κατά βάρος | 250 | | 0.75 |

(4) Για όλες της 5^ο πλην υδροχλωριδίου(5^ο (α T))· γερμανομεθανίου και φωσφίνης (5^ο (β T))· και

διβορανίου ($5^{\circ}(\gamma \text{ T})$), και για ύλεις της 6° , η χρήση ελεγ- 2220
 χθέντων δοχείων σε κατώτερη πίεση της οριζομένης στη (Συνεχίζε-
 παράγραφο (3) για την ~~επ~~ θέματα ύλη επιτρέπεται, αλλά ^{ται})
 η ποσότη~~της~~ ύλης ανά δοχείο δεν θα υπερβαίνει εκείνην
 η οποία στους 65°C θα παρήγαγε εσωτερικώς του δοχείου
 πίεση ίση με τη πίεση δοκιμής/ελέγχου. Στη περίπτωση
 αυτή το επιτρεπόμενο ανώτατο φορτίο θα καθορίζεται υπο
 του εμπειρογνώμον~~ος~~ του αναγνωριζομένου υπό της αρμοδίας
 αρχής.

(I) Προκειμένου περί αερίων διαλυομένων υπό 2221
 πίεση, της 9° , οι παρακάτω τιμές θα τηρούνται για την
 υδραυλική πίεση την εφαρμοστέα επί των δοχείων κατά την
 δοκιμήν/έλεγχον (πίεση δοκιμής/ελέγχου), και για τον
 επιτρεπόμενον ανώτατον βαθμόν πληρώσεως:-

| Περιγραφή Ύλης | Αριθμός | Κατωτάτη | Ανώτατο Βάρος |
|---|---------|--------------------|------------------------------|
| | Είδους | Πίεση | Περιεχομένου |
| | | Δοκιμής/ | ανά λίτρο χωρη- |
| | | Ελέγχου | τικότητας |
| | | KG/CM ² | KG |
| ----- | | | |
| Αμμωνία διαλυμένη υπό πίεση στο νερό | | | |
| με άνω του 35°/ο αλλά όχι | | | |
| άνω του 40°/ο αμμωνία κατά | | | |
| βάρος | 9°(α Τ) | 10 | 0.80 |
| με άνω του 40°/ο αλλά όχι άνω | | | |
| του 50°/ο αμμωνία κατά βάρος | 9°(α Τ) | 12 | 0.77 |
| Διαλυμένο Ακετυλένιο | 9°(γ) | 60 | βλέπε υπό στοι- χείον (2) |

(2) Προκειμένου περί διαλυμένου ακετυλενί-
 ου ($9^{\circ}(\gamma)$), άπαξ και η ισορροπία επετεύχθη στους 15°C

η πίεση πληρώσεως του κυλίνδρου δεν θα υπερβαίνει την 222I τιμήν την προβλεπομένην υπό της αρμοδίας αρχής για (Συνεχίζεται) τη πορώδη μάζα, η οποία τιμή θα είναι χαραγμένη στον κύλινδρο. Η ποσότης του διαλυτικού μέσου και η ποσότης του ακετυλενίου θα αντιστοιχούν κι' αυτές στους αριθμούς τους οριζομένους στην έγκριση.

3.- Μικτή Συσκευασία

Οι ύλες της Κλάσεως αυτής πλην των υλών των 2222 7^ο και 8^ο μπορούν να εγκλεισθούν στο ίδιο κώλον μεταξύ των εάν περιέχονται:-

(α) σε μεταλλικής πίεσεως δοχεία όγκου μη υπερβαίνοντος τα 10 λίτρα •

(β) σε γυά-λινους σωλήνες χονδρού-τοιχώματος ή γυά-λινα σιφόνια συμφώνως προς τα περιθώρια 2205 και 2206, υπό τον όρον ότι τα εύθραυστα αυτά δοχεία (υποδοχεία) ασφαλιζονται (στερεώνονται) συμφώνως προς τας διατάξεις του περιθωρίου 200I(5). Το αποσβεστικό υλικό θα ταιριάζει στις ιδιότητες του περιεχομένου. Οι εσωτερικές συσκευασίες θα τοποθετούνται σε εξωτερική συσκευασία στην οποία θα θα τηρούνται αποτελεσματικά χωριστά η μία από την άλλη.

(2) Είδη των 10^ο και 11^ο μπορούν να εγκλείονται στο ίδιο κώλον η μία με την άλλη υπό τους όρους τους προβλεπομένους στο περιθώριο 2210.

(3) Επιπροσθέτως, ύλες συσκευασμένες συμφώνως προς τα περιθώρια 2205 και 2206 μπορούν να εγκλείονται στο ίδιο κώλον η μία με την άλλη υπό τους παρακάτω ειδικούς όρους.

(4) Κόλον το οποίον θα πληροί τους όρους 2222 των (I) και (3) δεν θα ζυγίζει πάνω από 100 KG, ή (Συνεχίζεται) πάνω από 75 KG εάν περιέχει εύθραυστα δοχεία.

Ειδικοί Όροι:-

| Αρ. ή Γράμμα | Περιγραφή Ύλης | Ανωτάτη Ποσότητα ανά δοχείο | Ειδικές Διατάξεις ανά κόλον |
|--------------|----------------|-----------------------------|-----------------------------|
|--------------|----------------|-----------------------------|-----------------------------|

Αέρια συσκευασμένα
συμφώνως προς το
περιθώριο 2205

Όλα τα αέρια τα αναγραφόμενα στο περιθώριο αυτό στις ποσότητες τις προβλεπόμενες στο περιθώριο 2205

Χλώριο (3^0 (α T)) δεν θα συσκευάζεται με διοξείδιο του θείου (3^0 (α T))

(α) Αφλεκτα Αέρια
(α T) Αφλεκτα Τοξικά Αέρια

Δεν θα συσκευάζονται με ύλες των Κλάσεων Ια, Ιβ, Ιγ, 3, 4.2, 5.2 ή 7

(β) Εύφλεκτα Αέρια

Δεν θα συσκευάζονται με ύλες των Κλάσεων Ια, Ιβ, Ιγ, 3, 4.Ι, 4.2, 4.3, 5.Ι, 5.2, 7 ή 8

Αέρια συσκευασμένα
συμφώνως προς το πε-
ριθώριο 2206

Όλα τα αέρια τα αναγραφόμενα στο περιθώριο πλην αμμωνίας και κυκλοπροπανίου

2222

(Συνεχίζεται)

| Αρ. ή Γράμμα Είδους | Περιγραφή Ύλης | Ανωτάτη Ποσότητα ανά δοχείο | Ειδικές Διατά- ξεις ανά κόλον |
|------------------------|----------------|-----------------------------------|--|
|------------------------|----------------|-----------------------------------|--|

(Σ υ ν έ χ ε ι α)

| | | | |
|----------------------|--------------------------------|-------|---|
| (α) | Άφλεκτα Αέρια | | Δεν θα συσκευά- ζονται με ύλες |
| (α T) | Άφλεκτα Τοξικά Αέρια | 150 G | 6 KG των Κλάσεων Ια, Ιβ, Ιγ, 3, 4.2, 5.2 ή 7 |
| (β) | Εύφλεκτα Αέρια | | Δεν θα συσκευά- ζονται με ύλες |
| (β T) | Εύφλεκτα Τοξικά Αέρια | | των Κλάσεων Ια, Ιβ, Ιγ, 3, 4.Ι, 4.2, 4.3, 5.Ι, 5.2 ή 7 |
| (γ) | Χημικώς Ασταθή Αέρια | | |
| (γ T) | Χημικώς Ασταθή Τοξικά Αέρια | | |
| 3 ^ο (α T) | Αμμώνια | 20 G | 6 KG |
| 3 ^ο (β) | Κυκλοπροπάνιο | | |

4.- Ενδείξεις και ετικέτες στα κόλα (βλέπε Προσθή-
κη Α.9)

(I) Κάθε κόλον περιέχον δοχεία με αέρια των 2223
I^ο έως 9^ο, I2^ο ή I3^ο ή μη-ξαναγεμιζόμενα δοχεία (CON-
TAINERS) αερίου υπό πίεση της II^ο θα μαρκάρονται ευα-
νάγνωστα και ανεξίτηλα με την ένδειξη του περιεχομένου,
προσθέτοντας "Κλάση: 2". Το μαρκάρισμα αυτό θα είναι
στην επίσημη γλώσσα της χώρας της αναχωρήσεως, και επί-

σης, εάν η γλώσσα αυτή δεν είναι η Αγγλική, ή Γαλλική, 2223
 ή Γερμανική, στην Αγγλική, Γαλλική ή Γερμανική, (Συνβρίζε-
 εκτός εάν, τυχόν, συμφωνίες συνήφθησαν μεταξύ των ται)
 ενδιαφερομένων χωρών προέπουσας ως αναφορικώς με την
 επιχείρηση της μεταφοράς.

Η παρούσα διάταξη δεν χρειάζεται να τηρη-
 θεί εάν τα δοχεία και οι ενδείξεις τους είναι σαφώς
 ορατά.

(2) Κόλα περιέχοντα διανεμητές αεροζόλ της
 IO⁰ θα μαρκάρονται με τη λέξη "ΑΕΡΟΖΟΛ" με γράμματα
 ευανάγνωστα και ανεξίτηλα.

(3) Οσάκις η αποστολή είναι αποστολή πλήρους
 φορτίου, οι ενδείξεις οι αναφερόμενες στην παράγραφο
 (I) δεν είναι υποχρεωτικές.

(I) Κόλα τα οποία περιέχουν δοχεία κατα- 2224
 σκευασμένα από υλικά κινδυνεύοντα να θρυμματισθούν,
 όπως η ύαλος ή ωρισμένες πλαστικές ύλες, θα φέρουν ετι-
 κέτα σύμφωνα προς το μοντέλο Νο.9.

(2) Κάθε κόλον περιέχον αέρια της 8⁰(α) ή
 8⁰(α) θα φέρει, σε δύο αντίθετες πλευρές, ετικέτες συμ-
 φώνως προς το μοντέλο Νο.8, και εάν οι ύλες τις οποίες
 περιέχει εγκλείονται σε γυάλινα δοχεία (περιθώριο
 2207(2)(α)), πρέπει, επιπροσθέτως, να φέρει ετικέτα
 συμφώνως προς το μοντέλο Νο.9.

Κάθε κόλον περιέχον διανεμητές αεροζόλ των 2225
 IO⁰(β) 2., IO⁰(β T) 2., IO⁰(γ) ή IO⁰(γ T), ή μη-ξανα-
 γεμιζόμενα δοχεία (CONTAINERS) αερίου υπό πίεση των

II^ο (β), II^ο (β T), II^ο (γ) ή II^ο (γ T), θα φέρει επι- 2225
κέτα συμφώνως προς το μοντέλο Νο. 2Α. (Συνεχίζε-
ται)

B.- Λεπτομέρειες (στοιχεία) εγγράφου μεταφοράς

(I) Η περιγραφή των εμπορευμάτων στο έγγραφο μεταφο- 2226
ράς πρέπει να υπάρχει:-

(α) στη περίπτωση των καθαρών και τεχνικώς-καθαρών
αερίων των I^ο, 3^ο, 5^ο, 7^ο ή 9^ο, των διανεμητών
αεροζόλ της IO^ο, των μη-ξαναγεμιζομένων δοχείων
(CONTAINERS) αερίου υπό πίεση της II^ο, και να
είναι: μία των ονομασιών των υπογραμμιζομένων
στο περιθώριο 220I.

((β) στη περίπτωση των μιγμάτων των αερίων των 2^ο, 4^ο,
6^ο, 8^ο, I2^ο ή I3^ο: "μίγμα αερίων". Η περιγραφή
αυτή πρέπει να συμπληρούται με την ένδειξη της
συνθέσεως του μίγματος αερίων κατ'όγκον ~~σε~~ εκα-
τόν ή βάρος ~~σε~~ εκατόν. Συστατικά μέρη κάτω του
ενός ~~σε~~ εκατόν δεν χρειάζεται να αναφέρονται.
Στην περίπτωση των μιγμάτων αερίων των 2^ο (α), 2^ο (β),
2^ο (β T), 4^ο (α), 4^ο (β), 4^ο (γ), 6^ο (α), 8^ο (α) ή 8^ο (β)
οι περιγραφές ή οι ονομασίες οι συνήθεις στο εμπό-
ριο που υπογραμμίζονται στο περιθώριο 220I μπορούν
ομοίως να χρησιμοποιούνται, χωρίς τον καθορισμό της
συνθέσεως.

Οι περιγραφές αυτές πρέπει να υπογραμμίζονται
με κόκκινο και να ακολουθούνται από στοιχεία της Κλάσεως,
τον αριθμό του είδους (μαζί με το, τυχόν, γράμμα), και
τα αρχικά "ADR" ή "RID" (π.χ., 2, 5^ο (α T), ADR).

(2) Προκειμένου περί αποστολών αερίων αναφερομέ- 2226
νων μεταξύ των χημικώς ασταθών αερίων, ο αποστολέας (Συνεχίζε-
οφείλει να πιστοποιεί τα κάτωθι στο έγγραφο μεταφοράς: ται)

"Πάρθηκαν τα απαραίτητα μέτρα προς εκπλήρωση των όρων του περιθωρίου 2200(2) της ADR". Στη περίπτωση αποστολών μιγμάτων αερίων της I2^ο ή αερίων δοκιμής/ελέγχου της I3^ο, ο αποστολέας οφείλει να πιστοποιεί τα παρακάτω στο έγγραφο μεταφοράς: "Έχουν τηρηθεί οι όροι οι διαλαμβανόμενοι στα I2^ο ή I3^ο του περιθωρίου 2201 της ADR".

(3) Προκειμένου περί αποστολών τριφθοριούχου χλωρίου (3^ο(α T)) ο αποστολέας οφείλει να πιστοποιεί τα κάτωθι στο έγγραφο μεταφοράς:- "Μετά το γέμισμα με τριφθοριούχο χλώριο, το δοχείο ετηρήθη υπό παρατήρηση επί χρονικό διάστημα όχι μικρότερο των επτά ημερών και η στεγανότητά του επαληθεύθηκε".

(4) Προκειμένου περί δεξαμενών περιεχουσών αέρια της 7^ο(α) ή 8^ο(α) πλήν διοξειδίου του άνθρακος και υποξειδίου του αζώτου, στο έγγραφο μεταφοράς θα αναγράφεται: "Η δεξαμενή είναι σε μόνιμη επικοινωνία με την ατμοσφαίρα".

2227-

2236

Γ.- Κενά Είδη Συσκευασίας

(I) Τα δοχεία και οι δεξαμενές της I4^ο θα κλεί- 2237
νουν με τον ίδιο τρόπο σάν να επρόκειτο για πλήρη δο-
χεία και δεξαμενές.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να είναι:- "Κενό δοχείο ή ("Κενή δεξαμενή"), ακαθάριστο, 2, I4^ο, ADR (ή Είδος I4, RID)". Το κείμενο αυτό πρέπει να

φέρει κόνκλινη υπογραμμισή.

2237

Δ.- Μεταβατικές διατάξεις.

(Συνεχίζε-
ται.)

Οι παρακάτω μεταβατικές διατάξεις θα εφαρμοσθούν σε δοχεία για πεπιεσμένα ή υγροποιημένα αέρια ή αέρια διαλυμένα υπό πίεση:-

- (α) δοχεία ήδη σε υπηρεσία, υπό την επιφύλαξη των παρακάτω εξαιρέσεων, θα γίνονται δεκτά για διεθνή μεταφορά εφ' όσον το επιτρέπουν οι διατάξεις της συμβαλλομένης χώρας στην οποία διεξήχθησαν οι έλεγχοι συμφώνως προς το περιθώριο 22I6 και εφ' όσον ετηρήθησαν οι προθεσμίες, οι προβλεπόμενες υπό των περιθωρίων 22I6(3) και 22I7 για τις περιοδικές επιθεωρήσεις·
- (β) προκειμένου περί δοχείων κατασκευασθέντων συμφώνως προς το προηγούμενον σύστημα (επιτρεπτή τάσις δύο-τρίτα, αντί τριών-τετάρτων, της τάσεως αποδόσεως), δεν θα επιτρέπεται καμμία αύξηση είτε στη πίεση δοκιμής/ελέγχου είτε στη πίεση πληρώσεως (βλέπε περιθώριο 22II(I)).
- (γ) μεταβατικά μέτρα για δεξαμενές: βλέπε περιθώριο 2II I80·
- (δ) μεταβατικά μέτρα για δεξαμενές-δοχεία (TANK-CONTAINERS): βλέπε περιθώριο 2I2 I80·

ΚΛΑΣΗ. 3.- ΕΥΦΛΕΚΤΑ ΥΓΡΑ

I.- Κατάλογος Υλών

(1) Μεταξύ των ευφλέκτων υγρών και μιγμάτων αυ- 2300
τών, είτε σε υγρή κατάσταση είτε ακόμη υπό μορφήν ζύ-
μης σε θερμοκρασία μη υπερβαίνουσα τους 15°C , οι ύλες
οι αναγραφόμενες στο περιθώριο 230I υπόκεινται στις δια-
τάξεις του παρόντος Παραρτήματος και του Παραρτήματος Β.
Οι ύλες αυτές οι γενόμενες δεκτές για μεταφορά υπό ωρι-
σμένους όρους θα θεωρούνται ύλες της ADR.

(2) Εύφλεκτα υγρά των οποίων η πίεση ατμού σε
θερμοκρασία 50°C δεν υπερβαίνει τα 3 KG/CM^2 , πλην των
αναφερομένων στις λοιπές Κλάσεις, θεωρούνται ως εύφλεκτα
υγρά εντός της εννοίας της ADR.

(3) Υγρά της Κλάσεως 3 τα οποία κινδυνεύουν ευ-
κόλως να σχηματίσουν υπεροξειδία (όπως συμβαίνει με αι-
θέρες ή με ωρισμένες ετεροκυκλικές οξυγονοποιημένες ύλες))
περιεχόμενόν τους, γνωστόν ως υπεροξειδίο του υδρογόνου
 H_2O_2 , δεν υπερβαίνει το 0.3 εκατόν.

(4) Το ανωτέρω αναφερόμενον περιεχόμενον εις
υπεροξειδίο και το σημείον αναφλέξεως το αναφερόμενον
παρακάτω θα καθορίζονται όπως εικονίζονται στη Προσθή-
κη Α.3 (περιθώρια 3300 - 3303).

(5) Ύλες της Κλάσεως 3 που πολυμεροποιούνται
εύκολα θα γίνονται δεκτές για μεταφορά μόνον εάν έχουν
παρθεί οι απαραίτητες προφυλάξεις προς αποφυγήν του πολυ-
μερισμού των κατά τη διάρκεια της μεταφοράς.

(6) Στερεές ύλες διαλυτές σε υγρά θα θεωρούνται

δτι περιλαμβάνουν ξηραντικά (DRIERS), σταθεροποιημέ- 2300
να έλαια (βρασμένα ή καθαρμένα λινέλαια, κλπ.) ή (Συνεχίζε-
παρεμφερείς ύλες (εξαιρουμένης της νιτροκυτταρίνης) ται.)
των οποίων το σημείον αναφλέξεως είναι άνω των 100°C.

I^ο (α) Υγρά μη επιδεκτικά αναμίξεως, ή μόνον εν μέ- 2301

ρει επιδεκτικά αναμίξεως, με νερό, τα οποία
έχουν σημείον αναφλέξεως κάτω των 21°C, επίσης
όταν δεν περιέχουν περισσότερο από 30% εκα-
τόν στερεά (εξαιρουμένης της νιτροκυτταρίνης)
είτε διαλυμένα, είτε ~~σε~~ αιώρηση μέσα στα υγρά,
ή αμφότερα, π.χ. ανάθαρτα πετρέλαια και άλλα
αργά πετρέλαια· πηκτικά προϊόντα από τη διύ-
λιση του πετρελαίου και άλλων αργών πετρελαίων
ή από άνθρακα, λιγνίτη, σχιστόλιθο και πίσσες
από ξύλο ή τύρφη, π.χ.: πετρελαϊκός αιθέρας,
πεντάνια, βενζίνη, βενζόλιο και τολουόλη·
προϊόντα συμπυκνώσεως φυσικού αερίου· οξικόν
αιθύλιον (οξικός εστέρας), οξικόν βινύλιον,
διαιθυλικός αιθέρας (θειϊκός αιθέρας), μεθυ-
λικόν άλας μυρμηκικού οξέος και λοιποί αιθέρες
και εστέρες· διθειούχος άνθραξ· αλδεΰδη του
αλκοολικού πνεύματος (ακρολεΐνη)· ωρισμένοι
χλωριωμένοι υδρογονάνθρακες (π.χ. 1,2-διχλωρο-
αιθάνιο και χλωροπρένιο (χλωροβουταδιένιο))·

(β) μίγματα υγρών έχοντα σημείον αναφλέξεως κάτω
των 21°C και περιέχοντα όχι άνω των 55 τοις
εκατόν νιτροκυτταρίνην με περιεχόμενον αζώτου

μη υπερβαίνον το 12.66τ~~α~~ εκατόν (κολλόδια, 230I
ημι-κολλόδια και λοιπά διαλύματα νιτροκυτταρίνης) (Συνεχίζεται)

Για (α), βλέπε επίσης περιθώριο 230Iα (α), (β) και (δ). για (β), βλέπε επίσης περιθώριο 230Iα (α).

Σημειώσεις:- Για μίγματα υγρών έχοντα σημείον αναφλέξεως κάτω των 21°C και

- περιέχοντα άνω του 55τ~~α~~ εκατόν νιτροκυτταρίνην ανεξαρτήτως του είς άζωτον περιεχομένου των, ή
- περιέχοντα όχι περισσότερο του 55τ~~α~~ εκατόν νιτροκυτταρίνην με περιεχόμενον εις άζωτον άνω του 12.66τ~~α~~ εκατόν,

βλέπε Κλάση Iα, περιθώριο 210I, I^o και Κλάση 4.I, περιθώριο 240I 7^o(α).

2^o Υγρά μη επιδεκτικά αναμίξεως, ή μόνον εν μέρει επιδεκτικά αναμίξεως, με νερό, τα οποία έχουν σημείον αναφλέξεως κάτω των 21°C και περιέχουν άνω του 30 τοις εκατόν στερεά (εξαιρουμένης της νιτροκυτταρίνης) είτε διαλυμένα, είτε ~~διαλυμένα~~ στα υγρά, ή αμφότερα, π.χ.: ωρισμένα χρώματα για ροτοχαρακτική (φωτοτυπίες) και για δέρματα, ωρισμένα βερνίκια, ωρισμένα βερνικοχρώματα, και διαλύματα ελαστικού (καουτσούκ). Βλέπε επίσης περιθώριο 230Iα, (γ).

3^o Υγρά μη επιδεκτικά αναμίξεως, ή εν μέρει επιδεκτικά αναμίξεως, με νερό, που έχουν σημείον αναφλέξεως μεταξύ 21°C και 55°C συμπεριλαμβανομένων, επίσης

δταν περιέχουν όχι άνω του 30 ~~6~~τα εκατόν στερεά 230I είτε διαλυμένα, είτε εν αιωρήσει ατα υγρά, ή (Συνεχίζεται) αμφοτέρα, π.χ.: τερεβινθίνη (νέφτι)· ημι-βαρέα προϊόντα εκ της διύλισεως πετρελαίου ή άλλων αργών πετρελαίων, ή εξ άνθρακος, λιγνίτου, σχιστολίθου ή από πίσσες ξύλου και τύρφης, π.χ. λευκό πνεύμα (υποκατάστατο της τερεβινθίνης), βαρέα βενζόλια, πετρέλαια (για φωρισμό, θέρμανση ή μηχανές), ξυλένιο, στυρένιο (στυρόλη), κουμένιο (CUMENE), διαλύτης νάφθα· βουτανόλη· οξικό βουτύλιο· οξικό πεντύλιο (οξικός αμυλεστέρας)· νιτρομεθάνιο (μονονιτρομεθάνιο) και ωρισμένες μονονιτροπαραφίνες· ωρισμένοι χλωριωμένοι υδρογονάνθρακες (π.χ. χλωροβενζόλιο). Βλέπε επίσης περιθώριο 230Iα, υπό τα στοιχεία (γ) και (δ).

4^ο Υγρά μη επιδεικτικά αναμίξεως, ή εν μέρει επιδεικτικά αναμίξεως, με νερό που έχουν σημείον αναφλέξεως άνω των 55^οC αλλά μη υπερβαίνον τους 100^οC, επίσης δταν περιέχουν όχι άνω του 30 ~~6~~τα εκατόν στερεά είτε διαλυμένα, είτε ~~σε~~ αιωρήσει σε υγρά, ή αμφοτέρα, π.χ.: ωρισμένες πίσσες και τα προϊόντα διύλισεώς των: πετρέλαια θερμάνσεως, πετρέλαια ντήζελ, ωρισμένα αερίέλαια· τετραυδροναφθαλίνιο (τετραλίνη)· νιτροβενζόλιο· ωρισμένοι χλωριωμένοι υδρογονάνθρακες (π.χ. I-χλωρο-2-αιθυλεξάνιο). Βλέπε επίσης περιθώριο 230Iα, υπό τα στοιχεία (γ) και (δ).

5^ο Υγρά επιδεικτικά αναμίξεως σε όλες τις αναλογίες

με νερό που έχουν σημείον αναφλέξεως κάτω των 21°C , 230I
 επίσης όταν περιέχουν άνω του 30 ~~60~~ εκατόν στερεά (Συνεχίζε-
 είτε διαλυμένα, είτε ~~α~~ αιώρησι στα υγρά, ή αμφότερα, ^{ται})
 π.χ.: μεθανόλη (μεθυλική αλκοόλη, ξυλόπνυμα), μετου-
 σιωμένη ή όχι· αιθανόλη (αιθυλική αλκοόλη, συνήθης
αλκοόλη), μετουσιωμένη ή όχι· οξική αλδεΐδη· ακετόνη
 και μίγματα ακετόνης· πυριδίνη. Βλέπε επίσης περιθώριο
 230Iα, υπό τα στοιχεία (α) και (γ).

6^ο Κενά δοχεία, ακαθάριστα, και κενές δεξαμενές, ακαθάρι- 230Iα
 στες, που περιείχαν εύφλεκτα υγρά της Κλάσεως 3.

Όλες παραδοθείσες για μεταφορά συμφώνως προς
 στις παρακάτω διατάξεις δεν υπόκεινται ούτε στις διατά-
 ξεις της παρούσης Κλάσεως τις περιεχόμενες στο παρόν
 Παράρτημα ούτε σε εκείνες που περιέχονται στο Παράρτημα Β:

(α) υγρά της I^ο (εκτός των αναφερομένων υπό (β) κατωτέ-
 ρω), και ακετόνη και μίγματα ακετόνης (5^ο): σε πο-
 σότητες μη υπερβαίνουσες τα 200 γραμμ. ανά δοχείο,
 σε δοχεία κατασκευασμένα από φύλλο-μετάλλου, ύαλο,
 πορσελάνη, είδη κεραμουργικά ή κατάλληλο πλαστική
 ύλη, τα δοχεία αυτά, με ολικό περιεχόμενον μη υπερ-
 βαίνον το 1 KG, τοποθετούμενα μαζί σε εξωτερικό εί-
 δος συσκευασίας κατασκευασμένο από φύλλο-μετάλλου,
 ξύλο ή ινώδη σανίδα και εύθραυστα δοχεία καταλλη-
 λως ασφαλιζόμενα στο είδος της συσκευασίας προς απο-
 φυγήν της θραύσεως των·

(β) διθειούχος άνθραξ, διαιθυλαιθέρας, πετρελαϊκός αιθέ-
 ρας, πεντάνια, μεθυλικόν άλας μυρμηκικού οξέος
 (METHYL FORMATE): 50 γραμμ. ανά δοχείο και 250 γραμμ.

ανά κόλον, οι ύλες αυτές συσκευασμένες κατά τον ίδιο 2301α
 τρόπο με τις ύλες της (α). (Συνεχίζεται)

- (δ) η καύσιμος ύλη η περιεχομένη στις δεξαμενές αυτοκινήτων ή σε κλειστές βοηθητικές δεξαμενές σταθερά στερεωμένες στα οχήματα. Εάν υπάρχει στρόφιγγα μεταξύ της δεξαμενής και του κινητήρα πρέπει να είναι κλεισμένη· το ηλεκτρικό ρεύμα πρέπει επίσης να αποσυνδεθεί. Μοτοσυκλέτες και μοτοποδήλατα των οποίων οι δεξαμενές περιέχουν καύσιμο-ύλη πρέπει να φορτώνονται απ'ευθείας επί των τροχών των, ασφαλιζόμενα (στερεούμενα) για να μη πέσουν.

2.- Διατάξεις

A.- Κόλα

I.- Γενικοί Όροι Συσκευασίας

(1) Τα δοχεία θα είναι έτσι κλεισμένα και στεγανά ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου, και ειδικώτερα οποιαδήποτε εξάτμιση.

(2) Τα υλικά από τα οποία τα δοχεία και τα κλεισίματά των είναι κατασκευασμένα δεν θα πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενο ούτε να σχηματίζουν επιβλαβείς ή επικινδύνους ενώσεις με αυτό.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη των για να αποφεύγεται οποιαδήποτε χαλάρωση διαρροής της μεταφοράς και να πληρούν τους συνήθεις όρους μεταφοράς. Ειδικότερα, τα δοχεία και τα κλεισίματά των πρέπει, εκτός εάν το άρθρο το τιτλοφορούμενο

"Συσκευασία μιας ύλης" προβλέπει άλλως, να μπορούν να 2302
ανθίστανται σε οποιαδήποτε πίεση την οποίαν, λαμβανο- (Συνεχίζεται)
μένης επίσης υπόψη της παρουσίας του αέρος, ενδέχεται
εσωτερικώς να υποστούν τα δοχεία κατά τη συνήθη μεταφορά.
Για τον σκοπόν αυτόν ελεύθερος χώρος πρέπει να αφήνεται,
λαμβανομένης υπόψη της διαφοράς μεταξύ της θερμοκρασίας
των υλών κατά τον χρόνον της πληρώσεως και της ανωτάτης
μέσης θερμοκρασίας την οποίαν ενδέχεται να φθάσουν διαρ-
κούσης της μεταφοράς. (βλέπε επίσης περιθώριο 2305). Οι εσω-
τερικές συσκευασίες θα ασφαρίζονται σταθερά στις εξωτερι-
κές συσκευασίες. Εκτός εάν άλλως ορίζεται στο άρθρο το
τιτλοφορούμενο "Συσκευασία μιας ύλης", οι εσωτερικές
συσκευασίες μπορούν να εγκλείονται στις εξωτερικές συ-
σκευασίες, είτε μία-μία είτε ομαδικά.

(4) Φιάλες και λοιπά γυάλινα δοχεία πρέπει να
είναι απηλλαγμένα από βλάβες που κινδυνεύουν να εξασθενή-
σουν την αντοχή των· ειδικώτερα, πρέπει να έχουν καταλ-
λήλως αρθεί οι εσωτερικές τάσεις. Τα τοιχώματα δεν πρέ-
πει να έχουν πάχος μικρότερο των 3 MM (χιλ.) προκειμένου
περί δοχείων που ζυγίζουν, μαζί με το περιεχόμενό των,
άνω των 35 KG, και όχι μικρότερο των 2 MM (χιλ.) προκει-
μένου περί άλλων δοχείων.

Η στεγανότητα του συστήματος κλεισίματος πρέ-
πει να εξασφαλίζεται από πρόσθετο μηχανισμό (πώμα, στέμ-
μα (κορώνα), σφραγίδα, δέσιμο, κλπ.) ικανό να εμποδίσει
οποιαδήποτε χαλάρωση του συστήματος κλεισίματος κατά την
μεταφορά.

(5) Το απορροφητικό υλικό θα είναι κατάλληλο 2302
 προς τη φύση του περιεχομένου και, ειδικότερα, θα ελ- (Συνεχίζεται)
 ναι απορροφητικό. Κατάλληλα υλικά πρέπει να χρησι-
 μοποιούνται προς στερέωση των δοχείων και ασφάλισή
 των στο προστατευτικό είδος συσκευασίας· η εξασφάλιση
 αυτή πρέπει να εκτελείται με φροντίδα και να ελέγχεται
 περιοδικά (πιθανόν προ κάθε νέας πληρώσεως του δοχείου).

2.- Συσκευασία μιας ύλης

(I) Οι ύλες των I^ο - 5^ο πρέπει να συσκευάζονται 2303
 σε κατάλληλα δοχεία κατασκευασμένα από μέταλλο ή γυαλί,
 πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά. Οι ύλες
 της 4^ο και τα διαβρωτικά υγρά των I^ο(α), 3^ο και 5^ο μπο-
 ρούν επίσης να συσκευάζονται σε δοχεία κατασκευασμένα
 από κατάλληλη πλαστική ύλη. (Για τις ειδικές διατάξεις
 τις σχετικές με το χλωροπρένιο και το νιτρομεθάνιο, βλέ-
 πε κατωτέρω υπό τα στοιχεία (8) και (9), αντιστοίχως.)

(2) Εύθραυστα δοχεία (γυαλίνα, από πορσελάνη,
 είδη κεραμεικής ή παρεμφερή υλικά) μπορούν να μη περιέ-
 χουν περισσότερες των παρακάτω ποσοτήτων υλών της I^ο:-

| | |
|-------------------------------------|-----------|
| διθειούχος άνθραξ | 1 λίτρα |
| διαιθυλαιθέρας, πετρελαϊκής αθέρας, | |
| πεντάνια | 2 λίτρες |
| άλλες ύλες της I ^ο | 5 λίτρες. |

(3) Δοχεία από πλάκες κασιτέρου χωρητικότητας
 μη υπερβαίνουσας τις 10 λίτρες πρέπει να έχουν πάχος τοι-
 χώματος όχι μικρότερο των 0.25 MM (χιλ.)· τα έχοντα χω-
 ρητικότητα υπερβαίνουσα τις 60 λίτρες πρέπει να έχουν

πάχος τοιχώματος όχι μικρότερο των 0.3 MM (χιλ.) 2303
 και οι ενώσεις τους να έχουν διπλο-ραφεί δια συγκολ- (Συνεχίζεται)
 λήσεως, ή με μαλακή συγκόλληση, ή να έχουν παραχθεί
 με κατεργασία εξασφαλίζουσας παρόμοιον βαθμόν αντο-
 χής και στεγανότητας.

(4) Δοχεία κατασκευασμένα από φύλλο-χάλυβος
 (για δοχεία από πλάκες κασιτέρου έχοντα χωρητικότητα
 μη υπερβαίνουσα τις 60 λίτρες, βλέπε επίσης (3)) πρέ-
 πει να συγκολλούνται ή υπόκεινται σε σκληρή συγκόλληση,
 και οι ποσότητες των υλών των I^ο - 5^ο τας οποίας μπο-
 ρούν να περιέχουν, συμφώνως προς το πάχος των τοιχωμά-
 των των, έχουν ως κάτωθι:-

εάν το πάχος του τοιχώματος είναι μικρότερο των
 0.5MM (χιλ.: όχι περισσότερες από 30 λίτρες,
 εάν το πάχος του τοιχώματος δεν είναι μικρότερο
 των 0.7 MM (χιλ.): όχι περισσότερες από 60 λίτρες,
 εάν το πάχος του τοιχώματος δεν είναι μικρότερο
 των 1.5 MM (χιλ.): περισσότερες από 60 λίτρες.

(5) Είδη συσκευασίας κατασκευασμένα από φύλλο-
 μετάλλου πλην χάλυβος πρέπει να σχεδιάζονται και κατα-
 σκευάζονται κατά τοιούτο τρόπο ώστε να διαθέτουν την
 αυτήν αντοχήν όπως τα δοχεία εκ φύλλου-χάλυβος τα ανα-
 φερθέντα εις (4).

(6) Υγρά των οποίων η πίεση ατμού στους 50^οC
 δεν υπερβαίνει τα 1.5 KG/CM², με εξαίρεση τον διθειούχο
 άνθρακα, μπορούν επίσης να μεταφέρονται σε μεταλλικά
 βαρέλια συμμορφούμενα προς τις παρακάτω διατάξεις:-

Οι ενώσεις του κορμού των βαρελιών πρέπει να 2303
συγκολλούνται και τα άκρα των ενώσεων επίσης με δι- (Συνεχίζεται)
πλή ραφή. Τα βαρέλια πρέπει να είναι εφοδιασμένα με
κυλιόμενες στεφάνες (τσέρκια) ή ενισχυτικές δοκίδες.
Κάθε βαρέλι πρέπει να έχει υποστεί τον έλεγχο διαρροής
τον προβλεπόμενο στο περιθώριο 3502 της Προσθήκης Α.5.
Τα βαρέλια πρέπει να είναι τύπου κατασκευής ο οποίος
ικανοποίησε τους άλλους ελέγχους τους προβλεπομένους
στη προρρηθείσα Προσθήκη Α.5 και πρέπει να φέρει τη
σχετικήν ένδειξιν κατά την έγκρισή του τύπου.

(7) Για τη μεταφορά μέσα σε μή-επιστρεπτέα
μεταλλικά είδη συσκευασίας προοριζόμενα να χρησιμοποιη-
θούν μόνο μία φορά) ευφλέκτων προϊόντων των οποίων η πίεση
ατμού δεν υπερβαίνει, στους 50°C, τα 1.1 KG/CM² δεν εί-
ναι απαραίτητο, προκειμένου περί υδρού του οποίου το
βάρος μονάδος δεν υπερβαίνει τα 225 KG, όπως το άκρο του
δοχείου συγκολληθεί στο κορμό και το πάχος του τοιχώματος
να είναι μεγαλύτερο των 1.25 MM (χιλ.), αλλά το δοχείο
πρέπει να είναι σε θέση να αντέξει, άνευ διαρροής, υδραυ-
λικήν πίεσιν 0.3 KG/CM² τουλάχιστον, και ο κορμός και τα
άκρα του πρέπει να είναι εφοδιασμένα με μηχανισμούς (όπως
δοκίδες ή κυλιόμενες στεφάνες (ROLLING HOOPS)) που μπο-
ρούν ή δεν μπορούν να αποσυνδεθούν, εξασφαλίζοντες ακαμ-
ψίαν.

(8) Το Χλωροπρένιο (I^ο(α)) θα συσκευάζεται:-

- (α) σε ερμητικώς-κλεισμένα μεταλλικά δοχεία, καταλλήλως
επενδεδυμένα εάν χρειασθεί, έχοντα χωρητικότητα μη

υπερβαίνουσα τις 15 λίτρες. Τα δοχεία αυτά θα ασφα- 2303
λίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλ(Συνεχίζεται)
νο κιβώτιο ή άλλη εξωτερική συσκευασία καταλλήλου
αντοχής· ή

- (β) σε κάνιστρα από φύλλο-μετάλλου, συγκολλημένα ή
σκληρά-συγκολλημένα, έχοντα χωρητικότητα μη υπερ-
βαίνουσα τις 60 λίτρες, ερμητικώς κλεισμένα και εφο-
διασμένα με χειρολαβήν.

(9) Το νιτρομεθάνιο (3^ο) πρέπει να περιέχεται:-

- (α) σε εύθραυστα δοχεία περιέχοντα όχι περισσότερο της
1 λίτρας· ή
(β) σε δοχεία από φύλλο-μετάλλου συμφώνως προς την (4)
ανωτέρω έχοντα χωρητικότητα μη υπερβαίνουσα τις 10
λίτρες· ή
(γ) σε μεταλλικά βαρέλια έχοντα το καθένα δύο ερμητι-
κά κλεισίματα, το ένα από αυτά με σπείρωμα, και το
καθένα βαρέλι εφοδιασμένο με κυλιόμενες στεφάνες
(ROLLING HOOPS) και έχον χωρητικότητα μη υπερβαί-
νουσαν τις 200 λίτρες.

(I) Εύθραυστα δοχεία περιέχοντα ύλες της I^ο 2304
έως 5^ο, δοχεία κατασκευασμένα από πλαστική ύλη και πε-
ριέχοντα διαβρωτικά υγρά των I^ο(α), 3^ο και 5^ο, δοχεία
από πλάκες κασιτέρου περιέχοντα ύλες της I^ο και 5^ο,
δοχεία από πλάκες κασιτέρου έχοντα πάχος τοιχώματος
μικρότερο των 0.5 MM (χιλ.) και περιέχοντα ύλες των 2^ο
έως 4^ο, και δοχεία από φύλλο-μετάλλου περιέχοντα νιτρο-
μεθάνιο συμφώνως προς το περιθώριο 2303(9)(β), θα ασφα-

λίζονται με αποσβεστικό υλικό σε προστατευτικές συσκευασίες. Εάν δοχεία κατασκευασμένα από πλαστική ύλη ασφαλίζονται χωριστά σε προστατευτικές συσκευασίες, το αποσβεστικό υλικό δεν είναι απαραίτητο.

230β.
(Συνεχίζεται)

Προστατευτικές συσκευασίες εγνείουσες ευθραυστα δοχεία περιέχοντα ύλες των I^ο και 5^ο και προστατευτικές συσκευασίες εγνείουσες δοχεία περιέχοντα νιτρομεθάνιο (3^ο) πρέπει να έχουν πλήρεις πλευρές και να είναι κατασκευασμένες από ξύλο, φύλλο-μετάλλου ή παρόμοιο υλικό.

Το κλείσιμο ευθραύστων δοχείων τοποθετημένων σε ανοικτές προστατευτικές συσκευασίες πρέπει να διαθέτει προστατευτικό κάλυμμα προφυλάσσοντας αυτά από ζημιά. Εάν τα κόλα φορτωθούν σε ανοικτό δχημα, το προστατευτικό κάλυμμα πρέπει να μην είναι ικανό να αναφλεγεί σε επαφή με φλόγα.

(2) Τα παρακάτω είναι δι δεικτά για μεταφορά χωρίς προστατευτική συσκευασία:-

- (α) δοχεία κατασκευασμένα από πλαστική ύλη συμφώνως προς το περιθώριο 2304(I), περιέχοντα ύλες της 4^ο.
- (β) δοχεία κατασκευασμένα από πλάκες-κασσιτέρου, πάχους όχι μικροτέρου των 0.5 MM (χιλ.), περιέχοντα ύλες των 2^ο - 4^ο.
- (γ) δοχεία από φύλλο-μετάλλου συμφώνως προς το περιθώριο 2303 (4) έως (7).
- (δ) μεταλλικά κάνιστρα συμφώνως προς το περιθώριο 2303 (8)(β), περιέχοντα χλωροπρένιο (I^ο(α)).

- (ε) μεταλλικά βαρέλια συμφώνως προς το περιθώριο 2303 2304
(9)(γ), περιέχοντα νιτρομεθάνιο (3°). (Συνεχίζεται)

(3) Τα παρακάτω κδλα δεν πρέπει να υπερ-

βαίνουν τα κατωτέρω οριζόμενα ανώτατα βάρη:-

- (α) κδλα από εύθραυστα δοχεία περιέχοντα ύλες της
I° 30 KG,
- (β) κδλα από εύθραυστα δοχεία περιέχοντα ύλες των
2° - 5° 75 KG,
- (γ) κδλλα από δοχεία κατασκευασμένα από πλαστική
ύλη και περιέχοντα ύλες της I° (α) και των 3°
έως 5°, και δοχεία από πλάκες κασσιτέρου περιέ-
χοντα ύλες των I° - 5° 75 KG,
- (δ) κδλα από δοχεία περιέχοντα χλωροπρένιον συμ-
φώνως προς το περιθώριο 2308(8) 75 KG,
- (ε) κδλα από δοχεία από φύλλο-μετάλλου περιέχοντα
νιτρομεθάνιο συμφώνως προς το περιθώριο 2303
(9)(β) 75 KG,
- (στ) βαρέλια ελεγχθέντα συμφώνως προς το περιθώριο
2303(6) 250 KG,
- (ζ) δοχεία συμφώνως προς το περιθώριο 2303(7) ... 226 KG,
- (η) βαρέλια περιέχοντα νιτρομεθάνιο συμφώνως προς
το περιθώριο 2303(9)(γ) 275 KG.

(4) Κδλα πλην κιβωτίων και μεταλλικών βαρε-
λίων, θα είναι εφοδιασμένα με χειρολαβήν.

Μεταλλικά δοχεία προοριζόμενα να περιέχουν 2305
υγρά της I°, νιτρομεθάνιο (3°), ή οξική αλδεΐδη, ακετόνη
ή μίγματα ακετόνης (5°), δεν θα πληρούνται πέραν του 93

~~60%~~ εκατόν της χωρητικότητός των. Εν τούτοις, δοχεία 2305
περιέχοντα υδρογονάνθρακες πλην πετρελαϊκού αιθέρος, (Συνεχίζεται)
πεντανίων, βενζολίου και τοξουόλης μπορούν να πλη-
ρούνται μέχρι του 95~~60%~~ εκατόν της χωρητικότητός των.

3.- Μικτή Συσκευασία

(1) Υλεις ομαδοποιημένες υπό τον αυτόν α-
ριθμόν ειδούς μπορούν να συμπεριληφθούν στο ίδιο κδλον.
Οι εσωτερικές συσκευασίες θα συμφωνούν με το τι προβλέ-
πεται για κάθε ύλη, και η εξωτερική συσκευασία θα ελ-
ναι η αναφερομένη για τις ύλεις του ~~επ~~ θέματος αριθμού
είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται
στο άρθρο το τιτλοφορούμενο "Συσκευασία μιας ύλης", οι
ύλεις της παρούσης Κλάσεως μπορούν να εγκλείονται στο
ίδιο κδλον είτε με επικινδύνους ύλεις άλλων Κλάσεων
(εάν μικτή συσκευασία επιτρέπεται προκειμένου περί τοι-
ούτων υλών) ή με άλλα εμπορεύματα, ως ορίζεται κατωτέρω.

Οι εσωτερικές συσκευασίες πρέπει να ικανο-
ποιούν τους γενικούς και ειδικούς όρους συσκευασίας.
Επιπροσθέτως, οι γενικές διατάξεις οι περιεχόμενες στα
περιθώρια 2001(5) και 2002(6) και (7) πρέπει να τηρούνται.

Το κδλον δεν πρέπει να ζυγίζει περισσότερο από
150 KG, ή περισσότερο από 75 KG, εάν περιέχει εύθραυστα
δοχεία.

2306
(Συνεχίζεται.)

| Αριθμός Είδους | Περιγραφή Υλών | Α ν ω τ ά τ η Π ο σ ό τ η ς ανά εύθραυ- στο δο- χείο | ανά άλλο δοχείο | ανά κόλον | Ειδικά Διατάξεις |
|--|---|--|-----------------------|--------------|--|
| I ^ο (α). | Διθειούχος Άνθρακας | 0.3 λί- τρες | I λίτρα | I λίτρα | Υγρά της Κλά- σεως 3 δεν πρέ- πει να συσκευά- ζονται μαζί με ύλες της Κλάσε- ως 4.2, υπερο- ξείδιο του υδρο- γόνου ή υπερ- χλωρικό οξύ της Κλάσεως 5.1, ή ύλες της Κλά- σεως 8, 2 ^ο (α), 3 ^ο (α), 4 ^ο , 7 ^ο και 4I ^ο . |
| I ^ο (α). | Όλες οι ύλες και εκτός διθει- ούχου άνθρα- κος | I λίτρα | 5 λίτρες | 5 λίτρες | |
| 2 ^ο | Όλες οι ύλες | I λίτρα | 5 λίτρες | 10 λίτρες | |
| 3 ^ο | Όλες οι ύλες | 3 λίτρες | 5 λίτρες | 10 λίτρες | |
| 4 ^ο | Όλες οι ύλες | 5 λίτρες | 5 λίτρες | 10 λίτρες | |
| 5 ^ο | Υγρά έχοντα σημείο βρα- σμού / 50 ^ο C | I λίτρα | 5 λίτρες | 10 λίτρες | |
| Άλλες Ύλες 3 λίτρες 5 λίτρες 10 λίτρες | | | | | |

4.- Ενδείξεις (Μαρμάρισμα) και επικίνδυνες κινδύνου
στα κόλα (βλέπε Προσθήκη Α.9).

2307

(I) Κόλα περιέχοντα υγρά της I^ο έως 3^ο και 5^ο
θα φέρουν ετικέτα σύμφωνα προς το μοντέλο Νο.2Α.

Εν τούτοις, εάν ύλες των 2^ο, 3^ο ή 5^ο συ-
σκευασθούν σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη,

είδη κεραμεικής ή παρόμοιο υλικό, χωρητικότητας υπερ- 2307
βαίνουσας τις 5 λίτρες, τα κόλα θα φέρουν δύο ετικέ- (Συνεχίζεται)
τες συμφώνως προς το μοντέλο Νο. 2Α.

Κόλα περιέχοντα ακρολεΐνη (αλδεΐδη του αλκο-
ολικού πνεύματος) ή χώροπρένιο (χλωροβουταδιένιο) ($I^O(\alpha)$),
ή μεθανόλη (μεθυλική αλκοόλη) (5^O), θα φέρουν ετικέτα συμ-
φώνως προς το μοντέλο Νο.4.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μη ορατά
από έξω θα φέρουν ετικέτα συμφώνως προς το μοντέλο Νο.9.
Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα οφείλουν
επιπροσθέτως, πλην της περιπτώσεως των σφραγισμένων αμ-
πουλών, να φέρουν ετικέτες συμφώνως προς το Μοντέλο Νο.8.
Οι ετικέτες αυτές θα τοποθετούνται ψηλά στις δύο αντίθε-
τες πλευρές των κιβωτίων ή κατά ισοδύναμον τρόπον όταν
άλλα είδη συσκευασίας χρησιμοποιούνται.

(3) Προκειμένου περί αποστολών μεταφερομένων
ως πλήρη φορτία, οι ετικέτες Νο. 2Α και 4, ως προβλέπον-
ται υπό τα στοιχεία (1) και (2), δεν χρειάζονται να τε-
θούν στα κόλα εάν το όχημα φέρει την ένδειξη την προ-
βλεπομένην στο Παράρτημα Β, περιθώριο ΙΟ 500.

2308

Β.- Στοιχεία (Λεπτομέρειες) του εγγράφου μεταφοράς

(Ι) Η περιγραφή των εμπορευμάτων στο έγγραφο 2309
μεταφοράς πρέπει να είναι σύμφωνη με μία των ονομασιών
των υπογραμμισμένων στο περιθώριο 230Ι. Εάν το τελευταίο
δεν περιέχει την ονομασία της ύλης, θα χρησιμοποιείται
η εμπορική ονομασία. Η περιγραφή των εμπορευμάτων πρέπει

να υπογραμμίζεται με κόκκινο και να ακολουθείται από 2309
τα στοιχεία της Κλάσεως, τον αριθμό του είδους (μαζί (Συνεχίζεται
με το γράμμα, εάν υπάρχει), και τα αρχικά "ADR" ή
"RID" (π.χ. 3, I⁰(α), ADR).

(2) Προκειμένου περί όλων των αποστολών υλών
 οι οποίες χρησιμοποιούνται ευχερώς, τα παρακάτω πρέπει
 να βεβαιούνται στο έγγραφο μεταφοράς:- "Πάρθηκαν τα
απαραίτητα μέτρα για την αποφυγή του πολυμερισμού διαρ-
κούσης της μεταφοράς".

2310-

2315

Γ.- Κενά είδη συσκευασίας

(1) Τα δοχεία και οι δεξαμενές της 6⁰ πρέπει
 να κλείνουν κατά τον ίδιο τρόπο και πρέπει να είναι
 του αυτού βαθμού στεγανά ως εάν ήσαν πλήρη.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει
 να είναι: "Κενόν δοχείο (ή κενή δεξαμενή), 3μ 6⁰ ADR
(ή RID)". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με
κόκκινο.

(3) Κενά δοχεία, ακαθάριστα, της 6⁰, που
 περιείχαν ύλες των I⁰ έως 3⁰ και 5⁰ θα φέρουν ετικέτα
 σύμφωνα με το μοντέλο Νο. 2Α. Εκείνα που περιείχαν ακρο-
 λεΐνη ή χλωροπρένοα (χλωροβουταδιένιο (I⁰)(α)) ή μεθανοδ-
 λην (μεθυλικήν αλκοδλην) (5⁰) θα φέρουν επιπρόσθετα ε-
 τικέτα σύμφωνα με το μοντέλο Νο.4.

ΚΛΑΣΗ 4.Ι.- ΕΥΦΛΕΚΤΑ ΣΤΕΡΕΑ

ΙΙ.- Κατάλογος υλών

Μεταξύ των υλών των καλυπτομένων υπό τον τί- 2400
τλον Κλάσιν 4.Ι, οι αναγραφόμενες στο περιθώριο 240Ι
υπόκεινται στις διατάξεις του παρόντος Παραρτήματος
και του Παραρτήματος Β. Οι ύλες που γίνονται δεκτές για
μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες της
ADR.

Ι^ο Ύλες οι οποίες μπορούν εύκολα να αναφλεγούν από 240Ι
σπινθήρες, όπως ξύλαλευρο, πριονίδι, ροκανίδια,
ξηρή ίνα (στο ξύλο), ξύλάνθρακας, παληδόχαρτα και
άχρηστα χαρτιά, ξύλοκυτταρίνη, χαρτο-ίνα, καλά-
μια (εκτός σπάρτου), αγριοκάλαμο, σανός, άχυρο,
καθώς και όταν υγρές (συμπεριλαμβανομένων του
καλαμποκιού, ρυζιού, και λιναριού), φυτικές υφάν-
σιμες ύλες και υπολείμματα φυτικών υφανσίμων υλών,
φελλός σε σχήμα κόνης ή κόκκων, εκταθείς ή όχι,
μετά ή άνευ προσμίξεως τύρφης (πίσσας) ή άλλων
υλών μη υποκειμένων σε στιγμιαία οξειδωση, και
υπολείμματα φελλού σε μικρούς βώλους. Βλέπε επίσης
Κλάσιν 4.2, περιθώριον 243Ι, 8^ο + ΙΟ^ο, και περιθώ-
ριο 243Ια, υπό στοιχείον (β).

Σημείωσις:- Ι.- Οι ύλες αυτές συμπεριλαμβάνονται
στον κατάλογο μόνον για λόγους απαγορεύσεως μιντικής
φορτώσεως. Για τον σκοπόν αυτόν οι διατάξεις του
περιθωρίου 24Ι6(Ι) ισχύουν. Κανένα άλλο άρθρο, είτε
του παρόντος Παραρτήματος είτε του Παραρτήματος Β,
έχει γι' αυτές εφαρμογή.

2.- Ο σανός ο οποίος εξακολουθεί να έχει βαθμόν 240I υγρασίας ο οποίος είναι ενδεχόμενο να οδηγήσει σε (Συνεχίζεται) ζύμωση δεν γίνεται δεκτός για μεταφορά.

3.- Περιτυλίγματα και πλάκες (φύλλα) εκπαθέντος φελλού, κατασκευασμένα υπό πίεση, μετά ή άνευ προσμξεως τύρφης (πίσσας) ή άλλων υλών μη υποκειμένων εθς .στιγμιαία οξείδωση, σε ουδεμία των διατάξεων της ADR υπόκεινται.

4.- Φελλός εμπλουτισμένος με ύλες που εξακολουθούν να υπόκεινται σε στιγμιαία οξείδωση είναι ύλη της Κλάσεως 4.2 (βλέπε περιθώριο 243I, 9^ο).

2^ο (α) Θείον (συμπεριλαμβανομένων των ανθέων θείου).

(β) θείον σε τετηγμένη κατάσταση.

3^ο Κελλοϋδίνη, παραγομένη από ατελή εξατμισμό της αλκοόλης της περιεχομένης σε κολλόδιον και αποτελούμενη κυρίως από κολλοδιοβάμβακα.

4^ο Κυτταρινοΐδη (σελλουλοΐδ) σε πλάκες, φύλλα, ράβδους ή σωλήνες, και υφάσματα επιχρισμένα με νιτροκυτταρίνη.

5^ο Κυτταρινοΐδη Ταινιών, τ.έ. η πρώτη ύλη για ταινίες (φίλμ), χωρίς εμουλσίνη (γαλακτώδες μίγμα), σε ρόλλους, και εμφανισθέντα φίλμ εκ κυτταρινοΐδης.

6^ο Υπολείμματα Κυτταρινοΐδης και υπολείμματα φίλμ κυτταρινοΐδης.

Σημείωσις:- Τα υπολείμματα νιτροκυτταρίνης, απηλλαγμένα από ζελατίνη, σε πηνία, φύλλα ή λωρίδες, είναι ύλη της Κλάσεως 4.2 (βλέπε περιθώριο 243I, 4^ο).

- 7^ο (α) Ασθενώς εμπλουτισμένη με άζωτο νιτροκυτταρίνη 240I
(όπως ο κολλοδιοβάμβαξ), τ.έ. με περιεχόμενο (Συνεχίζεται)
αζώτου μη υπερβαίνον το 12.6 ετα εκατόν, κα-
λώς σταθεροποιημένη και περιέχουσα επιπροσθέ-
τως όχι λιγώτερο του 25 ετα εκατόν νερό ή αλ-
κοόλην (μεθυλική, αιθυλική, κανονική προπυλική
ή ισοπροπυλική, βουτυλική ή αμυλική αλκοόλη, ή
μίγματα αυτών), επίσης εάν μετουσιωμένη, διαλύ-
της νάφθα, βενζόλιο, τολουόλη, ξυλένιο, μίγματα
μετουσιωμένης αλκοόλης και ξυλενίου, μίγματα
νερού και αλκοόλης, ή αλκοόλη περιέχουσα καμφο-
φορά σε διάλυμα.

Σημειώσεις:- 1.- Η νιτροκυτταρίνη με περιεχόμενον
εις άζωτον υπερβαίνον το 12.6 ετα εκατόν είναι ύλη
της Κλάσεως Ia (βλέπε περιθώριο 210I, I^ο).

2.- Όταν η νιτροκυτταρίνη υγροποιηθεί
με μετουσιωμένην αλκοόλην, η μετουσιωτική ύλη δεν
πρέπει να έχει επιβλαβή επίδραση επί της αταθερότη-
τος της νιτροκυτταρίνης.

- (β) πλαστικοποιημένη νιτροκυτταρίνη, χωρίς χρωστικές
ουσίες, περιέχουσα όχι λιγώτερο του 18 τοις εκα-
τόν πλαστικοποιητικήν ουσίαν (φθαλικόν βουτύλιον
ή πλαστικοποιητικήν ουσίαν τουλάχιστον ισοδύναμου
αποτελέσματος) και στην οποία η νιτροκυτταρίνη
έχει περιεχόμενον αζώτου μη υπερβαίνον το 12.6
ετα εκατόν· η νιτροκυτταρίνη μπορεί να είναι
υπό μορφήν ρινισμάτων (CHIPS).

Σημειώσεις:- Πλαστικοποιημένη νιτροκυτταρίνη, χωρίς

χρωστικές ουσίες, περιέχουσα όχι λιγώτερο του 12,6 τοις εκατό (Συνεχίζεται)
 εκατόν και λιγώτερο του 18 τοις εκατόν φθαλικό βου-
 τύλιο ή πλαστικοποιητικήν ουσίαν τουλάχιστον ισοδυ-
 νάμου αποτελέσματος είναι ύλη της Κλάσεως Ια (βλέπε
 περιθώριο 2101, 4^ο).

(γ) πλαστικοποιημένη νιτροκυτταρίνη, με χρωστικές ου-
 σίες, περιέχουσα όχι λιγώτερο του 18 τοις εκατόν
 πλαστικοποιητικήν ουσίαν (φθαλικό βουτύλιο ή πλα-
 στικοποιητική ουσία τουλάχιστον ισοδυνάμου αποτε-
 λέσματος), στην οποία η νιτροκυτταρίνη έχει περιε-
 χόμενο σε άζωτο μη υπερβαίνον το 12,6 τοις εκατόν
 και η οποία περιέχει όχι λιγώτερο του 40 τοις εκατόν
 νιτροκυτταρίνην· η νιτροκυτταρίνη μπορεί να είναι
 υπό μορφήν ριτινισμάτων.

Σημειώσεις:- Πλαστικοποιημένη νιτροκυτταρίνη, με
 χρωστικές ουσίες, περιέχουσα λιγώτερο του 40 τοις
 εκατόν νιτροκυτταρίνην δεν υπόκειται στις διατά-
 ξεις της ADR.

Για (α), (β) και (γ):- ασθενώς εμπλουτισμένη
 με νίτρο νιτροκυτταρίνη και πλαστικοποιημένη νι-
 τροκυτταρίνη, με ή χωρίς χρωστικές ουσίες, δεν
 γίνονται δεκτές προς μεταφοράν εκτός εάν πληρούν
 τους όρους της Προσθήκης Α.Ι ή τους ανωτέρω δια-
 λαμβανομένους όρους αναφορικώς με τη φύση και τη
 ποσότητα των προσθέτων υλών.

Για (α), βλέπε επίσης Προσθήκη Α.Ι, περιθώ-
 ριο 3101· για (β) και (γ), βλέπε επίσης Προσθήκη

Α.Ι, περιθώριο 3Ι02, Ι.

240Ι

- 8^ο Κόκκινος φωσφόρος (άμορφος), υποθειούχος φωσφό-
ρος και πενταθειούχος φωσφόρος. (Συνεχίζε-
ται)

Σημείωσις:- Πενταθειούχος φωσφόρος όχι απηλλαγμέ-
νος από λευκόν ή κίτρινον φωσφόρον δεν γίνεται δε-
κτός για μεταφορά.

- 9^ο Ελαστικόν (καουτσούκ) εδάφους, κόνις ελαστικού
(καουτσούκ).

- Ι0^ο Γαιάνθραξ εις κόνιν, λιγνίτης εις κόνιν, κώκ λιγνί-
του εις κόνιν, οπτάνθραξ εις κόνιν και ποάνθραξ εις
κόνιν παρασκευασθέντα τεχνηώς (π.χ. δια κονιοποιή-
σεως ή άλλης κατεργασίας), και κώκ εξ ανθρακοποιη-
θέντος λιγνίτου καταστάν αδρανές (τ.έ. υποκείμενον
εις στιγμιαίαν ανάφλεξιν).

Σημείωσις:- Ι.- Φυσικώς κόνεις ληφθείσας ως υπο-
λείμματα κατά την παραγωγήν άνθρακος, κώκ, λι-
γνίτου ή ποάνθρακος δεν υπόκεινται στις διατά-
ξεις της ADR.

2.- Κώκ εξ ανθρακοποιηθέντος λιγνίτου
μη καταστάν τελείως αδρανές δεν γίνεται δεκτόν
για μεταφορά.

- II^ο (α) Ακάθαρτος ναφθαλίνη με σημείο τήξεως κάτω των
75^οC.

(β) Καθαρή ναφθαλίνη και ακάθαρτος ναφθαλίνη με ση-
μείο τήξεως 75^οC και άνω.

(γ) Ναφθαλίνη σε τετηγμένη κατάσταση.

για (α) και (β), βλέπε επίσης περιθώριο 240Ια.

Ναφθαλίνη δε μπάλλες ή νιφάδες (FLAKES) (II^ο 240I
(α) και (β)) δεν υπόκεινται στις διατάξεις της Κλά- (Συνεχίζεται)
σεως αυτής που περιέχονται στο παρόν Παράρτημα ούτε
σ' αυτές που περιέχονται στο Παράρτημα Β εάν είναι συ-
σκευασμένη, όχι περισσότερο από 1 KG ανά κυτίο, σε στε-
γανά από ινώδη σανίδα ή ξύλινα κυτία και τα κυτία αυτά
είναι κλεισμένα, όχι περισσότερα από 10 ανά κιβώτιο,
σε ξύλινα κιβώτια.

2.- Διατάξεις

A.- Κόλα

I.- Γενικοί όροι συσκευασίας

(1) Τα είδη συσκευασίας θα είναι έτσι κλεισμέ- 2402
να και διευθετημένα ώστε να αποφεύγεται οποιαδήποτε απώ-
λεια του περιεχομένου.

(2) Τα υλικά από τα οποία τα είδη συσκευασίας
και τα κλεισίματά των είναι κατασκευασμένα δεν θα πρέ-
πει να κινδυνεύουν να προσβληθούν από το περιεχόμενο
ή να σχηματίζουν με αυτό επιβλαβείς ή επικινδύνους ενώ-
σεις.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων
των κλεισιμάτων των, πρέπει να είναι επαρκώς άναμπα
και γερά εις όλα τα μέρη των για να αποφεύγεται οποια-
δήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν
τους κανονικούς όρους μεταφοράς. Στερεές ύλες θα ασφα-
λίζονται σταθερά στις συσκευασίες τους, και εσωτερικές
συσκευασίες θα ασφαλίζονται σταθερά στις εξωτερικές
συσκευασίες. Εκτός εάν άλλως ορίζεται στο άρθρο το τι-
τλοφορούμενο "Συσκευασία μιας θλής", οι εσωτερικές συ-

σκευασίες μπορούν να εγκλείονται στις εξωτερικές συ- 2402
σκευασίες, είτε μία-μία είτε ομαδικά. (Συνεχίζεται)

(4) Το αποσβεστικό υλικό θα ταιριάζει με τη φύση του περιεχομένου· ειδικότερα, πρέπει να είναι απορροφητικό όταν το περιεχόμενο είναι υγρό ή είναι ενδεχόμενο να εξιδρώσει υγρό.

2.- Συσκευασία μιας ύλης

(I) Το θείον της 2^ο(α) θα συσκευάζεται σε γε- 2403
ρούς σάκκους (σακκούλες) από χαρτί ή στενά-υφασμένη γιούτη.

(2) Το θείον σε τετηγμένη κατάσταση, πης 2^ο(β), δεν θα μεταφέρεται κατ'άλλον τρόπον ειμή σε δεξαμενές.

Η κελλοϊδίνη (3^ο) θα είναι έτσι συσκευασμένη 2404
ώστε να αποφεύγεται η ξήρανσή της.

(I) Η κυτταρινοΐδη (σελλουλόϊδ) σε πλάκες, φύλ- 2405
λα, ράβδους ή σωλήνες, και υφάσματα επιχρισμένα με νιτροκυτταρίνη, (4^ο), θα εγκλείονται:-

(α) σε σταθερά-κλεισμένα ξύλινα είδη συσκευασίας, ή
(β) σε γερά χάρτινα περιτυλίγματα τα οποία θα τοποθετούνται

1.- σε ξύλινους σκελετούς συσκευασίας, ή

2.- μεταξύ πλαισίων κατασκευασμένων από σανίδες, των άκρων των πλαισίων εκτεινομένων πέραν του χάρτινου περιτυλίγματος και των πλαισίων δεμένων ομού με σιδηροταινίες, ή

3.- σε περιτυλίγματα από στενά-υφασμένο ύφασμα.

(2) Το κόλον δεν πρέπει να ζυγίζεται άνω από:-

75 KG προκειμένου περί κυτταροϊδίνης (σελλουλόϊδ) σε 2405
πλάκες, φύλλα ή σωλήνες και υφάσματα επιχρισμέ-^(Συνεχίζεται)
να με νιτροκυτταρίνην, εάν το εξωτερικόν είδος
συσκευασίας είναι κατασκευασμένο από ύφασμα σύμ-
φωνα με την (Ι)(β)3°

I20 KG σε όλες τις άλλες περιπτώσεις.

Φίλμ κυτταροϊδίνης (σελλουλόϊδ) σε ρόλλους 2406
και εμφανιζθέντα φίλμ κυτταροϊδίνης (5°) θα εγκλείονται
σε ξύλινα είδη συσκευασίας ή σε κυτία από ινώδη σανίδα.

(Ι) Υπολείμματα κυτταροϊδίνης (σελλουλόϊδ) 2407
και υπολείμματα φίλμ κυτταροϊδίνης (6°) θα εγκλείονται
σε ξύλινα είδη συσκευασίας ή σε δύο γερούς σάκκους κατα-
σκευασμένους από κανβά γιούτας στενώς υφασμένον, των
σάκκων δοντων φλογοστεγανών ώστε να μην αναφλέγονται
ακόμη και όταν έλθουν σε επαφή με φλόγα και εχόντων γερές
και συνεχείς ραφές. Οι σάκκοι αυτοί θα τοποθετούνται ο
ένας μέσα στον άλλον· μετά το γέμισμα τα ανοίγματά τους
θα διπλωθούν χωριστά και πολλές φορές και θα ραφούν στε-
νά ώστε να αποφεύγεται οποιαδήποτε διαφυγή του περιεχο-
μένου. Εν τούτοις, τα υπολείμματα κυτταροϊδίνης μπορούν
να συσκευάζονται σε ένα σάκκον εάν τα υπολείμματα κυττα-
ροϊδίνης συσκευασθούν αρχικώς σε γερό χαρτί συσκευασίας
ή σε κατάλληλη πλαστική ύλη και βεβαιούται στο έγγραφο
μεταφοράς ότι τα υπολείμματα κυτταροϊδίνης δεν περιέχουν
οιαδήποτε υπολείμματα υπό μορφήν κόνους.

(2) Κόλα έχοντα συσκευασίαν από ακατέργαστο
κανβά ή γιούτα δεν πρέπει να ζυγίζουν περισσότερο από

40 KG σε μονή συσκευασία ούτε περισσότερο από 80 KG · 2407
σε διπλή συσκευασία. (Συνεχίζεται)

(3) Για τα στοιχεία (λεπτομέρειες) του εγγράφου μεταφοράς, βλέπε περιθώριο 24I6(2).

(I) Οι ύλες της 7^ο(α) θα συσκευάζονται:- 2408

- (α) σε ξύλινα δοχεία ή βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα· τα δοχεία αυτά και βαρέλια θα έχουν επένδυση αδιαπέραστη από τα υγρά που περιέχουν· τα κλεισίματά των πρέπει να είναι στεγανά· ή
- (β) σε σάκκους αδιαπέραστους από ατμούς από τα υγρά που περιέχουν (π.χ. σάκκοι κατασκευασμένοι από ελαστικό (καουτσούκ) ή από κατάλληλη πλαστική ύλη μη ευχερώς εύφλεκτη), τοποθετημένους σε ξύλινο κιβώτιο ή σε μεταλλικό δοχείο· ή
- (γ) σε επενδεδυμένα με ψευδάργυρο ή μολυβδο σιδηρά βαρέλια, ή
- (δ) σε δοχεία κατασκευασμένα από πλάκες κασσιτέρου, φύλλα ψευδαργύρου ή φύλλα αργυλλίου και ασφαλισμένα με αποσβεστικό υλικό σε ξύλινα κιβώτια.

(2) Η νιτροκυτταρίνη της 7^ο(α), εάν υγροποιημένη αποκλειστικώς με νερό, μπορεί να συσκευασθεί σε βαρέλια από ινώδη σανίδα· η ινώδη σανίδα αυτή πρέπει να έχει υποστεί ειδική επεξεργασία ώστε να είναι εντελώς αδιαπέραστη· τα κλεισίματα των βαρελιών θα είναι υδατο-ατμο-στεγανά·

(3) Η νιτροκυτταρίνη της 7^ο(α), με προστιθέμενο ξυλένιο, δεν μπορεί να συσκευασθεί άλλως ειμή σε μεταλλικά δοχεία.

(4) Οι ύλες της 7^ο(β) και (γ) θα συσκευάζονται: 2408

- (α) σε ξύλινα είδη συσκευασίας επενδεδυμένα με γερό χαρτί ή φύλλο-ψευδαργύρου ή φύλλο αργυλλού· ή (Συνεχίζεται)
- (β) σε γερά βαρέλια από ινώδη σανίδα ή, υπό τον όρον ότι οι ύλες είναι απηλλαγμένες από κόνιν και ότι τούτο βεβαιούται στο έγγραφο μεταφοράς, σε κιβώτια από ινώδη σανίδα τα οποία έχουν καταστεί αδιαπέραστα· ή
- (γ) σε είδη συσκευασίας από φύλλο-μετάλλου.

(5) Για ύλες της 7^ο, τα μεταλλικά δοχεία πρέπει να είναι έτοιμα κατασκευασμένα ώστε, λόγω της μεθόδου συναρμολογήσεως των τοιχωμάτων των, του τρόπου του κλεισίματός των, ή της υπάρξεως μηχανισμού ασφαλείας, να αποδίδουν όταν η εσωτερική πίεση φθάσει τιμήν μεγαλύτεραν των 3 KG/CM². η ύπαρξη των κλεισιμάτων αυτών ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί την αντοχή του δοχείου ούτε την αντοχή του κλεισίματός του.

(6) Το κόνιν δεν πρέπει να ζυγίζει περισσότερο από 75 KG ή, εάν μπορεί να ρολλαρισθεί, όχι περισσότερο από 300 KG· εν τούτοις, βαρέλι από ινώδη σανίδα δεν πρέπει να ζυγίζει περισσότερο από 75 KG και κιβώτιο από ινώδη σανίδα όχι περισσότερο από 35 KG.

(7) Για τα στοιχεία του εγγράφου μεταφοράς, βλέπε περιθώριο 24I6(3).

(I) Ο κόνικινος φωσφόρος και ο πενταθειούχος φωσφόρος. (8^ο) θα συσκευάζονται:- 2409

- (α) σε δοχεία κατασκευασμένα από φύλλον σιδήρου ή πλάκα κασσιτέρου, τα οποία θα τοποθετούνται σε γερό ξύλινο δοχείο· το κόνιν δεν πρέπει να ζυγίζει περισσό-

- τερο από 100 KG· ή 2409
(β) σε δοχεία κατασκευασμένα από γυαλί ή είδη κεραμει- (Συνεχίζεται)
κής πάχους όχι μικρότερου των 3 MM (χιλ.), η από
κατάλληλη πλαστική ύλη, το καθένα περιέχον όχι πε-
ρισσότερο από 12.5 KG ύλης. Τα δοχεία αυτά θα ασφα-
λίζονται με αποσβεστικό υλικό σε γερό ξύλινο κιβώ-
τιο· το κδλον δεν πρέπει να ζυγίζει περισσότερο
από 100 KG· ή
(γ) σε μεταλλικά δοχεία τα οποία, εάν με το περιεχόμενό
τους ζυγίζουν περισσότερο από 200 KG, θα είναι εφο-
διασμένα με ενισχυτικές στεφάνες στα άκρα τους,
και με κυλιδόμενες στεφάνες (ROLLING HOOPS).

(2) Ο υποθειούχος φωσφόρος (8^ο) θα συσκευάζε-
ται σε στεγανά μεταλλικά δοχεία, τα οποία θα ασφαλίζον-
ται με αποσβεστικό υλικό σε ξύλινα κιβώτια με πολύ εφαρ-
μοστές πλευρές. Το κδλον δεν πρέπει να ζυγίζει περισσότερο
από 75 KG.

Οι ύλες της 9^ο θα συσκευάζονται σε σταθερά- 2410
κλειδόμενα στεγανά δοχεία.

(1) Οι ύλες της 10^ο θα συσκευάζονται σε μεταλλι- 2411
κά ή ξύλινα δοχεία ή σε γερούς σάκκους.

(2) Τα ξύλινα δοχεία και σάκκοι, δεν θα γίνονται,
εν τούτοις, δεκτοί για γαιάνθρακα εις κδνιν, λιγνίτην εις
κδνιν ή ποάνθρακα εις κδνιν που παρασχευάσθησαν τεχνητώς
εκτός εάν η κόνις έχει τελείως ψυχθεί μετά από ξήρανσιν
δια θερμότητος.

(3) Για τα στοιχεία (λεπτομέρειες) του εγγράφου

μεταφοράς, βλέπε περιθώριο 24I6(4).

(1) Η ναφθαλίνη της II⁰(α) θα συσκευάζεται σε σταθερά-κλεισμένα ξύλινα ή μεταλλικά δοχεία.

24II
(Συνεχίζεται)
24I2

(2) Η ναφθαλίνη της II⁰(β) θα συσκευάζεται σε ξύλινα ή μεταλλικά δοχεία, ή σε γερά κιβώτια από ινώδη σανίδα, ή σε γερούς σάκκους κατασκευασμένους από ύφασμα ή τετράφυλλο χαρτί ή από κατάλληλη πλαστική ύλη.

Όσakis χρησιμοποιούνται κιβώτια από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 30 KG.

(3) Η ναφθαλίνη σε τετηγμένη κατάσταση (II⁰(γ)) δεν πρέπει να μεταφέρεται άλλως ειμή εντός δεξαμενών.

3.- Μικτή συσκευασία

(1) Ύλες ομαδοποιημένες υπό τον αυτόν αριθμόν 24I3 ειδους μπορούν να συμπεριληφθούν στο αυτό κόλον. Οι εσωτερικές συσκευασίες θα συμφωνούν με ό,τι προβλέπεται για κάθε ύλην, και οι εξωτερικές συσκευασίες θα είναι οι καθορισθείσες για τις ύλες του εν θέματι αριθμού ειδους. Κόλον περιέχον ράβδους και σωλήνες κυτταροϊδίνης (σελλουλόϊδ) ομού κατασκευασμένους σε περιτύλιγμα από ύφασμα δεν πρέπει να ζυγίζει πάνω από 75 KG.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται από το άρθρο το τιτλοφορούμενο "Συσκευασία μιας ύλης", οι ύλες της παρούσης Κλάσεως, σε ποσότητες μη υπερβαίνουσες τα 6 KG για όλες τις ύλες τις αναφερόμενες υπό

τον αυτόν αριθμόν είδους ή το αυτό γράμμα, μπορούν 24Ι3
να εγκλείονται στο αυτό κώλον είτε με ύλες άλλου α- (Συνεχίζεται)
ριθμού είδους είτε άλλου γράμματος της αυτής Κλάσεως,
ή με επικίνδυνες ύλες ανήκουσες σε άλλες Κλάσεις
(εάν μικτή συσκευασία επιτρέπεται ομοίως προκειμένου
περί τοιούτων υλών), ή με άλλα εμπορεύματα, υπό την
επιφύλαξη των παρακάτω ειδικών όρων.

Οι εσωτερικές συσκευασίες πρέπει να πληρούν
τους γενικούς και ειδικούς όρους συσκευασίας. Επιπρο-
σθέτως, οι γενικές διατάξεις οι περιεχόμενες στα περι-
θώρια 200Ι(5) και 2002(6) και (7) πρέπει να τηρούνται.

Το κώλον δεν πρέπει να ζυγίζει περισσότερο
από 150 KG, ή περισσότερο από 75 KG εάν περιέχει εθ-
εραυστα δοχεία.

Ειδικοί Όροι

| Αριθμός Είδους | Περιγραφή Ύλης | Ανωτάτη Ποσότης | | Ειδικές Διατάξεις |
|--------------------|-------------------|-----------------|--------------|---|
| | | ανά δοχείο | ανά κώλον | |
| 2 ^ο (α) | Θείον | 5 KG | 5 KG | Δεν πρέπει να συσκευά- ζεται μαζί με χλωρινά άλατα, υπερμαγγανικά, υπερχλωρινά άλατα ή υπεροξειδία (πλην δια- λυμάτων υπεροξειδίου του υδρογόνου) |

24I3
(Συνεχίζε-
ται)

| Αριθμός | Περιγραφή | Ανωτάτη Ποσότης | | Ειδικός |
|---------|-----------|-----------------|-------|-----------|
| Είδους | Ύλης | ανά | ανά | Διατάξεις |
| | | δοχείο | κόλον | |

(Σ υ ν έ χ ε ι α)

| | | | | |
|--------------------|--|--|------|--|
| 7 ^ο (α) | Ασθενώς εμπλουτι- σμένη με άζωτο νι- τροκυτταρίνη (όπως κολλοδιοβάμβαξ) 100 Γραμμ. 1 KG | Δεν πρέπει να συσκευάζονται μαζί με ύλες των Κλάσεων 4.2 και 5.1 | | |
| 8 ^ο | Κόκκινος (άνυδρος) φωσφόρος | 5 KG | 5 KG | |
| 8 ^ο | Υποθειούχος Φωσφόρος | Μικτή Συσκευασία δεν επιτρέπεται | | |

4.- Ενδείξεις και ετικέτες κινδύνου στα κόλα

24I4

(βλέπε Προσθήκη Α.9)

(I) Κόλα περιέχοντα ύλες των 4^ο έως 8^ο θα φέρουν ετικέτα συμφώνως προς το μοντέλο Νο. 2B.

Εν τούτοις, εάν οι ύλες των 4^ο έως 7^ο είναι συ-
σκευασμένες σε περιτυλίγματα κατασκευασμένα από στενά
υφάνσιμο ύφασμα συμφώνως προς το περιθώριο 2405(I)(β)3,
σε κυτία από ινώδη σανίδα ή κιβώτια συμφώνως προς τα
περιθώρια 2406(I) και 2408(4)(β), σε σάκκους από ιούτη
συμφώνως προς το περιθώριο 2407(I) ή σε βαρέλια από ινώ-
δη σανίδα συμφώνως προς το περιθώριο 2408(I) (α), (2) και
4 (β), τα κόλα θα φέρουν δύο ετικέτες συμφώνως προς το
μοντέλο Νο. 2B.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μη ορατά 24I4
 από έξω θα φέρουν ετικέτα σύμφωνα προς το μοντέλο (Συνεχίζε-
 No.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κό-
 λαι επιπροσθέτως, εκτός προκειμένου περί σφραγισμένων
 αμπουλών, θα φέρουν ετικέτες συμφώνως προς το μοντέ-
 λο No. 8· οι ετικέτες αυτές θα τοποθετούνται ψηλά σε
 δύο απέναντι πλευρές των κιβωτίων ή κατ'ισοδύναμον
 τρόπον ~~οὐδὲν~~ χρησιμοποιούνται άλλες συσκευασίες.

(3) Προκειμένου περί αποστολών μεταφερομένων ως
 πλήρη φορτία, η ετικέτα No. 2B δεν χρειάζεται να τοπο-
 θετείται στα κόλα.

24I5

B.- Στοιχεία του εγγράφου μεταφοράς

(I) Η περιγραφή των εμπορευμάτων στο έγγραφο μετα- 24I6
 φοράς πρέπει να συμμορφούται προς μία των ονομασιών
 των υπογραμμισμένων στο περιθώριο 240I. Οσάκις η ονο-
 μασία της ύλης δεν ορίζεται στη περίπτωση της I^ο, η εμπο-
 ρική ονομασία θα χρησιμοποιείται. Η περιγραφή των εμπο-
 ρευμάτων πρέπει να υπογραμμίζεται με κόκκινο και να
 ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμό του
είδους (μαζί με το, τυχόν, γράμμα, και τα αρχικά "ADR"
ή "RID" (π.χ. 4.I, 7^ο(α), ADR).

(2) Προκειμένου περί υπολειμμάτων κυτταροϊδίνης
 (6^ο) συσκευασμένων σε γερό χαρτί συσκευασίας ή σε κατάλ-
 ληλη πλαστική ύλη και τοποθετημένων, έτσι κατασκευασμένων,
 σε σάκκους από στενά υφασμένο ανατέργαστο κανβά ή γιούτα,
 τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο μεταφοράς:
"Δεν περιέχει υπολείμματα υπό μορφήν κόνεως".

(3) Προκειμένου περί υλών της 7^ο(β) και (γ) 24I6
 συσκευασμένων σε κιβώτια από ινώδη σανίδα, τα παρα- (Συνεχίζεται)
 κάτω πρέπει να βεβαιούνται στο έγγραφο μεταφοράς:-
"Υλεις απηλλαγμένες από κόνιν".

(4) Προκειμένου περί γαιάνθρακος εις κόνιν,
 λιγνίτου εις κόνιν ή ποάνθρακος εις κόνιν (ΙΟ^ο) τεχνη-
 τώς παρασκευασθέντων και συσκευασθέντων σε ξύλινα δοχεία
 ή σάκκους (βλέπε περιθώριο 24II(2)), τα παρακάτω πρέπει
 να βεβαιούνται στο έγγραφο της μεταφοράς:- "Υλεις εντελώς
 φυγμένες μετά ξήρανση δια θερμότητας".

24I7-

2423

Γ.- Κενά Είδη Συσκευασίας

Καμία διάταξη.

2424

2425-

2429

ΚΛΑΣΗ 4.2 ΥΛΕΣ ΥΠΟΚΕΙΜΕΝΕΣ ΣΕ ΣΤΙΓΜΙΑΙΑ ΚΑΥΣΗ

I.- Κατάλογος υλών

Μεταξύ των υλών και ειδών των καλυπτομένων υπό 2430 τον τίτλον Κλάσης 4.2, μόνον τα αναφερόμενα στο περιθώριο 243I θα γίνονται δεκτά για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και Παραρτήματος Β. Οι ύλες αυτές και είδη που γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

1^ο Λευκός ή κίτρινος φωσφόρος 243I

2^ο Ενώσεις φωσφόρου με αλκαλικά μέταλλα ή μέταλλα αλκαλικών γαιών, π.χ., φωσφίδιο νατρίου, φωσφίδιο ασβεστίου, φωσφίδιο στροντίου.

Σημείωσις:- Ενώσεις φωσφόρου με τα αποκαλούμενα βαρειά μέταλλα, όπως σίδηρος, χαλκός, κασσίτερος κλπ., αλλά με εξαίρεση τον ψευδάργυρο (φωσφίδιο του ψευδαργύρου είναι ύλη της Κλάσεως 6.I - βλέπε περιθώριο 260I 33^ο), δεν υπόκεινται στις διατάξεις της ADR.

3^ο Αλκύλια ψευδαργύρου, αλκύλια μαγνησίου, αλκύλια αργυρίου (αλουμινίου) και χλωριούχον αργυλο-διαιθύλιον.

Βλέπε επίσης περιθώριον 243Iα υπό στοιχείον (α).

4^ο Υπολείμματα φιλμ-νιτροκυτταρίνης, απηλλαγμένα από ζελατίνη, σε πηνία, φύλλα ή λωρίδες.

Σημείωσις:- Υπολείμματα φιλμ-νιτροκυτταρίνης απηλλαγμένα από ζελατίνη δεν θα γίνονται δεκτά για μεταφορά εάν περιέχουν κόνιν.

5^ο (α) Μεταχειρισμένα ράκη και υπολείμματα·

243I

(β) Λιπαρά ή ελαιώδη υφάσματα, θρυαλλίδες, σχοινί ή κλωστή (νήμα)·

(Συνεχίζεται)

(γ) Οι παρακάτω λιπαρές ή ελαιώδεις ύλες:- έριο (μαλλί), τρίχα (και αλογότριχα), τεχνητό έριο, αναμορφωμένο έριο (επίσης καλούμενο WOOL SHODDY), βαμβάκι, ξαναξασμένο βαμβάκι, τεχνητές ίνες (ραιγιόν, κλπ.), μετάξι, λίνον, κάνναβις και γιούτα, επίσης υπό μορφήν υπολειμμάτων κλωστής ρίου ή υφαντουργείου.

Για (α), (β) και (γ), βλέπε επίσης περιθώριο 243Iα υπό στοιχείον (β).

Σημείωση:- Υγροποιημένες ύλες της 5^ο (β) και (γ) δεν γίνονται δεκτές για μεταφορά.

6^ο (α) Κόνις και πυρίτις αργυλίου ή ψευδαργύρου και μίγματα κόνεως ή πυρίτιδας αργυλίου και ψευδαργύρου, επίσης όταν λιπαρά ή ελαιώδη· πυρίτις ζιρκονίου και τιτανίου· κόνις από φίλτρα υψικαμίνου·

(β) Κόνις, πυρίτις και λεπτά θρύμματα μαγνησίου και κράματα μαγνησίου με περιεχόμενον εις μαγνήσιον όχι περισσότερο του 80 τοις εκατόν, άπαντα απηλλαγμένα από μόρια που ενδέχεται να προαγάγουν την ανάφλεξη·

(γ) τα παρακάτω άλατα διθειονικού οξέος (υδροθειώδους H₂S₂O₄), υποθειώδη (υδροθειώδη) άλατα νατρίου, καλίου και ψευδαργύρου·

(δ) μέταλλα σε πυροφορική μορφή.

Για (α), βλέπε επίσης περιθώριο 243Iα υπό στοιχείο 243I
(β) και (γ)* για (β) και (γ) βλέπε επίσης περιθώριο (Συνεχίζεται)
243Iα υπό στοιχείον (β).

7^ο Νωπή καυμένη αιθάλη. Βλέπε επίσης περιθώριο 243Iα
υπό στοιχείον (β).

8^ο Φρεσκο-σβυσμένος ξυλάνθραξ, εις κόνιν, κόκκους ή
σβώλους. Βλέπε επίσης περιθώριο 243Iα υπό στοιχείον
(β) και Κλάσιν 4.I, περιθώριον 240I, I^ο.

Σημείωση:- Με τον όρον "φρεσκο-σβυσμένος γαιάνθραξ"
νοείται:-

προκειμένου περί γαιάνθρακος εις σβώλους, ο γαιάνθραξ
ο οποίος έχει σβεσθεί προ ολιγώτερο των τεσσάρων ημε-
ρών.

προκειμένου περί γαιάνθρακος εις κόνιν και γαιάνθρακος
εως κόκκους, μεγέθους κόκκου μικροτέρου των 8 MM (χιλ.),
ο γαιάνθραξ ο οποίος έχει σβεσθεί προ ολιγώτερο των
οντώ ημερών και έχει αερο-φυχθεί σε λεπτά στρώματα
ή δια κατεργασίας εξασφαλίζουσας ισοδύναμον βαθμόν φύξεως.

9^ο Μίγματα καυσίμων υλών εις κόκκους ή μίγματα πορωδών
καυσίμων υλών με συστατικά που εξακολουθούν να υπόκειν-
ται σε στιγμιαία οξειδωση, όπως το λινέλαιο ή άλλα φυσι-
κά ξηραινόμενα έλαια, βρασμένα ή με πρόσθετες ξηραντικές
συνθέσεις, ρητίνη, ρητινέλαιον, κατάλοιπα πετρελαίου
κλπ. (π.χ., η ύλη η γνωστή ως υπόλειμμα φελλού, λουπου-
λίνη) και ελαιώδη κατάλοιπα από λεύκασιν σογιελαίου.

Βλέπε επίσης περιθώριο 243Iα υπό στοιχείον (β) και Κλάσιν
4.I, περιθώριο 240I, I^ο.

ΙΟ^ο Χαρτί, κάρντμπορντ και προϊόντα κατασκευασμένα από 243Ι χαρτί ή κάρντμπορντ (π.χ. περιτυλίγματα κάρντ- (Συνεχίζεται)
μπορντ και δακτύλιοι κάρντμπορντ), φύλλα από ίνα-
ξύλου, δέσμες (κούκλες) νήματος, υφάσματα, σπάγγοι,
κλωσταί (νήματα), υπολείμματα κλωστήριού ή υφαντη-
ρίου, όλα εμποτισμένα με έλαια, λίπη, φυσιικά ξηραν-
τικά έλαια, βρασμένα ή με πρόσθετες ξηραντικές συν-
θέσεις ή άλλες εμποτιστικές ύλες υποκειμένες σε στιγ-
μιαία οξείδωση. Βλέπε επίσης περιθώριο 243Ια υπό στοι-
χείο (β) και Κλάσιν 4.Ι, περιθώριο 240Ι, Ι^ο.

Σημείωση:- Οι ύλες της ΙΟ^ο δεν γίνονται δεκτές για μεταφορά εάν η υγρασία τους υπερβαίνει την υγροσκοπι-
κή υγρασία.

ΙΙ^ο Η ύλη με βάση οξείδιο του σιδήρου χρησιμοποιηθείσα
για καθαρισμόν του φωταερίου (δαπανηθέν οξείδιον του
σιδήρου).

Σημείωση:- Εάν η ύλη που χρησιμοποιήθηκε για τον
καθαρισμόν φωταερίου (δαπανηθέν οξείδιο του σιδήρου),
μετά την αποθήκευσιν και τον εξαερισμόν, δεν είναι
του λοιπού υποκειμένη σε στιγμιαία ανάφλεξη, και εάν
τούτο βεβαιούται στο έγγραφο μεταφοράς δια της εγγρα-
φής:- "Υλη μη υποκειμένη σε στιγμιαία ανάφλεξη",
δεν υπόκειται στις διατάξεις της ADR.

Ι2^ο Μεταχειρισμένοι σάνκοι προζυμιού (μαγιάς), ακαθάριστοι.
Βλέπε επίσης περιθώριο 243Ια υπό στοιχείον (β).

Ι3^ο Κενοί σάνκοι νιτρικού νατρίου κατασκευασμένοι από ύφασμα.
Σημείωση:- Υφασματένιοι σάνκοι από τους οποίους έχει τε-

λείως αφαιρεθεί το εμποτίζον αυτούς αζωτούχο νιτρί- 243I
 κό άλας δια πλύσεως δεν υπόκεινται στις διατάξεις (Συνεχίζε-
 της ADR. ται)

I4^ο Κενά σιδηρά βαρέλια, ακαθάριστα, που περιείχαν ύλες
 της 3^ο.

Σημείωση:- Περί I4^ο και I5^ο: Κενά είδη συσκευασίας
 τα οποία περιείχαν άλλες ύλες της Κλάσεως 4.2 δεν
 υπόκεινται στις διατάξεις της ADR.

Επικίνδυνες ύλες παραδοθείσες για μεταφορά συμφώνως 243Iα
 προς τις παρακάτω διατάξεις δεν υπόκεινται ούτε στις
 διατάξεις για τη παρούσα Κλάση τις περιεχόμενες στο
 παρόν Παράρτημα ούτε σ' εκείνες που περιέχονται στο
 Παράρτημα B:-

(α) διαλύματα υλών της 3^ο σε συμπύκνωση μη υπερβαίνου-
 σα το 10 τοις εκατόν σε διαλύτες σε δημείο βρα-
 σμού όχι χαμηλότερο των 95^οC, εάν η κατάσταση
 τους είναι τέτοια ώστε να αποκλείεται οποιοσδήποτε
 κίνδυνος στιγμιαίας αναφλέξεως και εάν τούτο βε-
 βαιούται στο έγγραφο της μεταφοράς δια της εγγρα-
 φής:- "Υψηλή μη υποκειμένη σε στιγμιαία ανάφλεξη",
 βλέπε, εν τούτοις, Κλάσιν 3^ο.

(β) ύλες των 5^ο - 10^ο και 12^ο (εξαιρουμένων, εν τούτοις, μ
 των υλών της 6^ο(δ)), εάν η κατάσταση των είναι τέ-
 τοια ώστε να αποκλείεται οποιοσδήποτε κίνδυνος
 στιγμιαίας αναφλέξεως και εάν τούτο βεβαιούται στο
 έγγραφο της μεταφοράς δια της εγγραφής:- "Υψηλή μη
 υποκειμένη σε στιγμιαία ανάφλεξη" για τις ύλες της

της 8^ο και ωρισμένες ύλες των 9^ο και 10^ο, εν τού-
τοις, βλέπε Κλάσιν 4.Ι περιθώριο 240Ι, Ι^ο.

243Ια
(Συνεχίζε-
ται).

(γ) κόνις και πυρίτις αργυλίου (αλουμινίου) ή ψευδαργύρου (6^ο(α)), π.χ. συσκευασμένα μαζί με βερνίκι προς χρήσιν για τη κατασκευή χρωμάτων, εάν συσκευασθούν με επιμέλεια σε ποσότητες μη υπερβαίνουσες το Ι ΚΓ.

2.- Διατάξεις

Α. Κόλα

Ι.- Γενικοί Όροι Συσκευασίας

2432

(Ι) Τα είδη συσκευασίας θα κλείονται και διευθετούνται κατά τρόπον ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου.

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και τα κλεισίματά του είναι κατασκευασμένα πρέπει να μη κινδυνεύουν να προσβληθούν από το περιεχόμενο ούτε από επιβλαβείς ή επικινδύνους με αυτό ενώσεις .

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη των ώστε να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους κανονικούς όρους μεταφοράς. Ειδικότερα, προκειμένου περί υλών σε υγρά κατάσταση ή βυθισμένων σε υγρό ή σε διάλυμα, τα δοχεία και τα κλεισίματά τους πρέπει, εκτός εάν το άρθρον το τιτλοφούμενον "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους" προβλέπει άλλως, να είναι ικανά να αντέχουν σε οποιαδήποτε πίεση η οποία, λαμβανομένης υπόψη επίσης της πίεσεως

του αέρα, μπορεί να εγερθεί εσωτερικώς των δοχείων 2432
κατά την κανονικήν μεταφοράν. Προς τον σκοπόν αυτόν (Συνεχίζε-
ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης υπ' ται)
όψει της διαφοράς μεταξύ της θερμοκρασίας των υλών
κατά τον χρόνον της πληρώσεως (γεμίσματος) και της
ανωτάτης μέσης θερμοκρασίας την οποίαν ενδέχεται να
φθάσουν κατά την μεταφορά. Στερεές ύλες θα εγκλειών-
ται σταθερά στις συσκευασίες τους, και εσωτερικές συ-
σκευασίες θα ασφαλίζονται σταθερά στις εξωτερικές συ-
σκευασίες. Εκτός εάν άλλως ορίζεται στο άρθρο το τι-
τλοφορούμενο "Συσκευασία μιας ύλης ή εμπορευμάτων
του αυτού είδους", οι εσωτερικές συσκευασίες μπορούν
να εγκλειούνται σε εξωτερικές συσκευασίες, είτε μία-
μία είτε ομαδικά.

(4) Φιάλες και άλλα γυάλινα δοχεία πρέπει
να αίρονται καταλλήλως οι εσωτερικές τάσεις. Το πάχος
των τοιχωμάτων δεν πρέπει να είναι μικρότερο των 3 MM
(χιλ.) προκειμένου περί δοχείων τα οποία, με το περιε-
χόμενόν τους, ζυγίζουν άνω των 35 KG, και όχι κάτω
των 2 MM (χιλ.) προκειμένου περί άλλων δοχείων.

Η στεγανότητα του συστήματος κλεισίματος
πρέπει να εξασφαλίζεται με πρόσθετο μηχανισμόν (πώμα,
κορώνα, σφραγίδα, δέσιμο, κλπ.), ικανόν να εμποδίσει
οποιαδήποτε χαλάρωση του συστήματος κλεισίματος κατά
τη μεταφορά.

(5) Οσάνις δοχεία από ύαλο, πορσελάνη, είδη
κεραμεικής ή παρόμοια υλικά προβλέπονται ή επιτρέπονται,

πρέπει να ασφαρίζονται με αποσβεστικό υλικό σε προ- 2432
στατευτικά είδη συσκευασίας. (Συνεχίζε-
ται)

Το αποσβεστικό υλικό θα ταιριάζει με τη φύση του περιεχομένου· ειδικότερα πρέπει να είναι ξηρό και απορροφητικό όταν το περιεχόμενο είναι υγρό ή ενδέχεται να εξιδρώσει υγρό.

2.- Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους

(I). Ο φωσφόρος της I^ο θα συσκευάζεται:- 2433

- (α) σε στεγανά από πλάκες κασσιτέρου δοχεία κλεισμένα ερμητικά και τοποθετημένα σε ξύλινα κιβώτια· ή
- (β) σε βαρέλια από φύλλα σιδήρου (ελάσματα) κλείνοντας ερμητικά. Καλύμματα δια πίεσεως δεν θα επιτρέπονται. Το έλασμα το αποτελούν τον κορμόν, πυθμένα και κάλυμμα θα είναι πάχους όχι μικρότερου των 1.5 MM (χιλ.). Το κέλον δεν πρέπει να ζυγίζει άνω των 100 KG. Εάν ζυγίζει άνω των 100 KG, πρέπει να είναι εφοδιασμένο με κυλιόμενες στεφάνες (ROLLING HOOPS) ή ενισχυτικές δοκίδες, και θα συγκολλούνται· ή
- (γ) όχι περισσότερα των 250 γραμμ. ανά δοχείο, σε ερμητικά κλεισμένα γυάλινα δοχεία ασφαλιζόμενα με αποσβεστικό υλικό σε στεγανά δοχεία από πλάκες κασσιτέρου κλεισμένα δια μαλακής συγκολλήσεως και ασφαλιζόμενα, ομοίως με αποσβεστικό υλικό, σε ξύλινα κιβώτια.

(2) Δοχεία και βαρέλια περιέχοντα φωσφόρον θα γεμίζονται με νερό.

(I) Ύλες της 2^ο θα συσκευάζονται σε στεγανά

από πλάκες κασιτέρου δοχεία ερμητικά κλεισμένα και 2434
τοποθετημένα σε ξύλινα κιβώτια.

(2) Ύλεις της 2^ο μπορούν επίσης να συσκευάζον-
ται όχι άνω των 2 KG ανά δοχείο, σε δοχεία κατασκευα-
σμένα από γυαλί, πορσελάνη, είδη κεραμεικής ή παρόμοια
υλικά, ασφαλισμένα με αποσβεστικό υλικό σε ξύλινα κιβώτια.

(I) Ύλεις της 3^ο θα συσκευάζονται σε δοχεία 2435
κατασκευασμένα είτε από μέταλλο είτε από γυαλί, πορσε-
λάνη, είδη κεραμεικής ή παρόμοια υλικά, ερμητικά κλει-
σμένα. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 90
6τοκ εκατόν της χωρητικότητος των.

(2) Τα μεταλλικά δοχεία θα ασφαρίζονται με απο-
σβεστικό υλικό σε προστατευτικά είδη συσκευασίας τα ο-
ποία, εάν δεν είναι κλεισμένα, θα καλύπτονται. Εάν το
κάλυμμα αποτελείται από ευχερώς εύφλεκτες ύλεις, θα κα-
θίσταται επαρκώς ανθεκτικό στη φωτιά ώστε να αποφεύγεται
να πάρει φωτιά σε επαφή με φλόγα. Εάν το προστατευτικό
είδος συσκευασίας δεν κλεισθεί, το κλώβον θα πρέπει να
διαθέτει χειρολαβήν και να μη ζυγίζει άνω των 75 KG.

(3) Δοχεία κατασκευασμένα από ύαλο, πορσελάνη,
είδη κεραμεικής ή παρόμοια υλικά θα έχουν χωρητικότητα
όχι μεγαλύτερα των 5 λιτρών και θα ασφαρίζονται με απο-
σβεστικό υλικό σε στεγανά μεταλλικά δοχεία ερμητικά
κλεισμένα.

(4) Οι ύλεις της 3^ο μπορούν επίσης να συσκευά-
ζονται σε ερμητικά κλεισμένα βαρέλια κατασκευασμένα
από ανθεκτικό στη διάβρωση χάλυβα και έχοντα χωρητι-
κότητα όχι μεγαλύτερα των 300 λιτρών και πάχος τοιχώ-

ματος όχι μικρότερο των 3 MM (χιλ.). Τα βαρέλια πρέ- 2435
 πει να αντέχουν σε πίεση ελέγχου/δοκιμής 10 KG/CM² (Συνεχίζε-
 και να πληρούν τους όρους του περιθωρίου 22II(I) και ται)
 (2) (β). Το κλείσιμο του μηχανισμού πληρώσεως και εκ-
 κενώσεως θα ασφαλίζεται από προστατευτικό πώμα. Τα
 δοχεία δεν πρέπει να γεμίζονται πέραν του 90 τοις εκα-
 τών της χωρητικότητός των· εν τούτοις, με το υγρό σε
 μέση θερμοκρασία 50°C, ελεύθερος χώρος εκ 5 τοις εκατόν
 πρέπει να υπάρχει για λόγους ασφαλείας. Όταν παραδίδε-
 ται για μεταφορά, το υγρό πρέπει να είναι σε στρώμα
 αδρανούς αερίου σε πίεση μη υπερβαίνουσα τα 0.5 KG/CM².
 Τα δοχεία θα ελέγχονται συμφώνως προς τις διατάξεις
 του περιθωρίου 22I6(2) και (3). Οι έλεγχοι θα επαναλαμ-
 βάνονται κάθε 5 χρόνια. Τα δοχεία θα φέρουν τα παρα-
 κάτω στοιχεία με γράμματα καθαρώς ευανάγνωστα και ανε-
 ξίτηλα:-

- 1.- την ονομασίαν της όλης πλήρη, την επωνυμία ή σήμα
 του κατασκευαστού ή ιδιοκτήτου, και τον αριθμό του
 δοχείου·
- 2.- το απόβαρο του δοχείου, συμπεριλαμβανομένων των εξαρ-
 τημάτων·
- 3.- την πίεση ελέγχου, την ημερομηνίαν (μήνα, έτος) της
 τελευταίας δοκιμής/ελέγχου την οποίαν υπέστη και
 την σφραγίδα του εμπειρογνώμονος που διεξήγαγε τους
 ελέγχους και τις επιθεωρήσεις·
- 4.- τη χωρητικότητα του δοχείου και το επιτρεπόμενο
 ανώτατο γέμισμα·

5.- Τη φράση:- "Μη το ανοίξετε κατά τη μεταφορά" υπο- 2435
κείμενο σε στιγμιαία ανάφλεξη". (Συνεχίζεται)

Το κόλον δεν πρέπει να ζυγίζει άνω από
400 KG.

(I) Οι ύλες της 4^ο θα συσκευάζονται σε σάκκους 2436
τοποθετημένους σε βαρέλια κατασκευασμένα από αδιαπέρα-
στη ινώδη σανίδα ή σε δοχεία κατασκευασμένα από φύλλο
ψευδαργύρου ή φύλλο αργυλίου (αλουμινίου). Οι πλευρές
των μεταλλικών δοχείων θα επενδύονται με ινώδη σανίδα.
Οι πυθμένες και τα καλύμματα των βαρελιών από ινώδη σα-
νίδα και των μεταλλικών δοχείων θα επενδύονται με ξύλο.

(2) Τα μεταλλικά δοχεία θα είναι εφοδιασμένα με
κλεισίματα ή μηχανισμούς ασφαλείας οι οποίοι θα λει-
τουργούν όταν η εσωτερική πίεση φθάσει τιμήν όχι μεγα-
λυτέραν των 3 KG/CM². η ύπαρξη αυτών των κλεισιμάτων
ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί την αν-
τοχή του δοχείου ούτε να εξασθενεί το κλείσιμό του.

(3) Το κόλον δεν πρέπει να ζυγίζει περισσό-
τερο από 75 KG.

(I) Ύλες της 5^ο (α) θα έχουν σφικτά συμπιε- 2437
σθεί και τοποθετηθεί σε στεγανά μεταλλικά δοχεία.

(2) Ύλες της 5^ο (β) και (γ) θα έχουν σφικτά
συμπιεσθεί και συσκευασθεί είτε σε ξύλινα είτε από ινώ-
δη σανίδα κιβώτια είτε σε χάρτινα είτε υφασματένια περι-
τυλίγματα σταθερά ασφαλισμένα.

(I) Οι ύλες της 6^ο (α) θα εγκλείονται σε σφι- 2438
κτά κλειδόμενα στεγανά δοχεία κατασκευασμένα από ξύλο ή

μέταλλο. Εν τούτοις, το ζιρκόνιο θα εγκλείεται μόνο 2438
σε μεταλλικά ή γυάλινα δοχεία, τα οποία θα ασφαλίζον-<sup>(Συνεχίζε-
ται)</sup>
ται με αποσβεστικό υλικό σε γερά ξύλινα κιβώτια.

Εάν το αποσβεστικό υλικό εθναι εύφλεκτο, θα είναι πυ-
ρασφαλές.

(2) Οι ύλες της 6^ο(β) θα εγκλείονται σε σφι-
κτά κλειδόμενα στεγανά σιδηρά βαρέλια ή σε ξύλινα κιβώ-
τια με επένδυση φύλλου μετάλλου (έλασμα) στεγανήν (δια
μαλακής συγκολλησίσεως, π.χ.) ή σε κυτία κατασκευασμένα
από πλάκες κασσιτέρου ή λεπτό φύλλο αργυλίου και θα κλει-
ουν κατά τρόπον ώστε να είναι στεγανά· τα βαρέλια αυτά,
κιβώτια ή κυτία θα τοποθετούνται σε ξύλινα κιβώτια. Για
ύλες της 6^ο(β) παραδοθείσες ατομικώς για μεταφορά σε
κυτία κατασκευασμένα από πλάκα κασσιτέρου ή φύλλο αργι-
λίου, περιτύλιγμα κυματοειδούς ινώδους σανίδος θα είναι
αρκετό αντί ξυλίνου κιβωτίου· κόλον της φύσεως αυτής
δεν πρέπει να ζυγίζει άνω των 12 KG.

(3) Οι ύλες της 6^ο(γ) θα συσκευάζονται σε αερο-
στεγανά από φύλλο μετάλλου δοχεία ή αεροστεγανά σιδηρά
βαρέλια. Προκειμένου περί δοχείων εκ φύλλου μετάλλου,
το κόλον δεν πρέπει να ζυγίζει άνω των 50 KG.

(4) Οι ύλες της 6^ο(δ) θα συσκευάζονται σε δοχεία
κατασκευασμένα από μέταλλο, ύαλο ή κατάλληλη πλαστική
ύλη και θα κλείνουν κατά τρόπον ώστε να είναι αεροστε-
γανά. Οι αναστολείς οι χρησιμοποιούμενοι για κλείσιμο
θα κρατούνται στη θέση τους με πρόσθετο μηχανισμό (όπως
πώμα, κορώνα, σφραγίδα ή δέσιμο) ικανόν να εμποδίσει

οποιαδήποτε χαλάρωση κατά τη μεταφορά. Οι ύλες θα αποστέλονται από προστατευτικό υγρό (όπως μεθανόλη) ή προστατευτικό αέριο. (Συνεχίζεται)

Τα μεταλλικά δοχεία θα τοποθετούνται σε ξύλινο κιβώτιο συσκευασίας. Το κόλον δεν πρέπει να ζυγίζει άνω των 25 KG.

Οι ύλες των 7^ο - 10^ο και 12^ο θα εγκλείονται σε σφικτά κλεισμένα είδη συσκευασίας. Ξύλινα είδη συσκευασίας χρησιμοποιούμενα για ύλες των 7^ο και 8^ο θα είναι εφοδιασμένα με στεγανήν επένδυσιν.

Η ύλη η χρησιμοποιηθείσα για καθαρισμό φωταερίου (δαπανηθέν οξειδίου του σιδήρου) (11^ο) θα συσκευάζεται σε σφικτά κλεισμένα δοχεία από φύλλο μετάλλου.

Κενοί σάκκοι νιτρικού νατρίου (13^ο) θα γίνονται σφικτά συσκευασμένες δέσμες δεμένες ασφαλώς με σπάγγο και θα τοποθετούνται είτε σε ξύλινο κιβώτιο είτε σε περιτύλιγμα αποτελούμενο από γερό χαρτί διαφόρου πάχους ή αδιάβροχο ύφασμα.

3.- Μικτή Συσκευασία

(1) Ύλες ομαδοποιημένες υπό τον αυτόν αριθμόν είδους μπορούν να συμπεριληφθούν στο ίδιο κόλον. Οι εσωτερικές συσκευασίες θα συμφωνούν με ό,τι προβλέπεται για κάθε ύλην, και οι εξωτερικές συσκευασίες θα είναι οι οριζόμενες για τις ύλες του εν θέματι αριθμού είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται από το άρθρο που φέρει τον τίτλο "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους", οι ύλες της παρούσης

Κλάσεως, σε ποσότητες μη υπερβαίνουσες τα 6 KG προ- 2442
 κειμένου περί στερεών ή 3 λίτρες προκειμένου περί (Συνεχίζε-
 υγρών για όλες τις ύλες τις αναγραφόμενες υπό τον ται.)
 αυτόν αριθμόν είδους ή το αυτό γράμμα, μπορούν να εγ-
 κλείονται στο αυτό κώλον είτε με ύλες άλλου αριθμού
 είδους είτε άλλου γράμματος της αυτής Κλάσεως, είτε
 με επικίνδυνες ύλες ανήκουσες σε άλλες Κλάσεις (εάν
 μικτή συσκευασία επιτρέπεται προκειμένου περί τοιούτων
 υλών), είτε με άλλα εμπορεύματα, υπό την επιφύλαξη των
 παρακάτω ειδικών όρων.

Οι εσωτερικές συσκευασίες πρέπει να πληρούν
 τους γενικούς και ειδικούς όρους συσκευασίας. Επιπρο-
 σθέτως, οι γενικές διατάξεις των περιθωρίων 2001(5) και
 2002(6) και (7) πρέπει να τηρούνται.

Το κώλον δεν πρέπει να ζυγίζει άνω των 150 KG,
 ή άνω των 75 KG εάν περιέχει εύθραυστα δοχεία.

Ειδικό Όροι:-

| Αριθμός Είδους | Περιγραφή Ύλης | <u>Ανωτάτη ποσότητα</u> | | <u>Ειδικές</u> Διατάξεις |
|-------------------|--------------------------------|-------------------------------------|--------------|-----------------------------|
| | | ανά δοχείο | ανά κώλον | |
| 1 ^ο | Λευκός ή κίτρινος Φωσφόρος | | | |
| 2 ^ο | Φωσφίδια | | | |
| 3 ^ο | Αλκύλια ψευ- δαργύρου, κλπ. | | | |
| | | Μικτή συσκευασία δεν επιτρέπεται | | |

2442

(Συνεχίζεται)

| Αριθμός Είδους | Περιγραφή Ύλης | Ανωτάτη Ποσότης ανά δοχείον | Ειδική Διατάξεις ανά κόλον |
|-------------------|----------------|-----------------------------------|-------------------------------------|
|-------------------|----------------|-----------------------------------|-------------------------------------|

(Σ υ ν έ χ ε ι α)

| | | | |
|-------------------|--|------|--|
| 6° (α) (β) | Κόνις και πυρίτιδα | | Δεν πρέπει να |
| και (δ) | αργιλίου (αλουμι- νίου) ή ψευδαργύ- ρου | 3 KG | 3 KG |
| | Κόνις, πυρίτιδα και λεπτά ρινηματα μαγ- νησίου | | με άζωτο νιτρο- κυτταρίνη και κόκκινο φωσφό- ρο της Κλάσεως |
| | Μέταλλα σε πυροφο- ρική μορφή | | 4.Ι, ούτε με α- λατα διυδροφθο- ρικού οξέος |
| 4°, 5°, 6° (γ) | Όλες οι ύλες | | |
| 7°-12° | | | |

4.- Ενδείξεις και ετικέτες κινδύνου στα κόλα

(βλέπε Προσθήκη Α.9)

(Ι) Κόλα περιέχοντα ύλες των Ι° έως 4° ή 6° 2443

θα φέρουν ετικέτα συμφώνως προς το μοντέλο Νο. 2C.

Εν τούτοις, εάν οι ύλες της 4° συσκευα-
σθούν σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη
σανίδα συμφώνως προς το περιθώριο 2436(Ι), τα κόλα θα
φέρουν δύο ετικέτες συμφώνως προς το μοντέλο Νο. 2C.

(2) Βαρέλια περιέχοντα φωσφόρον της Ι° και
έχοντα κοχλιωτό πώμα οφείλουν, εκτός εάν διαθέτουν μη-
χανισμόν διατηρούντα αυτά όρθια, να φέρουν επιπροσθέτως,
ψηλά σε δύο διαμετρικώς αντίθετα μέρη, δύο ετικέτες

σύμφωνως προς το μοντέλο Νο.8.

2443

(Συνεχίζεται)

(3) Κόλα που περιέχουν εύθραυστα δοχεία μη ορατά από έξω θα φέρουν ετικέτες σύμφωνες προς το μοντέλο Νο.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα επιπροσθέτως, πλην της περιπτώσεως σφραγισμένων αμπουλών, θα φέρουν ετικέτες σύμφωνα προς το μοντέλο Νο.8^ο. οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπο ισοδύναμο όταν χρησιμοποιούνται άλλα είδη συσκευασίας.

(4) Προκειμένου περί αποστολών διεξαγομένων ως πλήρη φορτία, η ετικέτα Νο. 20 η προβλεπόμενη εκ της ανωτέρω παραγράφου (I), δεν χρειάζεται να τεθεί στα κόλα εάν το δχημα φέρει την ένδειξιν την προβλεπόμενην υπό του Παραρτήματος Β, περιθώριο ΙΟ 500.

2444

Β.- Στοιχεία (λεπτομέρειες) του εγγράφου μεταφοράς

2445

Η περιγραφή των εμπορευμάτων στο έγγραφο μεταφοράς πρέπει να είναι σύμφωνη με μία των ονομασιών των υπογραμμισμένων στο περιθώριο 243I. Όπου η ονομασία της ύλης δεν σημειούται προκειμένου περί των 2^ο, 3^ο, 9^ο και ΙΟ^ο, η εμπορική ονομασία πρέπει να χρησιμοποιείται. Η περιγραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκκινο και να ακολουθείται από τα στοιχεία της Κλάσεως, του αριθμού του είδους (μαζί με το, τυχόν, γράμμα), και των αρχικών "ADR" ή "RID" (π.χ. 4.2, 5^ο(α), ADR).

2446-

2452

Γ.- Κενά Είδη Συσκευασίας

2453

(1) Δοχεία και δεξαμενές της I4^ο και δοχεία της I5^ο πρέπει να κλείνουν κατά τον αυτόν τρόπον και να είναι του αυτού βαθμού στεγανά ως εάν επρόκειτο για πλήρη φορτία.

(2) Η περιγραφή στο έγγραφο της μεταφοράς πρέπει να είναι:- "Κενό δοχείο (ή κενή δεξαμενή), 4.2, I4^ο (ή I5^ο), ADR (ή RID)". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο.

2454-

2469

ΚΛΑΣΗ 4.3 ΥΛΕΣ ΠΟΥ ΒΓΑΖΟΥΝ ΕΥΦΛΕΚΤΑ ΑΕΡΙΑ

ΣΕ ΕΠΑΦΗ ΜΕ ΤΟ ΝΕΡΟ

I.- Κατάλογος υλών

Μεταξύ των υλών και ειδών των καλυπτομένων υπό 2470 τον τίτλον Κλάσης 4.3 μόνον οι αναγραφόμενες στο περιθώριο 247I γίνονται δεκτές για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές και τα είδη που γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

I^ο (α) ^{-μέταλλα} Αλκαλι, και μέταλλα αλκαλικών γαιών, π.χ. νάτριο, 247I κάλιο, ασβέστιο καθώς και κράματα αλκαλιμετάλλων, μεταλλικά κράματα αλκαλικών γαιών και κράματα αλκαλίου (αλκαλιμετάλλων) και μετάλλων αλκαλικών γαιών.

(β) αμαλγάματα αλκαλιμετάλλων και αμαλγάματα μετάλλων αλκαλικών γαιών.

2^ο (α) ανθρακούχο ασβέστιο και ανθρακούχο αργίλιο.

(β) υδρίδια αλκαλιμετάλλων και μετάλλων αλκαλικών γαιών

(π.χ. λίθιο, υδρίδιο, υδρίδιο ασβεστίου), μικτά 247I
υδρίδια, και υδρίδια βορίου και υδρίδια αργυρί- (Συνεχίζεται)
ου αλκαλιμετάλλων και μετάλλων αλκαλικών γαιών.

(γ) πυριτούχα αλκάλι (ALKALI SILICIDES).

(δ) πυριτούχο ασβέστιο, ~~αε~~ κόκκινο, κόκκινους ή σβώλους,
 περιέχον άνω του 50 τοις εκατόν πυρίτιο, πυριτιού-
χο μαγγανιούχο ασβέστιο (πυριτιομαγγανιούχον ασβε-
στιον).

(ε) κράματα μαγνησίου με μαγγάνιο.

3^ο αμίδιο αλκαλιμετάλλων και μετάλλων αλκαλικών γαιών,
 π.χ. αμίδιο του νατρίου (SODAMIDE). Βλέπε επίσης πε-
 ριθώριο 247Iα.

Σημείωσις: - Το κυαναμίδιο ασβεστίου δεν υπόκειται
 στις διατάξεις της ADR.

4^ο Τριχλωροφωσφορνούχο πυρίτιο (πυριτιοχλωροφόρμιον)

5^ο Κενά δοχεία, ακαθάριστα, και κενές δεξαμενές, ακαθά-
 ριστες, που περιείχαν ύλες της Κλάσεως 4.3.

Το αμίδιο του νατρίου της 3^ο (SODAMIDE) σε ποσότητες μη υπερβαίνουσες τα 200 γραμμ. ανά κόλον δεν υπόκειται στις διατάξεις της παρούσας Κλάσεως τις περιεχόμενες στο παρόν Παράρτημα ή στο Παράρτημα Β εάν είναι συσκευασμένο σε δοχεία τα οποία είναι έτσι κλεισμένα ώστε να είναι στεγανά καθ' τα οποία δεν μπορούν να προσβληθούν από το περιεχόμενο, και εάν τα δοχεία αυτά είναι συσκευασμένα με επιμέλεια σε γερά, στεγανά ξύλινα είδη συσκευασίας με στεγανόν κλεισίμον.

2.Θ ΔιατάξειςΑ.- ΚόλαΕ.- Γενικοί όροι συσκευασίας

(I) Τα είδη συσκευασίας θα είναι έτσι κλεισμένα 2472 και στεγανά ώστε να αποφεύγεται η είσοδος υγρασίας και οποιαδήποτε απώλεια του περιεχομένου.

(2) Τα υλικά από τα οποία τα δοχεία και τα κλεισίματα των κατασκευάζονται δεν πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενο ή να σχηματίζουν με τούτο επιβλαβείς και επικινδύνους ενώσεις. Τα δοχεία εις όλες τις περιπτώσεις πρέπει να είναι απηλλαγμένες από υγρασία.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη των ώστε να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους κανονικούς όρους μεταφοράς. Ειδικότερα, προκειμένου περί στερεών εμβαπτισμένων σε υγρό, τα δοχεία και τα κλεισίματά των πρέπει, εκτός εάν το άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης" προβλέπει άλλως, να είναι ικανά να αντέχουν σε οποιαδήποτε πίεση η οποία, λαμβανομένης υπόψη της υπέρξεως αέρος, ενδέχεται να εγερθεί εσωτερικώς των δοχείων στη συνήθη μεταφορά. Για τον σκοπόν αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης υπόψη της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά τον χρόνον της πληρώσεως (γεμίσματος) και της ανωτάτης μέσης θερμοκρασίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της μεταφοράς. /Στερεές ύλες θα ασφαλίζονται σταθερά στις συσκευασίες τους,

και οι εσωτερικές συσκευασίες θα ασφαλίζονται σταθερά στις εξωτερικές συσκευασίες.

2472
(Συνεχίζεται)

Εκτός εάν άλλώς ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται σε εξωτερικές συσκευασίες είτε μία-μία είτε ομαδικά.

(4) Φιάλες και λοιπά γυάλινα δοχεία πρέπει να είναι απηλλαγμένα από βλάβες που κινδυνεύουν να εξασθενήσουν την αντοχήν τους· ειδικότερα, πρέπει να αβρονται καταλλήλως οι εσωτερικές τάσεις. Το πάχος των τοιχωμάτων ~~σε καμία περίπτωση~~ πρέπει να είναι μικρότερο των 2 MM.

Η στεγανότητα του συστήματος κλεισίματος πρέπει να εξασφαλίζεται από πρόσθετο μηχανισμό (πώμα, στέμμα (κορώνω), σφραγίδα, δέσιμο, κλπ.) ικανόν να εμποδίσει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της μεταφοράς.

(5) Το αποσβεστικό υλικό θα ταιριάζει στη φύση του περιεχομένου.

2.- Συσκευασία μιάς ύλης

(I). Οι ύλες της I^ο θα συσκευάζονται:-

(α)) σε δοχεία κατασκευασμένα από φύλλο-σιδήρου (έλασμα), επενδεδυμένο με μόλυβδο φύλλο-σιδήρου ή πλάκα κασιτέρου. Για ύλες της I^ο(β), εν τούτοις, δοχεία κατασκευασμένα από επενδεδυμένο με μόλυβδο φύλλο-σιδήρου ή πλάκα κασιτέρου δεν γίνονται δεκτά. Τα δοχεία αυτά, με εξαίρεση τα σιδηρά βαρέλια, πρέπει να τοποθετούνται σε ξύλινα κιβώτια συσκευασίας ή σε προστατευτικούς σιδηρούς καλάρους· ή

β) όχι περισσότερες από 1 KG ανά δοχείο, σε δοχεία 2473
κατασκευασμένα από ύαλο ή είδη κεραμεικής. Όχι (Συνεχίζεται)
περισσότερα των 5 από τα δοχεία αυτά θα συσκευάζονται
σε ξύλινο κιβώτιο συσκευασίας έχον στεγανήν επένδυση από
σύνηθες φύλλο-σιδήρου, επενδεδυμένο με μόλυβδο φύλλο-σιδήρου,
ή πλάκα-κασσιτέρου συναρμολογημένην με μαλακή συγκόλληση.
Για γυάλινα δοχεία περιέχοντα ποσότητες μη υπερβαίνουσες τα 250 γραμμ., το επενδεδυμένο ξύλινο
κιβώτιο μπορεί να αντικατασταθεί από ένα εξωτερικό
δοχείο κατασκευασμένο από σύνηθες φύλλο-μετάλλου,
επενδεδυμένο με μόλυβδο φύλλο-σιδήρου, ή πλάκα
κασσιτέρου. Τα γυάλινα δοχεία θα ασφαρίζονται
στις εξωτερικές συσκευασίες από άκαυστο αποσβεστικό
υλικό.

- (2) Εάν ύλη της I^ο(α) δεν συσκευασθεί εντός
συγκολληθέντος μεταλλικού δοχείου με κάλυμμα ερμητικώς
κλεισμένο με μαλακή συγκόλληση, τότε:-
- (α) πρέπει να καλύπτεται πλήρως από ορυκτέλαιο του οποίου το σημείο αναφλέξεως είναι άνω των 50^οC, ή να ραντισθεί επαρκώς για να εξασφαλισθεί ότι οι σβώλοι έχουν επιχρισθεί με το έλαιο αυτό· ή
 - (β) ο αέρας του δοχείου πρέπει να αντικαθίσταται εξ ολοκλήρου από προστατευτικό αέριο (π.χ. άζωτο) και το δοχείο να είναι έτσι κλεισμένο ώστε να είναι αεροστεγανό, ή
 - (γ) η ύλη πρέπει να χυθεί στο δοχείο, το οποίο πρέπει

να πληρωθεί μέχρι το χείλος και να είναι κατά τρόπο τέτοιο κλεισμένο ώστε να είναι αεριο-στεγανό.

2473
(Συνεχίζεται)

(3) Τα σιδηρά δοχεία πρέπει να έχουν πλευρές πάχους όχι μικρότερου των 1.25 MM (χιλ.). Εάν με το περιεχόμενό τους ζυγίζουν πάνω από 75 KG, πρέπει να συγκολληθούν με σκληρής-συγκόλλησης ή συγκόλλησης. Εάν ζυγίζουν πάνω από 125 KG, πρέπει επιπροσθέτως να είναι εφοδιασμένα με κυλιδόμενες στεφάνες (ROLLING HOOPS) ή με κυλιδόμενες φλάντζες.

(I). Οι ύλες της 2^ο θα συσκευάζονται:-

2474

- (α) σε δοχεία κατασκευασμένα από φύλλο-σιδήρου, επενδεδυμένο με μόλυβδο φύλλο-σιδήρου ή πλάκα κασσιτέρου. Για ύλες της 2^ο (β) και (γ) το δοχείο δεν πρέπει να περιέχει περισσότερα από 10 KG. Τα δοχεία αυτά, με εξαίρεση τα σιδηρά βαρέλια, πρέπει να τοποθετούνται σε ξύλινα κιβώτια συσκευασίας ή σε προστατευτικά σιδηρά καλάθια (κοφίνια) ή
- (β) όχι περισσότερες από 1 KG ανά δοχείο, σε δοχεία κατασκευασμένα από ύαλο ή είδη κεραμικής ή από κατάλληλη πλαστική ύλη. Όχι περισσότερα των 5 από τα δοχεία αυτά θα συσκευάζονται σε ξύλινο κιβώτιο συσκευασίας με στεγανήν επένδυσιν από σύνηθες φύλλο-σιδήρου, επενδεδυμένο με μόλυβδο φύλλο-σιδήρου ή πλάκα κασσιτέρου, συναρμολογούμενην με μαλακής συγκόλλησης. Για γυάλινα δοχεία περιέχοντα ποσότητες μη υπερβαίνουσες τα

250 γραμμ., το επενδεδυμένο ξύλινο κιβώτιο μπορεί να
αντικαθίσταται από εξωτερικό δοχείο κατασκευασμένο
από σύνηθες φύλλο-σιδήρου, επενδεδυμένο με μολυβδό
φύλλο-σιδήρου ή πλάκα κασσιτέρου. Τα γυάλινα δοχεία
θα ασφαλίζονται στα κιβώτια συσκευασίας με άκαυστο απο-
σβεστικό υλικό.

2474

(Συνεχίζεται)

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από
75 KG εάν περιέχει ύλη της 2^ο (β) ή (γ) και όχι πάνω
από 125 KG εάν περιέχει ύλη της 2^ο (δ) ή (ε).

Τα αμίδια (3^ο) θα συσκευάζονται, όχι περισσό- 2475
τερα των 10 KG ανά κυτίο ή βαρέλι, σε ερμητικώς κλεισμέ-
να μεταλλικά κυτία ή βαρέλια, τα οποία θα τοποθετούνται
σε ξύλινα κιβώτια. Το κόλον δεν πρέπει να ζυγίζει πάνω
από 75 KG.

(I) Το τριχλωροδρογονούχο πυρίτιο (TRICHLORO- 2476
SILANE), (4^ο) πρέπει να συσκευάζεται σε δοχεία κατασκευα-
σμένα από ανθεκτικό στη διάβρωση χάλυβα και να έχουν χω-
ρητικότητα μη υπερβαίνουσα τις 500 λίτρες. Τα δοχεία
πρέπει να είναι ερμητικώς κλεισμένα· ο μηχανισμός κλει-
σίματος πρέπει να προστατεύεται ειδικώς με πώμα. Τα δο-
χεία πρέπει να είναι κατασκευασμένα ως σκεύη πίεσεως για
πίεση λειτουργίας 4 KG/CM² και να ελέγχονται σύμφωνα με
τις ~~απαιτήσεις~~ στην χώρα της αναχώρησης διατάξεις τις
διέπουσες τα σκεύη (αγγεία) πίεσεως. Δοχεία με χωρητι-
κότητα μη υπερβαίνουσα τις 250 λίτρες πρέπει να έχουν
πάχος τοιχώματος όχι μικρότερο των 2.5 MM (χιλ.), και
δοχεία με ψηλότερη χωρητικότητα πάχος τοιχώματος όχι μι-
κρότερο των 3 MM (χιλ.)

((2)) Εάν το γέμισμα βασίζεται σε βάρος, ο βαθμός γεμίσματος δεν πρέπει να υπερβαίνει τα 1.14KG/L. (Συνεχίζεται)
Εάν διεξάγεται με οπτικό έλεγχο, ο βαθμός γεμίσματος δεν θα υπερβαίνει το 84.5 τοις εκατόν.

3.- Μικτή συσκευασία

((I)) Οι ύλες οι ομαδοποιημένες υπό τον αυτόν αριθμόν είδους μπορούν να συμπεριλαμβάνονται στο αυτό κώλον. Οι εσωτερικές συσκευασίες θα είναι σύμφωνα με ό,τι προβλέπεται για κάθε ύλη, και οι εξωτερικές συσκευασίες θα είναι όπως έχουν ορισθεί για τις ύλες του ~~αυτού~~ αριθμού είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται από το άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης", οι ύλες της παρούσας Κλάσεως, σε ποσότητες μη υπερβαίνουσες τα 6 KG προκειμένου περί στερεών ή 3 λίτρες προκειμένου περί υγρών για όλες τις ύλες υπό τον αυτόν αριθμόν είδους ή το αυτό γράμμα, μπορούν να εγκλείονται στο αυτό κώλον είτε με ύλες άλλου αριθμού είδους ή άλλου γράμματος της αυτής Κλάσεως, ή με επικίνδυνες ύλες ανήκουσες σε άλλες Κλάσεις (εάν μικτή συσκευασία επιτρέπεται προκειμένου περί τοιούτων υλών), ή με άλλα εμπορεύματα, υπό την επιφύλαξη των παρακάτω ειδικών όρων.

Οι εσωτερικές συσκευασίες πρέπει να πληρούν τους γενικούς και ειδικούς όρους συσκευασίας. Επιπροσθέτως, οι γενικοί όροι οι περιεχόμενοι στα περιθώρια 2001(5) και 2002(6) και (7) πρέπει να τηρούνται.

Το κδλον δεν πρέπει να ζυγίζει πάνω από 150KG, 2477
 ή πάνω από 75 KG εάν περιέχει εύθραυστα δοχεία. (Συνεχίζεται)

Ειδικοί όροι:-

| Αρ.Είδους | Περιγραφή Υλικού | Ανωτάτη ποσότητα | | Ειδικές Διατάξεις |
|--------------------|---|----------------------------------|--------------------|--|
| | | ανά δοχείο | ανά κδλον | |
| 1 ^ο (α) | Αλκαλιμέταλλα και μέταλλα αλκαλικών γαιών (π.χ. νάτριον, κάλιον, βάριον) - σε εύθραυστα δοχεία - σε άλλα δοχεία | 500 γραμμ. I KG | 500 γραμμ. I KG | Τα όρια των 500 γραμμ. ή I KG ισχύουν για αλκαλιμέταλλα και μέταλλα αλκαλικών γαιών της 1 ^ο (α), και για υδρίδια αλκαλιμετάλλων και υδρίδια μετάλλων αλκαλικών γαιών, σε σχέση με το ολικό βάρος των υλών αυτών. Τα αλκαλιμέταλλα και μέταλλα αλκαλικών γαιών, και όλες της 2 ^ο (β), δεν μπορούν να συσκευάζονται μαζί με οξέα, ούτε με υγρά περιέχοντα υδρω |
| 2 ^ο (α) | Ανθρακούχο ασβέστιο | Μικτή συσκευασία δεν επιτρέπεται | | |
| 2 ^ο (β) | Υδρίδια αλκαλιμετάλλων και μετάλλων αλκαλικών γαιών (π.χ., (λίθιο), υδρίδιο λιθίου, υδρίδιο ασβεστίου), μικτά υδρίδια, υδρίδια βορίου και υδρίδια αργυρίου - σε εύθραυστα δοχεία - σε άλλα δοχεία | 500 γραμμ. I KG | 500 γραμμ. I KG | |

2477

Σ υ ν έ χ ε ι α Π ί ν α κ α ς

(Συνεχίζεται)

4^ο Τριχλωρουδρογονούχο Μικτή συσκευασία
 πυρίτιο δεν επιτρέπεται
 (TRICHLOROSILANE)

4.- Ενδείξεις (μαρμάρισμα) και ετικέτες κινδύνου επί
των κόλων (βλέπε Προσθήκη Α.9).

2478

(1) Κάθε κόλο περιέχον ύλης της Κλάσεως 4.3
 θα φέρει ετικέτα του μοντέλου Νο. 2D και ετικέτα σύμφωνον
 προς το μοντέλο Νο. 7.

(2) Κάθε κόλον περιέχον Τριχλωρουδρογονούχο
 πυρίτιο (TRICHLOROSILANE) της 4^ο θα φέρει επιπροσθέτως
 ετικέτα σύμφωνον προς το μοντέλο Νο. 2Α.

(3) Κόλα περιέχοντα εύθραυστα δοχεία που δεν
 είναι ορατά από έξω θα φέρουν ετικέτα σύμφωνον προς το
 μοντέλο Νο. 9. Εάν το εύθραυστο δοχείο ή δοχεία περιέχουν
 υγρά, τα κόλα επιπροσθέτως, με εξαίρεση την περίπτωση
 των σφραγισμένων αμπουλών, θα φέρουν ετικέτες σύμφωνες
 προς το μοντέλο Νο. 8· οι ετικέτες αυτές θα τοποθετούνται
 ψηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπον
 ισοδύναμον όταν χρησιμοποιούνται άλλες συσκευασίες.

2479

B.- Στοιχεία του εγγράφου μεταφοράς

Η περιγραφή των εμπορευμάτων στο έγγραφο με- 2480
 ταφοράς πρέπει να είναι σύμφωνη με μία των ονομασιών
 των υπογραμμισμένων στο περιθώριο 247I. Όταν η ονομα-

πλά της ύλης δεν καθορίζεται, προκειμένου περί της I^ο, 2480
 η εμπορική ονομασία πρέπει να χρησιμοποιείται. Η περι- (Συνεχίζεται)
 γραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκ-
κινο και να ακολουθείται από τα στοιχεία της Κλάσεως, τον
αριθμόν του είδους (μαζί με, το τυχόν, γράμμα), και τα αρ-
χικά "ADR" ή "RID" (π.χ. 4.3 2^ο(α), ADR).

248I-

2497

Γ.- Κενά είδη συσκευασίας

(1) Τα δοχεία και οι δεξαμενές της 5^ο πρέπει 2498
 να κλείνουν κατὰ τον ίδιο τρόπο και να είναι του αυτού
 βαθμού στεγανά ως εάν ήσαν πλήρη.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να
 είναι:- "Κενό δοχείο (ή κενή δεξαμενή), 4.3 5^ο, ADR (ή
RID". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκ-
κινο.

ΚΛΑΣΜ 5.Ι ΟΞΕΙΔΩΤΙΚΕΣ ΥΛΕΣ

Ι.- Κατάλογος υλών

Μεταξύ των υλών και ειδών των καλυπτομένων υπό 2500 τον τίτλον Κλάσµ 5.Ι, οι αναγραφόμενες στο περιθώριο 250Ι υπόκεινται στις διατάξεις του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές και είδη/γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

Σημειώσεις:- Εκτός εάν ειδικώς αναγράφονται στη Κλάση Ια ή Κλάση Ιγ, ~~μείγματα~~ οξειδωτικών υλών με καύσιμες ύλες δεν θα γίνονται δεκτά για μεταφορά εάν μπορούν να εκραγούν σε επαφή με φλόγα ή εάν είναι λίαν ευαίσθητα και περισσότερο ευαίσθητα στη κρούση και τριβή από το από το δινιτροβενζόλιο.

Ι^ο Σταθεροποιημένα, υδάτινα διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα περισσότερο από 60 τοις εκατόν υπεροξείδιο του υδρογόνου, και σταθεροποιημένο υπεροξείδιο του υδρογόνου. 250Ι

Σημειώσεις:- Ι.- Για υδάτινα διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα όχι περισσότερο του 60 τοις εκατόν υπεροξείδιο του υδρογόνου, βλέπε περιθώριο 280Ι, 4Ι^ο.

2.- Υδάτινα διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα του 60 ~~και~~ εκατόν υπεροξείδιο του υδρογόνου, μη σταθεροποιημένο, και υπεροξείδιο του υδρογόνου, μη σταθεροποιημένο, δεν γίνονται δεκτά για μεταφορά.

Τετρανιτρομεθάνιο, ελεύθερο από καυσίμους αναθαρ-
σίας.

250I
(Συνεχίζεται)

Σημείωση: - Τετρανιτρομεθάνιο μη απαλλαγμένο από
καυσίμους αναθαρσίας δεν γίνεται δεκτό για μεταφορά.

3^ο Υπερχλωρικό οξύ σε υδάτινα διαλύματα περιέχοντα πε-
ρισσότερο από 50 g/l, εκατόν αλλά όχι περισσότερο
από 72.5 g/l εκατόν υπερχλωρικό οξύ (HClO_4).

Βλέπε επίσης περιθώριο 250Iα, υπό στοιχείον (α).

Σημείωση: - Υπερχλωρικό οξύ σε υδάτινα διαλύματα πε-
ριέχοντα όχι περισσότερο του 50 g/l εκατόν υπερχλω-
ρικό οξύ (HClO_4) είναι ύλη της Κλάσεως 8 (βλέπε περι-
θώριο 280I, 4^ο). Υδάτινα διαλύματα υπερχλωρικού οξέος
περιέχοντα περισσότερο από 72.5 g/l εκατόν υπερχλω-
ρικό οξύ δεν γίνονται δεκτά για μεταφορά· το ίδιο ι-
σχύει για μίγματα υπερχλωρικού οξέος με οποιοδήποτε
υγρό πλην του νερού.

4^ο (α) Χλωρινά Άλατα: ανόργανου χλωρινού άλατος ζιζανιο-
κτόνα αποτελούμενα από μίγματα χλωρινού νατρίου,
χλωρινού καλίου ή χλωρινού ασβεστίου με υδροσκο-
πικό χλωρίδιο (όπως χλωριούχο μαγνήσιο ή χλωριού-
χο ασβέστιο).

Σημείωση: - Χλωρινόν Αμμώνιον δεν γίνεται δεκτό για
μεταφορά.

(β) υπερχλωρινά άλατα (με εξαίρεση το υπερχλωρινόν
αμμώνιον, βλέπε 5^ο).

(γ) χλωρινά άλατα νατρίου και καλίου.

(δ) μίγματα χλωρινών αλάτων, υπερχλωρινών αλάτων και
χλωριωδών αλάτων (των (α), (β) και (γ) με άλλαλα.

Για τα (α), (β), (γ) και (δ), βλέπε επίσης περιθώριο 250Ια, υπό στοιχείον (β).

250Ι
(Συνεχίζεται)

5° Υπερχλωρικόν αμμώνιον. Βλέπε επίσης περιθώριο 250Ια υπό στοιχείον (β).

6° (α) Νιτρικόν αμμώνιον μη περιέχον καύσιμες ύλες σε μεγαλύτερα αναλογικά του 0.4 τοις εκατόν.

Σημείωσις:— Νιτρικόν αμμώνιον περιέχον περισσότερο του 0.4 τοις εκατόν καύσιμες ύλες δεν γίνεται δεκτό για μεταφορά εκτός εάν είναι συστατικόν εκρηκτικής ύλης των Ι2° ή Ι4° του περιθωρίου 2Ι0Ι.

(β) μίγματα νιτρικού αμμωνίου με θειϊκό αμμώνιον ή φωσφορικό αμμώνιον περιέχοντα περισσότερο του 40 τοις εκατόν νιτρικού άλατος αλλά όχι περισσότερο από 0.4 τοις εκατόν καύσιμες ύλες.

(γ) μίγματα νιτρικού αμμωνίου με αδρανή ύλην (π.χ., πορώδης γή (τριπολική), ανθρακικό ασβέστιο, χλωριούχο κάλιο) περιέχοντα περισσότερο του 65 τοις εκατόν νιτρικού άλατος αλλά όχι περισσότερο του 0.4 τοις εκατόν καύσιμες ύλες.

Για τα (α), (β) και (γ), βλέπε επίσης περιθώριο 250Ια, υπό στοιχείον (β).

Σημείωσις:— Ι.— Μίγματα νιτρικού αμμωνίου με θειϊκό αμμώνιον ή φωσφορικό αμμώνιον περιέχοντα όχι περισσότερο του 40 τοις εκατόν νιτρικόν άλας, και μίγματα νιτρικού αμμωνίου με αδρανή ανόργανο ύλην περιέχοντα όχι περισσότερο του 65 τοις εκατόν νιτρικού άλατος, δεν υπόκεινται στις διατάξεις της ΑDR.

(2) Στα μίγματα της παραγράφου (γ), μόνον 250Ι ανόργανοι ύλες που δεν είναι ούτε καύσιμες ούτε οξει- (Συνεχίζεται)
δωτικές μπορούν να θεωρηθούν ως αδρανείς.

(3) Σύνθετα λιπάσματα στα οποία το ολικό περιε-
χόμενο του αζώτου ως νιτρικών άλας και ως αμμωνία δεν
υπερβαίνει το 146 τοις εκατόν ή στα οποία το εις άζωτον
περιεχόμενον ως νιτρικών άλας δεν υπερβαίνει το 76 τοις
εκατόν δεν υπόκεινται στις διατάξεις της ADR.

7^ο (α) Νιτρικόν νάτριον.

(β) μίγματα νιτρικού αμμωνίου με νιτρικά άλατα νατρίου,
καλίου, ασβεστίου ή μαγνησίου.

(γ) νιτρικόν βάριον, νιτρικός μόλυβδος.

Για τα (α), (β) και (γ), βλέπε επίσης περιθώριο 250Ια,
υπό στοιχείον (β).

Σημείωσις: - 1.- Εάν δεν περιέχουν άνω του 10 τοις εκατόν
νιτρικού αμμωνίου, τα μίγματα νιτρικού αμμωνίου με νιτρι-
κόν ασβέστιον ή νιτρικόν μαγνήσιον ή με αμφότερα δεν υπό-
κεινται στις διατάξεις της ADR.

2.- Κενά σάκκοι από ύφασμα οι οποίοι περιέ-
χαν νιτρικόν νάτριον και δεν έχουν πλήρως ελευθερωθεί από το
νιτρικόν άλας που διαπότισε αυτά είναι είδη της Κλάσεως 4.3
(βλέπε περιθώριο 243Ι, 13^ο).

8^ο Ανόργανα νιτρίλια. Βλέπε επίσης περιθώριο 250Ια, υπό στοι-
χείον (β).

Σημείωσις: - Νιτρώδες αμμώνιο και μίγματα ανοργάνου νιτρι-
λίου με άλας αμμωνίου δεν γίνονται δεκτά για μεταφορά.

- (α) Υπεροξειδία αλκαλιμετάλλων και μίγματα περιέχοντα 250Ι
υπεροξειδία αλκαλιμετάλλων τα οποία δεν είναι πε- (Συνεχίζεται)
 ρισσότερο επικίνδυνα από το υπεροξειδίο του νατρίου.
- (β) διοξειδία και λοιπά υπεροξειδία μετάλλων αλκαλικών
γαιών, π.χ. διοξειδίο του βαρίου.
- (γ) υπερμαγγανικά άλατα νατρίου, καλίου, ασβεστίου και
βαρίου.

Για τα (α), (β) και (γ), βλέπε επίσης περιθώριο 250Ια, υπό στοιχείων (β).

Σημειώσεις:— Υπερμαγγανικών αμμώνιων, και μίγματα υπερμαγγανικού άλατος με άλας αμμωνίου, δεν γίνονται δεκτά για μεταφορά.

- ΙΟ^ο Τριοξειδίο του Χρωμίου (χρωμικός ανυδρίτης· καλούμενος επίσης χρωμικόν οξύ).

Βλέπε επίσης περιθώριο 250Ια, υπό στοιχείων (β).

- ΙΙ^ο Κενά είδη συσκευασίας, ακαθάριστα, και κενές δεξαμενές,
ακαθάριστες, που περιείχαν ύλες της Κλάσεως 5.Ι.

Σημειώσεις:— Κενά είδη συσκευασίας και κενές δεξαμενές που περιείχαν χλωρικό άλας, υπερχλωρικό άλας, χλωρίτη (4^ο και 5^ο), ανόργανο νιτρώδες άλας (8^ο) ή ύλες των 9^ο και ΙΟ^ο, με υπολείμματα από το προηγούμενο περιεχόμενό τους προσκολλημένα στο εξωτερικό, δεν γίνονται δεκτά για μεταφορά.

Ύλες παραδοθείσες για μεταφορά συμφώνως 250Ια προς τις παρακάτω διατάξεις δεν υπόκεινται ούτε στις διατάξεις της παρούσης Κλάσεως τις περιεχόμενες στο παρόν Παράρτημα ούτε στις διατάξεις τις περιεχόμενες στο

Παράρτημα Β.

ύλες της 3^ο, σε ποσότητες μη υπερβαίνουσες τα 200 250Ια
 γραμμάρια ανά δοχείο, υπό τον όρον ότι είναι συσκευα- (Συνεχίζεται)
 σμένες σε δοχεία έτσι κλεισμένα ώστε να είναι στεγανά
 και να μη μπορούν να προσβληθούν από το περιεχόμενό
 τους, και όπως τα δοχεία συσκευάζονται, όχι περισσό-
 τερα των 10 ανά κιβώτιο, σε ξύλινο κιβώτιο με αδρανές
 απορροφητικό αποσβεστήριο υλικό.

(β) ύλες των 4^ο - 10^ο, σε ποσότητες μη υπερβαίνουσες τα
 10 KG, συσκευασμένες όχι περισσότερες των 2 KG ανά
 δοχείο σε δοχεία έτσι κλεισμένα ώστε να είναι στεγανά
 και να μη μπορούν να προσβληθούν από το περιεχόμενό
 τους, και που θα εγκλείονται σε γερά, στεγανά είδη
 συσκευασίας κατασκευασμένα από ξύλο ή φύλλο-μετάλλου,
 διαθέτοντα στεγανά κλεισίματα.

2.- ΔιατάξειςΑ.- ΚόλαΙ.- Γενικοί όροι συσκευασίας

(1) Τα δοχεία θα είναι έτσι κλεισμένα και διευθε- 2502
 τημένα ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχο-
 μένου.

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και
 τα κλεισίματά τους είναι κατασκευασμένα δεν πρέπει να κιν-
 δυνεύουν να προσβληθούν από το περιεχόμενο, ή να προκαλούν
 την αποσύνθεση του περιεχομένου, ή να σχηματίζουν με αυτό
 επιβλαβείς ή επικινδύνους ενώσεις.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των
 κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά

σε όλα τους τα μέρη ώστε να αποφεύγεται οποιαδήποτε 2502
χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους (Συνεχίζεται)
κανονικούς όρους μεταφοράς. Ειδικότερα, ~~όπου~~ οι ύλεις
αυτές είναι σε υγρή κατάσταση, τα δοχεία και τα κλεισί-
ματά τους πρέπει, εκτός εάν το άρθρο το τιτλοφορούμενο
"Συσκευασία μιάς ύλης" προβλέπει άλλως, να είναι σε θέση
να αντέχουν οποιαδήποτε πίεση η οποία, λαμβανομένης
υπόψη της υπάρξεως αέρος, ενδέχεται να εγερθεί εσωτερι-
κώς των δοχείων κατά την συνήθη μεταφορά. Διὰ τον σκοπόν
αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης
υπόψη της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά
τον χρόνον του γεμίσματος και της ανωτάτης μέσης θερμο-
κρασίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της
μεταφοράς. Εκτός εάν άλλως ειδικώς ορίζεται στο άρθρο το
τιτλοφορούμενο "Συσκευασία μιάς ύλης", οι εσωτερικές συ-
σκευασίες μπορούν να εγκλείονται σε εξωτερικές συσκευα-
σίες, είτε μία-μία είτε ομοαδικά.

(4). Οι φιάλες και τα λοιπά γυάλινα δοχεία πρέ-
πει να είναι απαλλαγμένα από βλάβες που κινδυνεύουν να
εξασθενήσουν την αντοχή τους· ειδικώτερα, πρέπει να αλ-
ρονται καταλλήλως οι εσωτερικές τάσεις. Τα τοιχώματα δεν
πρέπει να έχουν πάχος μικρότερο των 3 MM (χιλ.) στη περί-
πτωση δοχείων που ζυγίζουν, μαζί με το περιεχόμενό τους,
άνω των 35 KG, και όχι μικρότερο των 2 MM (χιλ.) στη περί-
πτωση άλλων δοχείων.

Η στεγανότητα του συστήματος κλεισίματος πρέπει
να εξασφαλίζεται με πρόσθετο μηχανισμό (πώμα, στέμμα (κο-

ρώνα), σφραγίδα, δέσιμο, κλπ.)) ικανόν να εμποδίζει 2502
 οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρ- (Συνεχίζεται)
 κούσης της μεταφοράς.

(5) Οσάνεις δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά προβέπονται ή επιτρέπονται, πρέπει να ασφαλίζονται με αποσβεστικό υλικό σε προστατευτικές συσκευασίες. Το αποσβεστικό υλικό πρέπει να είναι άκαυτο (άμίαντο, υαλοέριο, απορροφητική γή, τριπολική γή, κλπ.) και ανήκανο να σχηματίζει επικίνδυνες ενώσεις με το περιεχόμενο των δοχείων. Εάν το περιεχόμενο είναι υγρό, το αποσβεστικό υλικό θα είναι επίσης απορροφητικό και αναλογικό σε ποσότητα με τον όγκον του υγρού· αυτό το εσωτερικό απορροφητικό στρώμα δεν πρέπει, *εξαιτίας*, να έχει πάχος μικρότερο των 4 CM σε οποιοδήποτε σημείο.

Συσκευασία μιας ύλης

(I) Υδάτινα διαλύματα υπεροξειδίου του υδρο- 2503
 γόνου, της I^ο, θα συσκευάζονται σε βαρέλια ή άλλα δοχεία κατασκευασμένα από αργύλιο (αλουμίνιο) καθαρότητας 99.5% *εκατόν* τουλάχιστον ή από ειδικό χάλυβα μη κινδυνεύοντα να προκαλέση αποσύνθεση του υπεροξειδίου του υδρογόνου. Τα δοχεία αυτά θα είναι εφοδιασμένα με χειρολαβή· θα πρέπει να παραμένουν όρθια σε σταθερό σχήμα και πρέπει:-

^{να}
 (α)/δια-θέτουν στο άνω μέρος αυτών μηχανισμόν κλεισίματος εξασφαλίζοντα ίσην εσωτερικήν και ατμοσφαιρικήν πίεση· ο μηχανισμός αυτός κλεισίματος πρέπει σε

κάθε περίπτωση να εμποδίζει οιαδήποτε διαφυγήν 2503
του υγρού και οιαδήποτε είσοδον ξένης ύλης στο (Συνεχίζε-
δοχείο και πρέπει να προστατεύται από αεριζόμενο ται)
πώμα ή

(β) να είναι σε θέση να ανθίστανται σε εσωτερική πίεση
 2.5 KG/CM^2 και να διαθέτουν στο άνω μέρος μηχανι-
σμόν ασφαλείας τιθέμενον σε λειτουργίαν όταν η
επί πλέον εσωτερική πίεσις είναι κυρίως 1 KG/CM^2 .

(2) Τα δοχεία δεν θα πληρούνται πέραν του 90
6τα, εκατόν της χωρητικότητάς των.

(3) Το κέλον δεν πρέπει να ζυγίζει άνω των 90 KG.

Το τετρανιτρομεθάνιο (2^0) θα περιέχεται σε
φιάλες κατασκευασμένες από ύαλο, πορσελάνη, είδη κεραμει-
κής ή παρόμοιο υλικό ή κατάλληλη πλαστική ύλη, με άκαυστους
αναστολείς, τοποθετημένους εσωτερικά ξυλίνου κιβωτίου με
πλήρεις πλευρές· εύθραυστα δοχεία θα ασφαρίζονται εκεί με
απορροφητικό αποσβεστικό υλικό. Τα δοχεία δεν θα πληρούν-
ται πέραν του 936τα, εκατόν της χωρητικότητάς των.

Υπερχλωρικό οξύ σε υδάτινα διαλύματα (3^0) θα
περιέχεται σε γυάλινα δοχεία, τα οποία θα πληρούνται με όχι
περισσότερο του 936τα, εκατόν της χωρητικότητός των. Τα
δοχεία θα ασφαρίζονται με απορροφητικό και άκαυστο αποσβε-
στικό υλικό σε άκαυστα προστατευτικά είδη συσκευασίας αδια-
πέραστα από υγρά και ικανά να συγκρατούν το περιεχόμενο των
δοχείων. Το κλείσιμο των δοχείων θα προστατεύεται από πώ-
ματα εάν τα προστατευτικά είδη συσκευασίας δεν κλείουν
πλήρως.

Γυάλινες φιάλες κλεισμένες με γυάλινους αναστο- 2505
λείς μπορούν επίσης να ασφαρίζονται με απορροφητικό (Συνεχίζεται))
και άκαυστο αποσβεστικό υλικό σε ξύλινα κιβώτια με πλή-
ρεις πλευρές.

Κόλα περιέχοντα εύθραυστα δοχεία και μεταφερό-
μενα όχι ως πλήρη φορτία δεν πρέπει να ζυγίζουν περισ-
σότερο των 75 KG και θα διαθέτουν χειρολαβή.

(I) Ύλεις των 4^ο και 5^ο και διαλύματα των υλών 2506
της 4^ο θα συσκευάζονται σε δοχεία κατασκευασμένα από
ύαλο, ή κατάλληλη πλαστική ύλη, ή μέταλλο· στερεές ύλεις
της 4^ο(β) μπορούν επίσης να εγκλείονται σε κάδους από
χοντρό ξύλο.

(2) Εύθραυστα δοχεία και δοχεία κατασκευασμένα
από πλαστική ύλη πρέπει να ασφαρίζονται με αποσβεστικό
υλικό σε ξύλινα ή μεταλλικά προστατευτικά είδη συσκευα-
σίας. Μπορούν επίσης να ασφαλισθούν χωριστά με άκαυστο
αποσβεστικό υλικό σε εύθραυστα ενδιάμεσα δοχεία τα οποία
με τη σειρά τους πρέπει σταθερά να τοποθετούνται ή ασφα-
λίζονται με προστατευτικό υλικό σε προστατευτικά είδη
συσκευασίας. Το κάθε δοχείο πρέπει να περιέχει όχι πε-
ρισσότερο από 5 KG ύλης. Προκειμένου περί δοχείων των ο-
ποίων το περιεχόμενο είναι υγρό, το αποσβεστικό υλικό
πρέπει να είναι απορροφητικό.

(3) Προκειμένου περί δοχείων κατασκευασμένων από
πλαστική ύλη και περιεχόντων διαλύματα υλών της 4^ο, τα
προστατευτικά είδη συσκευασίας ενδέχεται να μην απαιτούν-
ται εάν τα τοιχώματα είναι σε κάθε σημείο πάχους όχι μι-
κρότερο των 4 MM (χιλ.), όταν τα τοιχώματα έχουν ενισχυ-

2506
θες με γερές ενισχυμένες στεφάνες, τα άκρα ενισχυθούν, (Συνεχίζεται)
το άνω μέρος διαθέτει δύο γερές χειρολαβές, και οι χει-
ρολαβές, και το άνοιγμα είναι εφοδιασμένα με κοχλιωτό
κλείσιμο.

(4) Δοχεία για υγρά δεν θα πληρούνται πέραν-
του 95 τοις εκατόν της χωρητικότητός των.

(5) Κόλα περιέχοντα εύθραυστα δοχεία ή δοχεία
κατασκευασμένα από πλαστική ύλη (βλέπε (2) και (3)), εάν
περιέχουν υγρά, και κόλα περιέχοντα εύθραυστα δοχεία ή δο-
χεία κατασκευασμένα από πλαστική ύλη (βλέπε(2)), εάν πε-
ριέχουν μόνον στερεές ύλης και μεταφέρονται όχι ως πλήρες
φορτίο, δεν πρέπει να ζυγίζουν πάνω από 75 KG. Κόλα μετα-
φερόμενα όχι ως πλήρες φορτίο θα διαθέτουν χειρολαβήν.

(6) Κόλα που μπορούν να κυλιθούν δεν πρέπει να
ζυγίζουν περισσότερο από 400 KG· εάν ζυγίζουν περισσότερο
των 275 KG πρέπει να διαθέτουν κυλιόμενες στεφάνες (ROLLING
HOOPS).

(7) Δοχεία περιέχοντα στερεά χλωρικά άλατα πλύν-
των αναφερομένων υπό το στοιχείον (8), δεν πρέπει να περιέ-
χουν καύσιμο υλικό πλύν μικρού παρεμβύσματος από κηρόχαρτο.

(8) Εάν το χλωρικό άλας είναι υπό μορφήν δισκίων,
μετά ή άνευ καταλλήλου συνδετικής ύλης, και συσκευάζεται σε
φιάλες περιέχουσες όχι άνω των 200 γραμμ., επαρκής ποσότητα
βαμβανο-ερίου μπορεί να χρησιμοποιείται για να εμποδισθεί
η υπερβολική μετακίνηση των δισκίων στην φιάλη. Οι φιάλες
θα συσκευάζονται σε κυτία από ινοσανίδα τοποθετούμενα σε
ενδιάμεση συσκευασία χωριστά από την εξωτερική συσκευασία.

Η ενδιάμεσος συσκευασία δεν θα περιέχει άνω του 1 KG 2506
 ή το κέλυφος άνω των 6 KG χλωρικού άλατος. (Συνεχίζεται)

(I) Οι ύλες των 6^ο, 7^ο, και 8^ο θα συσκευάζονται: 2507

- (α) σε βαρέλια ή κιβώτια ή
- (β) σε γερούς σάκκους κατασκευασμένους από στενά υφασμένο ύφασμα ή από γερό χαρτί τουλάχιστο πεντά-φυλλο ή, σε ποσότητες μη υπερβαίνουσες τα 50 KG, σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη επαρκούς πάχους και γερής ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου.

Εάν η ύλη είναι περισσότερο υγροσκοπική από το νιτρικό νάτριο, οι σάκκοι οι κατασκευασμένοι από στενά υφασμένο ύφασμα ή από γερό χαρτί πεντάφυλλο πρέπει να επενδύονται με κατάλληλη πλαστική ύλη ή να καθίστανται αδιαπέραστοι δια καταλλήλου μέσου.

Κόλα τα οποία μπορούν να κυλιθούν δεν πρέπει να ζυγίζουν περισσότερο από 400 KG· εάν ζυγίζουν πάνω από 275 KG πρέπει να είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS).

(I) Οι ύλες της 9^ο (α) θα συσκευάζονται: 2508

- (α) σε βαρέλια από χάλυβα ή
- (β) σε δοχεία κατασκευασμένα από φύλλο-μετάλλου, φύλλο σιδήρου επενδεδυμένο με μόλυβδο, ή πλάκα-κασσιτέρου ασφαλιζόμενα σε ξύλινα κιβώτια συσκευασίας έχοντα μεταλλική επένδυση καταστάσαν στεγανήν, π.χ. με μαλακή συγκόλληση.

Όταν μεταφέρονται ως πλήρες φορτίο οι ύλες

2508

(Συνεχίζεται)

της 9^ο(α), πρέπει να συσκευάζονται σε δοχεία από πλάκα κασσιτέρου τοποθετημένα αποκλειστικώς σε προστατευτικούς σιδηρούς κάλαθους (IRON HAMPERS).

(2) Δοχεία περιέχοντα ύλες της 9^ο(α) πρέπει να είναι έτσι κλεισμένα και στεγανά ώστε να αποφεύγεται η είσοδος υγρασίας.

(3) Ύλες της 9^ο(β) και (γ) θα συσκευάζονται:-

- (α) σε άκαυστα δοχεία εφοδιασμένα με άκαυστο ερμητικό κλείσιμο. Εάν τα άκαυστα δοχεία είναι εύθραυστα, το καθένα θα ασφαρίζεται χωριστά με αποσβεστικό υλικό σε ξύλινο δοχείο επενδεδυμένο με γερό χαρτί ή
- (β) σε κάδους από σκληρό ξύλο με στενά εφαρμοσμένες σανίδες, επενδεδυμένους με γερό χαρτί.

(4) Κόλα περιέχοντα εύθραυστα δοχεία και μεταφερόμενα όχι ως πλήρη φορτία δεν πρέπει να ζυγίζουν πάνω από 75 KG και θα διαθέτουν χειρολαβήν.

Κόλα ικανά να κυλίσουν δεθ πρέπει να ζυγίζουν πάνω από 400 KG· πρέπει να είναι εφοδιασμένα με κυλινδρικές στεφάνες (ROLLING HOOPS) εάν ζυγίζουν πάνω από 275 KG.

(I) Το τριοξείδιο του χρωμίου θα συσκευάζεται: 2509

- (α) σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμικής ή παρόμοια υλικά, σφικτά ασφαλισμέβα σε ξύλινο κιβώτιο με αδρανές και απορροφητικό αποσβεστικό υλικό ή
- (β) σε μεταλλικά βαρέλια.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μεταφερό- 2509
μενα όχι ως πλήρες φορτίο δεν πρέπει να ζυγίζουν πε- (Συνεχίζεται)
ρισσότερο από 75 KG και θα είναι εφοδιασμένα με χει-
ρολαβή.

Κόλα ικανά να κυλίζουν δεν πρέπει να ζυγί-
ζουν περισσότερο από 400 KG· πρέπει να είναι εφοδια-
σμένα με κυλιδόμενες στεφάνες (ROLLING HOOPS), εάν ζυ-
γίζουν περισσότερο από 275 KG.

3.- Μικτή συσκευασία

(I) Ύλεις ομαδοποιημένες υπό το αυτό γράμμα 2510
μπορούν να συμπεριλαμβάνονται στο ίδιο κόλον. Οι εσω-
τερικές συσκευασίες θα συμφωνούν με ό,τι προβλέπεται
για κάθε ύλη, και η εξωτερική συσκευασία θα είναι η ο-
ρισθείσα για τις ύλες του ~~ερω~~θέμα αριθμού είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπον-
ται υπό του άρθρου του τιτλοφορουμένου "Συσκευασία μιάς
ύλης", οι ύλες της παρούσας Κλάσεως, σε ποσότητες μη
υπερβαίνουσες τα 6 KG προκειμένου περί στερεών ή τις
3 λίτρες προκειμένου περί υγρών για όλες τις ύλες τις
αναγραφόμενες υπό τον αυτόν αριθμόν είδους ή το αυτό
γράμμα, μπορούν να εγκλείονται στο αυτό κόλον είτε με
τις ύλες άλλου αριθμού είδους είτε άλλου γράμματος της
αυτής Κλάσεως, ή με επικίνδυνες ύλες ανήκουσες σε άλλες
Κλάσεις (εάν μικτή συσκευασία επιτρέπεται ομοίως προ-
κειμένου περί τοιούτων υλών), ή με άλλα εμπορεύματα,
υπό την επιφύλαξη των παρακάτω ειδικών όρων.

Οι εσωτερικές συσκευασίες πρέπει να πληρούν

τους γενικούς και ειδικούς όρους συσκευασίας. Επιπρο- 2510
σθέτως, οι γενικές διατάξεις των περιθωρίων 2001(5) (Συνεχίζεται)
και 2002(6) και (7)) πρέπει να τηρούνται.

Το κέλυφος δεν πρέπει να ζυγίζει περισσότερο
από 150 KG, ή περισσότερο από 75 KG εάν περιέχει εύθραυ-
στα δοχεία.

Ειδικόί όροι:-

| Αρ.Είδους | Περιγραφή Ύλης | Ανωτάτη Ποσότητα | | Ειδικά Διατάξεις |
|--------------------|---|--------------------------------------|----------------|---|
| | | ανά δοχείο | ανά κέλυφος | |
| 1 ^ο | Υπεροξειδίο υδρογόνου και υδάτινα διαλύματα υπεροξειδίου του υδρο- γόνου περιέχοντα άνω των 60 ^ο /ο υπεροξειδίου του υδρογόνου. | Μικτή συσκευασία δεν επιτρέπεται. | | |
| 2 ^ο | Τετρανιτρομεθάνιο | | | |
| 3 ^ο | Υπερχλωρικό οξύ | | | |
| 4 ^ο | Διαλύματα υλών της 4 ^ο | | | |
| 4 ^ο (α) | Χλωρικά Άλατα | | | Δεν πρέπει να |
| | - σε εύθραυστα δοχεία | 1 KG | 2.75 KG | συσκευάζονται |
| | - σε άλλα δοχεία | 5 KG | 5 KG | με ασθενώς εμ- πλουτισμένη νι- τροκυτταρίνη, κόκκινο φωσφόρο, άλατα υδροφθο- ρικού οξέος, υγρές αλογοποιημένες ερε- θιστικές ουσίες, υδροχλωρικό οξύ, θειϊκό οξύ, χλωροσουλφανικά οξέα, οξικό οξύ, βένζοϊκό οξύ, σαλικυλικόν οξύ, μυρμηκικόν οξύ, νιτρικόν οξύ, ελεύθερα σουλφονικά οξέα, μικτά |

| Αρ.Είδους Περιγραφή Ύλης | Ανωτάτη Ποσότης | | Ειδικά Διατάξεις |
|--------------------------|-----------------|-----------|------------------|
| | ανά δοχείο | ανά κδλον | |

(Σ ω ν έ χ ε ι α)

αζωτούχα οξέα, θείον, υδραζίνη. Πρέπει να χωρίζονται από μη-συνδεδεασμένο άνθρακα (υπό οποιαδήποτε μορφή), υποφωσφορώδη άλατα, αμμωνία και ενώσεις αυτής, τριαιθανολαμίνη, ανιλίνη, ξυλιδίνη, τολουιδίνη ή εύφλεκτα υγρά έχοντα σημείο αναφλέξεως κάτω των 21°C.

| | | | |
|---|------|------|---|
| 4 ^ο (β) και 5 ^ο Υπερχλωρικά Άλατα | 5 KG | 5 KG | Δεν πρέπει να συσκευάζονται μαζί με ασθενώς εμπλουτισμένα με άζωτο νιτροκυτταρίνη, κόκκινο φωσφόρο, διφθοριούχα, υγρές αλογοποιημένες ερεθιστικές ουσίες, υδροχλωρικό οξύ, θειϊκό οξύ, χλωροσουλφονικό ο- |
|---|------|------|---|

Αρ. Έξδους Περιγραφή Ύλης

Ανωτάτη Ποσότης Ειδικές

ανά
δοχείοανά Διατάξεις
κόλον

(Σ ω ν έ χ ε ι α)

ξύ, νιτρικό οξύ,
μικτά αζωτούχα
οξέα, ανιλίνη,
πυριδίνη, ξυλιδί-
νη, τολουιδίνη,
θείον, υδραζίνη

4^ο (γ) Όλες οι ύλες
και (δ),
6^ο, 7^ο,
8^ο

Δεν πρέπει να
συσκευάζονται
μαζί με ασθενώς
εμπλουτισμένη με
άζωτο νιτροκυτ-
τάρνη ή κόκκι-
νο φωσφόρο.

9^ο (α) Υπεροξειδία
και (β) - σε εύθραυστα δοχεία 500 γραμ. 2.5KG
- σε άλλα δοχεία 5 KG 5 KG

Οι ίδιες ύλες
που απαγορεύον-
ται προκειμένου
περί υπερχλωρι-
κών αλάτων, ως
και: κόνις αρ-
γυλίου, πυρίτιδα
ή κόκκοι, οξικό
οξύ· υδάτινα υ-
γρά, εύφλεκτα
υγρά των Κλά-
σεων 3 και 6.Ι,
ύλες της Κλάσεως
4.Π· τα μεταλλι-
κά υπεροξειδία
δεν πρέπει να
συσκευάζονται
στο ίδιο κόλον

| Αρ.Είδους | Περιγραφή Ύλης | Ανωτάτη Ποσότης | | Ειδικες Διατάξεις |
|-----------|----------------|-----------------|--------------|-------------------|
| | | ανά δοχείο | ανά κόλον | |

(Σ υ ν έ χ ε ι α)

με τα διαλύματα του υπεροξειδίου του υδρογόνου. Ο περιορισμός των 2.5 KG ισχύει για τα υπεροξειδία της 9^ο(α) και (β) για όλες τις άλλες αυτές. Η χρήση πριονιδίου ή άλλων οργανικών υλών γεμίσματος απαγορεύεται

| | | | | |
|--------------------|---------------------|------|------|--|
| 9 ^ο (γ) | Υπερμαγγανικά Αλατα | 5 KG | 5 KG | Οι ίδιες ύλες που απαγορεύονται προκειμένου περί χλωρίκων αλάτων ως και: διαλύματα υπεροξειδίου του υδρογόνου, γλυκερίνη και γλυκόλη. Πρέπει να χωρίζονται από τις ίδιες ύλες ως ορίζεται στη περίπτωση των χλωρίκων αλάτων. |
|--------------------|---------------------|------|------|--|

| | | | | |
|-----------------|----------------------------------|-------|-------|---|
| 10 ^ο | Χρωμικός ανυδρίτης (χρωμικό οξύ) | 4.5KG | 4.5KG | Η χρήση πριονιδίου ή άλλων οργανικών υλών πληρώσεως απαγορεύεται. |
|-----------------|----------------------------------|-------|-------|---|

Ένδειξεις (μαρκάρισμα) και ετικέτες κινδύνου επί των κόλων (βλέπε Προσθήκη Α.9) 25I1

(1) Κόλα περιέχοντα ύλες της Κλάσεως 5.1 θα φέρουν ετικέτα του μοντέλου Νο.3. Εν τούτοις, κόλα περιέχοντα ύλες της 1^ο έως 5^ο ή της 8^ο - 10^ο θα φέρουν δύο ετικέτες σύμφωνα προς το μοντέλο Νο. 3.

Κόλα περιέχοντα ύλες της 3^ο θα φέρουν επιπροσθέτως ετικέτα σύμφωνα προς το μοντέλο Νο. 5.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μή ορατά από έξω θα φέρουν ετικέτα σύμφωνα με το μοντέλο Νο.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρό, τα κόλα, επιπροσθέτως, εκτός προκειμένου περί σφραγισμένων αμπουλών, θα φέρουν ετικέτες σύμφωνα προς το μοντέλο Νο. 8· οι ετικέτες αυτές θα τοποθετούνται ψιλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπον ισοδύναμον όταν χρησιμοποιούνται άλλα είδη συσκευασίας.

(3) Στη περίπτωση αποστολών μεταφερομένων ως πλήρες φορτίο, οι ετικέτες Νο 4 και 5, ως προβλέπεται υπό το στοιχείον (1), δεν χρειάζεται να τεθούν στα κόλα εάν το δοχείο φέρει την ένδειξιν την προβλεπομένην υπό του Παραρτήματος Β, περιθώριο 0 500.

Β.- Στοιχεία του εγγράφου μεταφοράς

25I2

Η περιγραφή των εμπορευμάτων στο έγγραφο μεταφο-25I3
ράς πρέπει να συμφωνεί με μία των ονομασιών των υπογραμ-
μισμένων στο περιθώριο 250I· πρέπει να υπογραμμίζεται με
κόκκινο και ακολουθείται από τα στοιχεία της Κλάσεως, τον
αριθμόν του είδους (μαζί με το, τυχόν, γράμμα), και τα
αρχικά "ADR" ή "RID" (π.χ. 5.1 4^ο (α), A45)

25Ι4-

2520

Γ.- Κενά είδη συσκευασίας

(Ι) Είδη συσκευασίας και δεξαμενές της ΙΙ^ο 252Ι
πρέπει να κλείνουν κατά τον αυτόν τρόπον και να είναι
του αυτού βαθμού στεγανά ως εάν ήσαν πλήρη.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει
να είναι: -"Κενό είδος συσκευασίας, 5.Ι, ΙΙ^ο, ADR (ή
RID)". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με
κόκκινο.

(3) Κενοί σάκκοι από ύφασμα, ακαθάριστοι οι
οποίοι περιείχαν νιτρικόν νάτριο (7^ο(α)) υπόκεινται
στις διατάξεις της Κλάσεως 4.2 (βλέπε περιθώριο 244Ι).

2522-

2549

ΚΛΑΣΗ 5.2 ΟΡΓΑΝΙΚΑ ΥΠΕΡΟΞΕΙΔΙΑ

I.- Κατάσταση υλών

Μεταξύ των υλών και ειδών των καλυπτομένων υπό 2550 τον τίτλον της Κλάσεως 5.2, μόνον τα αναγραφόμενα εις περιθώριον 255I είναι δεκτά για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές και είδη που γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

Σημείωση:— Οργανικά υπεροξειδία τα οποία μπορούν να εκραγούν σε επαφή με φλόγα ή τα οποία είναι περισσότερον ευαίσθητα στη κρούση και τη τριβή από το δινιτροβενζόλιο δεν γίνονται δεκτά για μεταφορά εκτός εάν ειδικώς αναγράφονται στη Κλάση Ia (βλέπε περιθώριο 2I0I, I0^o και Προσθήκη Α.Ι, περιθώριο 3I12^o επίσης περιθώριο 255I, Ομάς Ε κατωτέρω).

Ομάς Α

255I

I^o Υπεροξειδίο διτριτογενούς βουτυλίου (DITERTIARY BUTYL PEROXIDE).

2^o Υδροϋπεροξειδίο τριτογενούς βουτυλίου (TERTIARY BUTYL HYDROPEROXIDE) με όχι λιγώτερο του 206τ^ας εκατόν υπεροξειδίου διτριτογενούς βουτυλίου και όχι λιγώτερο του 206τ^ας εκατόν αδρανοποιητικής ουσίας (PHLEGMATIZER).

Σημείωση:— Υδροϋπεροξειδίο τριτογενούς βουτυλίου (TERTIARY BUTYL HYDROPEROXIDE) με όχι λιγώτερο του 206τ^ας εκατόν υπεροξειδίου διτριτογενούς βουτυ-

λίου αλλά χωρίς αδρανοποιητική ουσία αναγράφεται '255I

υπό στοιχείον 3I⁰.

(Συνεχίζεται)

3⁰ Υπεροξικόδν τριτογενές βουτύλιο (TERTIARY BUTYL

PERACETATE) με όχι λιγώτερο του 30 ~~6τα~~ εκατόν

αδρανοποιητικής ουσίας.

4⁰ Υπερβενζοϊκό τριτογενές βουτύλιο (TERTIARY BUTYL

PERBENZOATE).

5⁰ TERTIARY BUTYL PERMALEATE με όχι λιγώτερο του 50

~~6τα~~ εκατόν αδρανοποιητικής ουσίας.

6⁰ Διυπερφθαλικόν διτριτογενές βουτύλιο (DITERTIARY

BUTYL DIPERPHALATE) με όχι λιγώτερο του 50 ~~6τα~~

εκατόν αδρανοποιητικής ουσίας.

7⁰ 2,2-BIS (TERTIARY BUTYL PEROXY) BUTANE με όχι λι-

γώτερο του 50 ~~6τα~~ εκατόν αδρανοποιητικής ουσίας.

8⁰ Υπεροξειδίο Βενζοϋλίου:-

(α) με όχι λιγώτερο του 10 ~~6τα~~ εκατόν ύδωρ.

(β) με όχι λιγώτερο του 30 ~~6τα~~ εκατόν αδρανοποιη-
τικής ουσίας.

Σημειώσεις:- I.- Το υπεροξειδίο του βενζοϋλίου ~~σε~~

ξηράν κατάσταση ή με λιγώτερο του 10 ~~6τα~~ εκατόν

ύδωρ ή λιγώτερο του 30 ~~6τα~~ εκατόν αδρανοποιητικής

ουσίας είναι ύλη της Κλάσεως Ia (βλέπε περιθώριο

2101 10⁰(α)).

2.- Υπεροξειδίο του βενζοϋλίου περιέχον

όχι λιγώτερο του 70 ~~6τα~~ εκατόν ξηρά και αδρανή ορε-

ρεά δεν υπόκειται στις διατάξεις της ADR.

9⁰ Υπεροξειδία κυκλοεξανόλης (I-HYDROXY-I'-HYDROPEROXY-

DICYCLOHEXYL PEROXIDE AND BIS (1-HYDROXYCYCLOHEXYL)

υπεροξειδίο και μίγματα των δύο αυτών ενώσεων)):-

(α) με όχι λιγώτερο του 56τ_α εκατόν ύδωρ·

(β) με όχι λιγώτερο του 30τ_α εκατόν αδρανοποιη-
τικής ουσίας.

Σημειώσεις:- 1.- Υπεροξειδία κυκλοεξανόλης και τα μίγ-
ματά τους σε ξηρά κατάσταση ή με λιγώτερο του 56τ_α
εκατόν ύδωρ ή λιγώτερο του 30τ_α εκατόν αδρανοποιη-
τικής ουσίας είναι ύλ_{ες} της Κλάσεως IIα (βλέπε περιθώ-
ριο 2101, 10^ο (β)).

2.- Υπεροξειδία κυκλοεξανόλης και τα μίγ-
ματά τους περιέχοντα όχι λιγώτερο του 70τ_α εκατόν
ξηρά και αδρανή σφερεά δεν υπόκεινται στις διατάξεις
της ADR.

10^ο α, α - DIMETHYLBENZYL HYDROPEROXIDE (υδροϋπεροξειδίο
διμεθυλοβενζυλίου) (CUMYL HYDROPEROXIDE) με περιεχό-
μενο σε υπεροξειδίο μη υπερβαίνον το 95τ_α εκατόν.

11^ο Υπεροξειδίο DILAURYL.

12^ο 1,2,3,4-TETRANYDRO-1-NAPHTYL HYDROPEROXIDE.

13^ο 2,4-DICHLOROBENZOYL PEROXIDE (υπεροξειδίο διχλωροβεν-
ζοϋλίου)

(α) με όχι λιγώτερο του 10τ_α εκατόν ύδωρ·

(β) με όχι λιγώτερο του 30τ_α εκατόν αδρανοποιητικής
ουσίας (PHLEGMATIZER).

14^ο P-MENTHANYL HYDROPEROXIDE με περιεχόμενον εις υπεροξειδ-
ίο μη υπερβαίνον το 95τ_α εκατόν (υπόλοιπον: αλκοό-
λαι και κετόναι).

15° 2,6,6-TRIMETHYL NORPINANYLE HYDROPEROXIDE (PINANYL 2551
HYDROPEROXIDE • PINANE HYDROPEROXIDE) με περιεχόμε- (Συνεχίζεται)
 νο εις υπεροξειδίο μη υπερβαίνον το 956τ^α εκατόν
 (υπόλοιπον: αλκοόλαι και κετόναι).

16° DI-(α, α -DIMETHYLBENZYL) PEROXIDE με περιεχόμενον
 εις υπεροξειδίο μη υπερβαίνον το 956τ^α εκατόν.

Σημειώσεις:- DI-(α, OC-DIMETHYLBENZYL)

Το υπεροξειδίο του DICUMYL περιέχον 606τ^ας εκατόν
 ή και περισσότερον στερεά και αδρανή στερεά δεν υπό-
 κεινται στις διατάξεις της ADR.

17° PARACHLOROBENZOYL ^{Υπεροξειδίο} HYPEROXIDE (Παραχλωροβενζοϋλίου):-

(α) με όχι λιγώτερο του 106τ^α εκατόν ύδωρ.

(β) με όχι λιγώτερο του 306τ^α εκατόν αδρανοποιη-
 τικής ουσίας (PHLEGMATIZER).

Σημειώσεις:- 1.- Το υπεροξειδίο παραχλωροβενζοϋλίου σε
 ξηρά κατάσταση ή με λιγώτερο του 106τ^α εκατόν ύδωρ
 ή λιγώτερο του 306τ^α εκατόν αδρανοποιητικής ουσίας
 είναι ύλη της Κλάσεως Ια (βλέπε περιθώριο 2101, 10°
 (γ)).

2.- Το υπεροξειδίο παραχλωροβενζοϋλίου πε-
 ριέχον 70 τοις εκατόν ή περισσότερον ξηρά και αδρανή
 στερεά δεν υπόκεινται στις διατάξεις της ADR.

18° DI-ISOPROPYLBENZENE HYDROPEROXIDE (ISOPROPYLCUMYL
HYDROPEROXIDE) με 45 τοις εκατόν μίγμα αλκοόλης και
 ακετόνης.

19° 4-METHYLPENTAN-2-ONE PEROXIDE (ISOBUTYLMETHYLKETONE
PEROXIDE) με όχι λιγώτερο του 406τ^α εκατόν αδρανο-
 ποιητικής ουσίας.

TERTIARY BUTYL (α, α- I-DIMETHYLBENZYL) PEROXIDE 255I

με όχι περισσότερο από 956τ_ας εκατόν υπεροξειδ- (Συνεχίζεται διό.)

21^ο Υπεροξειδίο DIACETYL (Διακετυλίου) με όχι λιγώτερο του 756τ_ας εκατόν αδρανοποιητικής ουσίας (PHLEGMATIZER).

22^ο Υπεροξειδίο ακετυλο-βενζοϋλίου (ACETYL BENZOYL PEROXIDE) με όχι λιγώτερο του 606τ_ας εκατόν αδρανοποιητικής ουσίας.

Σημειώσεις:- Περί 1^ο έως 22^ο. Ύλεις που είναι αδρανείς σε οργανικά υπεροξειδία και έχουν σημείον αναφλέξεως όχι χαμηλώτερο των 100^οC και σημείον βρασμού όχι χαμηλώτερο των 150^οC θεωρούνται ότι είναι αδρανοποιητικές ύλεις. Οι ύλεις της Ομάδος Α μπορούν επίσης να αραιωθούν με διαλύτας που είναι αδρανείς στις ύλεις αυτές.

Ομάς Β

30^ο Υπεροξειδίο Βουτανονίου (αιθυλο-μεθυλο-κετον-υπεροξειδίο) (BUTANONE PEROXIDE (ETHYL METHYL KETONE PEROXIDE))

(α) με όχι λιγώτερο του 506τ_ας εκατόν αδρανοποιητικής ουσίας (PHLEGMATIZER).

(β) σε διαλύματα περιέχοντα όχι άνω του 126τ_ας εκατόν του υπεροξειδίου αυτού σε διαλύτες που είναι αδρανείς εις τούτο.

31^ο Υδρουπεροξειδίο Τριτογενούς Βουτυλίου (TERTIARY BUTYL HYDROPEROXIDE):-

(α) με όχι λιγώτερο του 206τ_ας εκατόν υπεροξειδίου

Αριτογενούς βουτυλλίου, χωρίς αδρανοποιητική ουσία 255I

(PHLEGMATIZER).

(Συνεχίζεται)

(β) σε διαλύματα περιέχοντα όχι περισσότερο του 12

6τ.ε. εκατόν του υπεροξειδίου αυτού σε διαλύτες

που είναι αδρανείς εις πούτο.

Σημείωση:— Περί 30° και 31°. Υλεις που είναι αδρανείς σε οργανικά υπεροξειδία και έχουν σημείον αναφλέξεως όχι χαμηλότερο των 100°C και σημείον βρασμού όχι χαμηλότερο των 150°C θεωρούνται ως αδρανοποιητικές ύλεις.

Ομάς Γ

35° Υπεροξικό οξύ περιέχον όχι περισσότερο του 406τ.ε. εκατόν υπεροξικό οξύ και όχι λιγώτερο του 456τ.ε. εκατόν οξικό οξύ και όχι λιγώτερο του 106τ.ε. εκατόν ύδωρ.

Σημείωση:— Περί Ομάδων Α, Β και Γ. Μίγματα προϊόντων αναφερομένων στις Ομάδες Α, Β και Γ γίνονται δεκτά για μεταφορά υπό την επιφύλαξη των όρων της Ομάδος Γ εάν περιέχουν υπεροξικό οξύ, και σε άλλες περιπτώσεις υπό την επιφύλαξη των όρων της Ομάδος Β.

Ομάς Δ

40° Δείγματα αδρανοποιηθέντων οργανικών υπεροξειδίων μη αναγραφομένων στις Ομάδες Α, Β ή Γ, ή στα διαλύματα αυτών, γίνονται δεκτά σε ποσότητες μη υπερβαίνουσες το 1 KG ανά κόλον υπό τον όρον ότι η σταθερότητά τους εν αποθηκεύσει είναι τουλάχιστον ίση προς εκείνην των υλών των αναγραφομένων στις Ομάδες Α και Β.

Ομάς Ε

Σημείωση:— Η Ομάς Ε περιλαμβάνει οργανικά υπεροξειδία

τα οποία αποσυντίθεται ευχερώς σε συνήθη θερμοκρα- 255I
σία και επομένως πρέπει να μεταφέρονται μόνον υπό (Συνεχίζεται))
συνθήκας καταλλήλου φύξεως. Μολονότι εκρηκτικής
φύσεως ως ορίζονται υπό της Σημειώσεως της Κλάσεως
5.2, ολίγα οργανικά υπεροξειδία συμπεριλαμβάνονται
στην Ομάδα Ε διότι μπορούν να μεταφερθούν ασφαλώς
σε κατεψυγμένη κατάσταση και δια να αποφεύγεται ο-
ποιαδήποτε σύγχυσις αναφορικά με τον χειρισμό τους.

45° Υπεροξειδίο DIOCTANOYL (υπεροξειδίο DICAPRYLYL)
τεχνικής καθαρότητας.

46° Υπεροξειδίο ACETYL CYCLOHEXANE SULPHONYL:-

(α) περιέχον όχι λιγώτερο του 306τμλ εκατόν ύδωρ·

(β) σε διάλυμα όχι λιγώτερο του 806τμλ εκατόν δια-
λύτου·

(γ) σε διάλυμα όχι λιγώτερο του 706τμλ εκατόν αδρα-
νοποιητικής ουσίας (PHLEGMATIZER).

47° Υπεροξυδιανθραμικό Διισοπροπύλιο (DIISOPROPYL PEROXY-
DICARBONATE):

(α) τεχνικής καθαρότητας·

(β) σε διάλυμα με όχι λιγώτερο του 506τμλ εκατόν αδρα-
νοποιητικήν ουσίαν ή διαλύτην.

48° Υπεροξειδίο Διπροπιονυλίου (DIPROPIONYL PEROXIDE)

σε διάλυμα με όχι λιγώτερο του 756τμλ εκατόν διαλύτην.

49° TERTIARY BUTYL PERPIVALATE:-

(α) τεχνικής καθαρότητας·

(β) σε διάλυμα με όχι λιγώτερο του 256τμλ εκατόν αδρα-
νοποιητικήν ουσίαν ή διαλύτην.

- 50° Υπεροξειδίο BIS-(3,5,5-TRIMETHYLHEXANOYL) σε διάλυμα 255I
με όχι λιγώτερο του 20 βτά εκατόν αδρανοποιητικήν (Συνεχίζεται)
ουσίαν (PHLEGMATIZER).
- 51° Υπεροξειδίο Διπελαργονυλίου (DIPELARGONYL PEROXIDE),
τεχνικής καθαρότητας.
- 52° TERTIARY BUTYL PER-2-ETHYLHEXANOATE τεχνικής καθαρό-
τητας.
- 53° DI-2-ETHYLHEXYL-PEROXYDICARBONATE σε διάλυμα με όχι
λιγώτερο του 55 βτά εκατόν αδρανοποιητικήν ουσίαν
(PHLEGMATIZER) ή διαλύτην.
- 54° Υπεροξειδίο DIDECANOYL τεχνικής καθαρότητας.
- 55° TERTIARY BUTYL PERISOBUTYRATE σε διάλυμα με όχι λιγώ-
τερο του 25 βτά εκατόν διαλύτην.

Σημειώσεις: - I.- Ύλες που είναι αδρανείς σε οργανικά
υπεροξειδία και έχουν σημείον-αναφλέξεως όχι χαμηλότε-
ρον των 100°C και σημείον βρασμού όχι χαμηλότερον των
150°C θεωρούνται ως αδρανοποιητικές ύλες (PHLEGMATIZ-
ING SUBSTANCES).

2.- Ο αναφερθέντες διαλύτες είναι ύλες οι
οποίες είναι αδρανείς σε οργανικά υπεροξειδία και οι
οποίες επίσης πληρούν ένα των παρακάτω δρων:-

- (α) δεν είναι εύφλεκτοι και έχουν σημείον βρασμού όχι
χαμηλότερο των 85°C ή
- (β) δεν είναι εύφλεκτοι και έχουν σημείον βρασμού κάτω
των 85°C αλλά όχι κάτω των 60°C, οπότε πρέπει να
χρησιμοποιούνται υποδοχείς (δοχεία) ερμητικώς
κλεισμένα ή
- (γ) έχουν σημείον-αναφλέξεως όχι κάτω των 21°C και

σημείον βρασμού όχι κάτω των 85°C ή 2551
 (δ) έχουν σημείον-αναφλέξεως κάτω των 21°C αλλά ((Συνεχίζεται))
 όχι κάτω των 5°C και σημείο βρασμού όχι κάτω
 των 60°C , οπότε πρέπει να χρησιμοποιούνται.
 ερμητικώς κλεισμένοι υποδοχείς (δοχεία).

Ομάδα ΣΤ

99° Κενά είδη συσκευασίας, αναθάριστα, και κενές δεξαμε-
νές, αναθάριστες, που περιείχαν ύλες της Κλάσεως 5.2.

2.ο Διατάξεις

A.- Κόλα

I.- Γενικοί όροι συσκευασίας

(1) Τα υλικά από τα οποία τα είδη συσκευασίας 2552
 και τα κλεισίματά των κατασκευάζονται δεν πρέπει να κιν-
 δυνεύουν να πρόσβληθούν από το περιεχόμενο ή να σχημα-
 τίζουν με αυτό επιβλαβείς ή επικινδύνους ενώσεις.

(2) Τα είδη συσκευασίας, συμπεριλαμβανομένων των
 κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γε-
 ρά σε όλα τα μέρη τους ώστε να αποφεύγεται οποιαδήποτε
 χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους
 συνήθεις όρους μεταφοράς. Οι εσωτερικές συσκευασίες θα
 ασφαλίζονται σταθερά στις εξωτερικές συσκευασίες. Εκτός
 εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευα-
 σία μίας ύλης", οι εσωτερικές συσκευασίες μπορούν να
 εγκλειστούν σε εξωτερικές συσκευασίες, είτε μία-μία
 είτε ομαδικά.

(3) Το αποσβεστικό υλικό δεν πρέπει να είναι
 ευχερώς εύφλεκτο· επιπροσθέτως θα ταιριάζει στη φύση

του περιεχομένου και δεν πρέπει να προκαλεί την απο-
σύνθεση των υπεροξειδίων.

2552
(Συνεχίζεται)

2.- Συσκευασία μιάς ύλης

α.- Συσκευασία υλών της Ομάδος Α

Τα δοχεία θα είναι έτσι κλεισμένα και στεγανά
ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιε-
χομένου.

2553

(1) Ύλεις των 1° έως 7° , $8^{\circ}(\beta)$, $9^{\circ}(\beta)$, 10°
έως 12° , $13^{\circ}(\beta)$, 14° έως 16° , $17^{\circ}(\beta)$ και 18° έως 22°
και τα διαλύματά τους πρέπει να συσκευάζονται:-

2554

(α) σε κασιτερωμένα δι'εμβαπτίσεως εν θερμώ δοχεία ή
σε δοχεία κατασκευασμένα από αργύλιο (αλουμίνιο),
όχι λιγώτερο του 99.56 τοις εκατόν καθαρό· ή

(β) σε δοχεία, κατασκευασμένα από κατάλληλη πλαστική
ύλη, τα οποία θα τοποθετούνται σε προστατευτικές
συσκευασίες· ή

(γ) όχι άνω των 2 λιτρών ανά φιάλην, σε σφιχτά-κλειστές
γυάλινες φιάλες που θα ασφαρίζονται με αποσβεστικό
υλικό σε προστατευτική συσκευασία εις τρόπον ώστε
να προστατεύονται από το σπάσιμο.

(2) Ύλεις των 1° έως 3° , 5° έως 7° , $8^{\circ}(\beta)$,
 $9^{\circ}(\beta)$, 10° έως 12° , $13^{\circ}(\beta)$, 16° , 18° και 20° μπορούν
επίσης να συσκευάζονται σε γαλβανισμένα (HOT-TIPPED
GALVANIZED) δοχεία.

(3) Οι ύλεις των $8^{\circ}(\alpha)$, $9^{\circ}(\alpha)$, $13^{\circ}(\alpha)$ και $17^{\circ}(\alpha)$
θα περιέχονται, όχι περισσότερες των 5 KG ανά είδος συ-
σκευασίας, σε υδατοστεγανά είδη συσκευασίας τοποθετού-

μένα σε ξύλινο κιβώτιο.

2554

(4) Γλοιώδη (σαν ζυμάρι) και στερεά υπερο- (Συνεχίζεται)
 ξείδια μπορούν επίσης να συσκευάζονται σε δάκκους,
 κατασκευασμένους από κατάλληλη πλαστική ύλη, τοποθε-
 τούμενους σε κατάλληλα προστατευτικά είδη συσκευασίας.
 Το πάχος του υλικού συσκευασίας θα είναι επαρκές ώστε
 να εμποδίζεται οποιαδήποτε απώλεια του περιεχομένου
 από τους δάκκους κατά την συνήθη μεταφορά. Τα στερεά
 υπεροξείδια μπορούν να συσκευάζονται, όχι περισσότερο
 του 1 KG ανά δοχείον, σε δοχεία από ινοσανίδα επιχρισμέ-
 νην με κηρόν παραφίνης τοποθετούμενα σε ξύλινο κιβώτιο·
 εν τούτοις, προκειμένου περί υπεροξειδίων κυκλοεξανό-
 νης της 9^ο(α) το περιεχόμενο του δοχείου θα περιορί-
 ζεται στα 500 γραμμ.

(5) Οι ύλες της 10^ο και 14^ο έως 18^ο μπορούν
 επίσης να συσκευάζονται σε δοχεία κατασκευασμένα από
 φύλλο-μετάλλου.

(6) Με εξαίρεση δάκκους κατασκευασμένους από
 πλαστική ύλη, τα δοχεία τα περιέχοντα υγρά ή γλοιώδη
 (σαν ζυμάρι) οργανικά υπεροξείδια δεν πρέπει να πληρούν-
 ται πέραν του 93 τοις εκατόν της χωρητικότητός των.

(7) Το κόλον δεν πρέπει να ζυγίζει περισσότερο
 των 50 KG. Κόλα ζυγίζοντα πάνω από 15 KG θα είναι εφο-
 διασμένα με χειρολαβήν.

β.- Συσκευασία υλών της Ομάδος Β

2555

(1) Δοχεία γεμισμένα με ύλες της 30^ο(α) και
 31^ο(α) θα είναι εφοδιασμένα με μηχανισμόν εξαερισμού επι-

πρέπει να αντιστάθμισιν μεταξύ της εσωτερικής πίεσεως και 2554 της ατμοσφαιρικής πίεσεως και σε κάθε περίπτωση - ακόμη (Συνεχίζεται), και στη περίπτωση εκτονώσεως του υγρού δια θερμάνσεως- εμποδίζοντα το υγρό να εκτιναχθεί καθώς και ακαθαρσίες να εισέλθουν στο δοχείο. Για ύλες της 30^ο(β) και 31^ο(β), μόνον δοχεία έτσι κλεισμένα και στεγανά ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου θα γίνονται δεκτά.

(2) Τα κόλα θα είναι εφοδιασμένα με βάση η οποία να τα κρατά όρθια χωρίς τον κίνδυνον να πέσουν.

(I) Οι ύλες των 30^ο(α) και 31^ο(α) θα συσκευάζονται: - 2556

- (α) σε εμβαπτισμένα εν θερμώ κασσιτερωμένα ή εμβαπτισμένα εν θερμώ γαλβανισμένα δοχεία ή σε δοχεία κατασκευασμένα από αργύριο (αλουμίνιο) όχι λιγώτερο του 99,5 τοις εκατόν καθαρό· ή
- (β) σε δοχεία, κατασκευασμένα από κατάλληλο πλαστική ύλη, τοποθετούμενα σε προστατευτικές συσκευασίες. Η αντοχή των δοχείων αυτών θα είναι επαρκής ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου κατά την συνήθη μεταφοράν· ή
- (γ) όχι άνω των 2 λιτρών ανά φιάλην, σε γυάλινες φιάλες, που θα ασφαλίζονται με αποσβεστικό υλικό σε προστατευτικές συσκευασίες ώστε να προστατεύονται από το σπάσιμο.

(2) Δοχεία περιέχοντα υγρά ή γλοιώδη (σαν ζυμάρια) οργανικά υπεροξειδία δεν πρέπει να γεμίζονται περισσότερο του 90 τοις εκατόν της χωρητικότητός των

(3) Το κδλον δεν πρέπει να ζυγίζει περισσότε- 2556
 ρο από 40 KG. Κδλα ζυγίζοντα περισσότερο από 15 KG (Συνεχίζε-
 θά είναι εφοδιασμένα με χειρολαβήν. ται)

(4) Οι ύλες της 30^ο(β) και 31^ο(β) μπορούν να
 αποστέλονται μόνον σε ποσότητες μη υπερβαίνουσες τα
 5 KG σε δοχεία ως ορίζεται εις (I) αλλά χωρίς να εί-
 ναι εφοδιασμένα με μηχανισμόν εξαερισμού (σε γυάλινες
 φιάλες, μόνον σε ποσότητες μη υπερβαίνουσες το 1.5
 λίτρο). Τα δοχεία δεν πρέπει να πληρούνται πέραν του
 756τα εκατόν της χωρητικότητός των.

γ.- Συσκευασία υλών της Ομάδος Γ

(I) Οι ύλες της 35^ο και μίγματα περιέχοντα 2557
 υπεροξικό δεύ θα συσκευάζονται, όχι περισσότερο από
 25 KG ανά δοχείο, σε γυάλινα δοχεία με χονδρό τοίχωμα,
 ή σε δοχεία κατασκευασμένα από κατάλληλο πλαστική ύλη,
 εφοδιασμένα με ειδικό κλείσιμο κατασκευασμένο από
 κατάλληλη πλαστική ύλη, ικανό να σφραγισθεί (στεγανο-
 ποιηθεί), σε επικοινωνία με την ατμοσφαίρα δι' ανοίγμα-
 τος κεκμένου άνωθι της στάθμης του υγρού, και σε κάθε
 περίπτωση -αιόμη και στη περίπτωση εκτονώσεως του υγρού
 δια θερμάνσεως- εμποδίζοντα το υγρό να εκτιναχθεί και
 ακαθαρσίαι να εισέλθουν στο δοχείο.

(2) Τα γυάλινα δοχεία θα ασφαλίζονται σταθερά,
 με κδνιν (άλευρο) καθαράς μίνας ή υαλο-έριο χρησιμοποιο-
 ύμενα ως αποσβεστικό υλικό, σε προστατευτικά είδη συ-
 σκευασίας κατασκευασμένα από φύλλο-χάλυβος ή αργύλιο,
 ικανά να κλείνουν, και εφοδιασμένα με χειρολαβήν και

με βάση διατηρούσα αυτά όρθια χωρίς τον κίνδυνον να πέσουν· τα δοχεία θα ασφαρίζονται ακόμη και εάν τα τοιχώματα των προστατευτικών συσκευασιών δεν είναι πλήρη. Δοχεία κατασκευασμένα από κατάλληλο πλαστική ύλη πρέπει να τοποθετούνται σε κλειστής-εφαρμογής προστατευτικά είδη συσκευασίας κατασκευασμένα από φύλλο-χάλυβος και ικανά να κλείνουν.

2557

(Συνεχίζεται)

δ.- Συσκευασία υλών της Ομάδος Δ

Οι ύλες της Ομάδος Δ θα συσκευάζονται, σε ποσότητες μη υπερβαίνουσες το I KG ανά κόλον, σε κασιτερωμένα δι'εμβαπτίσεως εν θερμώ δοχεία, ή σε δοχεία κατασκευασμένα από αργύλιο (αλουμίνιο) όχι λιγότερο του 99.56 τοις εκατόν καθαρό, ή σε φιάλες κατασκευασμένες από κατάλληλο πλαστική ύλη καλουπιασμένες δι'εγχύσεως ή φυσημένες και έχουσαι κατάλληλον πάχος τοιχώματος, ή σε γυάλινες φιάλες τοποθετημέναις σε προστατευτικά είδη συσκευασίας κατασκευασμένα από φύλλο-χάλυβος, αλουμίνιο ή ξύλο. Οι γυάλινες φιάλες θα ασφαρίζονται σταθερά στα προστατευτικά είδη συσκευασίας με κόνη (άλευρον) καθαράς μλκας ή υαλο-έριο χρησιμοποιούμενα ως αποσβεστικό υλικό. Στερεές ενώσεις μπορούν επίσης να συσκευάζονται σε σάκκους, κατασκευασμένους από κατάλληλο πλαστική ύλη επαρκούς πάχους, τοποθετούμενοι ομοίως σε προστατευτικά είδη συσκευασίας κατασκευασμένα από φύλλο-χάλυβος, αλουμίνιο ή ξύλο. Εάν τα υπεροξειδία βγάζουν αέρια σε θερμοκρασία κάτω των 40°C, τα δοχεία πρέπει να πληρούν τους όρους του περιθωρίου 2555.

2558

ε.- Συσκευασία υλών της Ομάδας Ε

(Ι) Κόλα περιέχοντα ύλες της Ομάδας Ε θα ελ- 2559
ναι εφοδιασμένα με μηχανισμό εξαερισμού επιτρέποντα
την αντιστάθμισον μεταξύ της εσωτερικής πίεσεως και της
ατμοσφαιρικής πίεσεως και σε κάθε περίπτωση -ακόμη και
στη περίπτωση εκτονώσεως του υγρού δια θερμάνσεως-
εμποδίζοντα το υγρό να εκτιναχθεί και αναθαρσές να ει-
σέλθουν στο δοχείο.

(2) Δοχεία περιέχοντα υγρά οργανικά υπεροξειδία
δεν πρέπει να πληρούνται πέραν του 95⁶ της χω-
ρητικότητός των.

(Ι) Ύλες της 45^ο, 51^ο και 54^ο θα συσκευάζον- 2560
ται, όχι περισσότερο από 50 KG ανά δοχείον ή σάκκον, σε
δοχεία ή σάκκους κατασκευασμένους από κατάλληλη πλαστι-
κή ύλη, τα οποία ή οι οποίοι θα τοποθετούνται σε κατάλ-
ληλα προστατευτικά είδη συσκευασίας σε ποσότητες μη
υπερβαίνουσες τα 50 KG ανά είδος συσκευασίας.

(2) Ύλες της 46^ο(α) θα συσκευάζονται, όχι περισ-
σότερο από 5 KG ανά σάκκον, σε σάκκους κατασκευασμένους
από κατάλληλη πλαστική ύλη, οι οποίοι θα τοποθετούνται,
όχι άνω των 20 KG ανά είδος συσκευασίας και είτε ένας-ένας
είτε ομαδικά, σε κατάλληλα προστατευτικά είδη συσκευασίας.

(3) Ύλες της 47^ο(α) θα συσκευάζονται:-

(α) όχι περισσότερο του 1 KG ανά δοχείον, σε δοχεία κατα-
σκευασμένα από κατάλληλη πλαστική ύλη·

(β) όχι περισσότερο των 3 KG ανά μπόλ, σε μπόλ κατασκευα-
σμένα από αργύλιον (αλουμίνιον) όχι λιγώτερο των 99.5
60⁶ εκατόν καθαρόν, με πλαστικά πώματα.

Το προστατευτικό είδος συσκευασίας δεν 2560
πρέπει να περιέχει περισσότερα των 10 KG της ύλης. (Συνεχίζεται)

((4) Οι ύλες των 46^ο(β) και (γ), 47^ο(β), 48^ο, 49^ο(β), 50^ο, 52^ο, 53^ο και 55^ο θα συσκευάζονται, όχι άνω των 25 KG ανά δοχείο, σε δοχεία κατασκευασμένα από κατάλληλη πλαστική ύλη, τα οποία θα τοποθετούνται, όχι άνω των 50 KG ανά συσκευασία (αλλά όχι άνω των 25 KG ανά συσκευασία προκειμένου περί υλών της 52^ο), σε προστατευτικές συσκευασίες.

(5) Οι ύλες της 49^ο(α) θα συσκευάζονται, όχι άνω των 10 KG ανά δοχείο, σε δοχεία κατασκευασμένα από κατάλληλη πλαστική ύλη, τα οποία θα τοποθετούνται, όχι άνω των 40 KG ανά συσκευασία, σε προστατευτικές συσκευασίες.

(6) Κόλα ζυγίζοντα άνω των 35 KG, τα οποία περιέχουν ύλες της Ομάδας Ε, θα είναι εφοδιασμένα με χειρολαβήν.

στ.- Συσκευασία υλών σε μικρές ποσότητες

Ύλες των I^ο έως 22^ο, 30^ο και 31^ο, αποστελόμενες σε μικρές ποσότητες, μπορούν επίσης να συσκευάζονται ως κάτωθι:-

(α) υγρά

όχι άνω του 1 KG ανά κόλον, σε φιάλες, κατασκευασμένες από αργύλιον (αλουμίνιον), κατάλληλη πλαστική ύλη, ή ύαλο, με αναστολείς, κατασκευασμένους από κατάλληλη πλαστική ύλη, ή με κλεισίματα μοχλού ή κοχλιωτά κλεισίματα, έχοντα, και στη μία και στην

άλλη περίπτωση, ελαστικό παρέμβασμα. Οι φιάλες θα 2561
 ασφαλίζονται με άλευρον καθαράς μίκας ή υαλο- (Συνεχίζεται)
 ξέριο χρησιμοποιούμενα ως αποσβεστικό υλικό σε
 κυτία ινοσανίδος ή ξύλινα. Το υλικό πληρώσεως
 πρέπει να είναι επαρκές σε ποσότητα για να απορ-
 ροφήσει ολόκληρο το υγρό. Οι φιάλες δεν πρέπει να
 γεμίζονται πέραν του 75^{ου} εκατόν της χωρητικό-
 τητάς των.

- (β) σε κατάσταση ζύμης ή κονιοποιημένες ύλες
 όχι άνω του 1 KG ανά κδλον, σε κυτία από αλου-
 μίνιο ή από ινοσανίδα ή ξύλινα (των δύο τελευ-
 ταίων επενδεδυμένων με αλουμίνιον ή με κατάλληλη
 πλαστική ύλη) με γερδ κλείσιμον. Ελεύθερος χώρος
 εκ 10^{ου} εκατόν θα αφήνεται στα είδη συσκευασίας.

3.- Μικτή συσκευασία

Ύλες της Κλάσεως 5.2 μπορούν να εγκλείον- 2562
 ται στο αυτό κδλον είτε με άλλες ύλες ή είδη της ADR
 είτε με άλλα εμπορεύματα. Ύλες της Ομάδας Γ δεν πρέπει
 να συμπεριλαμβάνονται στο αυτό κδλον με ύλες των Ομάδων
 Α, Β ή Ε.

4.- Ενδείξεις (Μαρκάρισμα) και ετικέτες κινδύνου επί 2563 των κδλων (βλέπε Προσθήκη Α.9)

(Ι) Κάθε κδλον περιέχον ύλες της Κλάσεως 5.2 θα
 φέρει ετικέτα σύμφωνα προς το μοντέλο Νο. 3.

Κδλα περιέχοντα ύλες των 46^ο(α), 47^ο(α) και
 49^ο(α) θα φέρουν επίσης ετικέτα σύμφωνα προς το μοντέλο
 Νο. Ι.

(2) Κόλα περιέχοντα εύθραυστα δοχεία αδρατα 2563
 από έξω θα φέρουν ετικέτα σύμφωνον προς το μοντέλο (Συνεχίζεται)
 Νο. 9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα
 επιπροσθέτως, με εξαίρεση τος σφραγισμένες αμπούλες,
 θα φέρουν ετικέτες σύμφωνες προς το μοντέλο Νο. 8.
 Κόλα περιέχοντα ύλες των 30°, 31°, 35°, 40° και 45°
 έως 55° θα φέρουν επίσης ετικέτες σύμφωνες με το μον-
 τέλο Νο. 8· οι ετικέτες αυτές θα τοποθετούνται ψηλά
 σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπον
 ισοδύναμον όταν χρησιμοποιούνται άλλα είδη συσκευασίας.

2564

Β.- Στοιχεία του εγγράφου μεταφοράς

Η περιγραφή των εμπορευμάτων στο έγγραφο μετα-2565
 φοράς πρέπει να συμφωνεί προς μίαν των ονομασιών των
υπογραμμισμένων στο περιθώριο 255I· πρέπει να υπογραμ-
μίζεται με κόκκινο και να ακολουθείται από τα στοιχεία
της κλάσεως, τον αριθμόν του είδους (μαζί με το, τυχόν,
γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ. 5.2, 8°(α),
ADR).

2566-

2569

Γ.- Κενά είδη συσκευασίας

(I) Δοχεία και δεξαμεμές της 99° πρέπει να κλει-2570
 νουν κατά τον αυτόν τρόπον και να είναι του αυτού βαθ-
 μού στεγανά ως εάν ήσαν πλήρη.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει
 να είναι: "Κενόν δοχείον, 5.2, 99° ADR (ή (RID))". Η περι-
 γραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο.

257I-
2599

ΚΛΑΣΗ 6.Ι ΤΟΞΙΚΕΣ ΥΛΕΣ

Ι.- Κατάλογος υλών

(Ι) Μεταξύ των υλών και ειδών των καλυπτομέ- 2600
νων υπό τον τίτλον της Κλάσεως 6.Ι, οι αναγραφόμενες
στο περιθώριο 260Ι ή οι καλυπτόμενες υπό του συλλογικού
τίτλου του ανωτέρω περιθωρίου υπόκεινται στις διατάξεις
του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι
ύλες και τα είδη αυτά που γίνονται δεκτά για μεταφορά
υπό ωρισμένους όρους θεωρούνται ως ύλες και είδη της ADR.

(2) Ύλες της Κλάσεως 6.Ι που πολυμεροποιούνται
ευκόλως δεν γίνονται δεκτές για μεταφορά εκτός εάν παρ-
θούν αι απαραίτητοι προφυλάξεις ώστε να αποφεύγεται ο
πολυμερισμός των διαρκούσης της μεταφοράς.

(3) Το παρακάτω αναφερόμενον σημείον-αναφλέξεως
θα καθορίζεται κατά τον περιγραφόμενον στη Προσθήκη Α.3
τρόπον.

Α.- Τοξικές ύλες με σημείον-αναφλέξεως κάτω των 21°C και
σημείον-βρασμού κάτω των 200°C 260Ι

Ι^ο Υδροκυανικό οξύ και εύφλεκτες πτητικές ύλες που έχουν
όμοιο τοξικό αποτέλεσμα, όπως:-

(α) υδροκυανικό οξύ περιέχον όχι περισσότερο του 3
βτα εκατόν ύδωρ (απορροφούμενο από αδρανή πορώ-
δη ύλη ή σε υγρή κατάσταση), υπό τον όρον ότι
το γέμισμα των δοχείων εγένετο προ χρονικού δια-
στήματος μικροτέρου του ενός έτους.

Σημείωση:- Υδροκυανικό οξύ μή πληρούν τους όρους
αυτούς δεν γίνεται δεκτό για μεταφορά.

(β) υδάτινα διαλύματα υδροκυανικού οξέος περιέχοντα 260Ι
 όχι περισσότερο του 206τοις εκατόν υδροκυανικό (Συνεχίζε-
 ται).
 οξύ (HCN).

Σημείωσις:- Διαλύματα υδροκυανικού οξέος περιέχοντα
 άνω του 206τοις εκατόν υδροκυανικού οξέος (HCN) δεν
 γίνονται δεκτά για μεταφορά.

2^ο Νιτρίλια (οργανικά κυανιούχα άλατα) (κυανίδια), όπως

(α) ακρυλονιτρίλιο

(β) αιετονιτρίλιο (μεθυλικό κυανίδιο)

(γ) ισοβουτυρονιτρίλιο (ισοβουτυρικό νιτρίλιο)

3^ο Άλλες νιτρογενείς οργανικές ύλες με τοξικότητα όχι
 μικροτέραν εκείνης της αιθυλενεϊμίνης περιεχομένης όχι
 άνω των 0.003 τοις εκατόν ολικό χλωρίου και των υδα-
 τίνων αυτού διαλυμάτων.

Σημείωσις:- ETHYLENEIMINE (Αιθυλενεϊμίνη) οποιασδήποτε
 άλλης φύσεως δεν γίνεται δεκτή για μεταφορά.

4^ο Αλογονούχοι οργανικοί ύλοι, όπως:

(α) αλλυλικό χλωρίδιο

(β) χλωροφορμικό μεθύλιο

(γ) χλωροφορμικό αιθύλιο

5^ο Μεταλλικά ανθρακύλια, όπως:-

(α) νικελιούχο ανθρακύλιο (NICKEL TETRACARBONYL)

(β) σιδηρούχο ανθρακύλιο (IRON PENTACARBONYL)

B.- Τοξικές ύλες με σημείο-αναφλέξεως 21^οC και άνω,
και μη-εύφλεκτοι τοξικές ύλες, έχουσai αμφότεραι
σημείο βρασμού κάτω των 200^οC

ΤΙ^ο Αζωτούχοι οργανικές ύλες, όπως:-

(α) 2-CYANOPROPAN-2-OI (ακετονική κυανυδρίνη)

(β) ανιλίνη

Ι2^ο Αλογονούχοι οργανικές ύλες, όπως:-

(α) 1-CHLORO-2,3-EPOXYPROPANE (επιχλωροϊδρίνη)

(β) γλυκολική χλωροϊδρίνη (2-CHLOROETHANOL)

(γ) τετραχλωριούχο ακετυλένιο (1,1,2,2-TETRACHLORO-ETHANE)

(δ) χλωροπικρίνη

Σημειώσεις:- Μίγματα χλωροπικρίνης με χλωριούχο μεθύλιο ή βρωμιούχο μεθύλιο είναι ύλες της Κλάσεως 2 εάν η πίεση ατμού του μίγματος στους 50°C υπερβαίνει τα 3 KG/CM² (βλέπε περιθώριο 220Ι 8^ο(α)).

(ε) χλωριούχο TRICHLOROMETHANESULPHENYL (τριχλωρομεθανιοθειοφαινόλιον ;)

(στ) 2,2-DICHLORODIETHYL ETHER, (χλωροαιθυλαιθέρας, 2-χλωροαιθυλαιθέρας)

Ι3^ο Οξυγονούχοι οργανικές ύλες, όπως:-

(α) πνεύμα αλλυλίου (αλλυλική αλκοόλη)

(β) θειϊκόν διμεθύλιον (DIMETHYL SULPHATE)

(γ) φαινόλη

Ι4^ο Αλκυλικά μόλυβδου, όπως τετρααιθυλικός μόλυβδος, τετραμεθυλικός μόλυβδος και μίγματα αλκυλίων μόλυβδου με αλογονούχες οργανικές ενώσεις, π.χ. αιθυλικόν ρευστόν.

Γ.- Τοξικές οργανικές ύλες με σημείο βρασμού 200°C και άνω

2Ι^ο Αζωτούχοι οργανικές ύλες, όπως:-

(α) 2-βρωμοφαινολακετονιτρίλιο (βρωμοβενζοϋλικόν κυανίδιον)

- (β) χλωριούχο φαινολανθρακυλαμίνιο (PHENYL CARBYLAMINE 2601 CHLORIDE) (Συνεχίζε-
ται),
- (γ) 2,4-DIISOCYANATOTOLUENE (διϊσοκυανατοτολουόλη),
- (δ) ισοθειακυανικό αλλύλιο (ALLYL ISOTHIOCYANATE)
- (ε) χλωροανιλίνες
- (στ) μονονιτροανιλίνες και δινιτροανιλίνες
- (ζ) ναφθυλαμίνες
- (η) 2,4-διαμινοτολουόλη
- (θ) δινιτροβενζόλια
- (ι) χλωρονιτροβενζόλια
- (κ) μονονιτροτολουόλια
- (λ) δινιτροτολουόλια
- (μ) νιτροξυλένια
- (ν) τολουϊδόνια
- (ξ) ξυλιδόνια

22^ο Οξυγονούχοι οργανικές ύλες μη καλυπτόμενες υπό των 21^ο και 23^ο, όπως:-

- (α) κρεζόλια
- (β) ξυλινόλια

23^ο Αλογονούχοι οργανικές ύλες μη καλυπτόμενες υπό της 21^ο, όπως:-

- (α) βρωμιούχο ξυλύλιο
- (β) χλωριούχο φαινακύλιο (PHENACYL CHLORIDE)
W-CHLORACETOPHENONE)
- (γ) βρωμιούχο φαινακύλιο (W-BROMOACETOPHENONE)
- (δ) 4-χλωροακετοφαινόνη (4-CHLOROACETOPHENONE)
(METHYL P-CHLOROPHENYLKETONE),
- (ε) συμμετρική διχλωροακετόνη

Δ.- Ανόργανες ύλες που μπορούν να βγάλουν τοξικά αέρια 260I
σε επαφή με οξέα (αλλά βλέπε υπό στοιχείον Ε για (Συνεχίζεται)
κράματα πυριτίου).

31^ο Ανόργανα κυανίδια:-

(α) κυανίδια και σύνθετα κυανίδια σε στερεά μορφή

(β) διαλύματα ανοργάνων κυανιδίων

(γ) παρασκευάσματα ανοργάνων κυανιδίων

Σημείωση:- Σιδηροκυανίδια και σιδηρικοκυανίδια δεν
υπόκεινται στις διατάξεις της ADR.

32^ο Τα παρακάτω αζίδια:-

(α) αζίδιο του νατρίου

(β) αζίδιο του βαρίου με όχι λιγώτερο του 50^ο της εκα-
τόν ύδωρ ή αλκοόλες, και υδάτινα διαλύματα αζιδίου
του βαρίου.

Σημείωση:- Το αζίδιο του βαρίου σε ξηρά κατάσταση ή
με λιγώτερο του 50^ο της εκατόν ύδωρ ή αλκοόλες δεν
γίνεται δεκτό για μεταφορά.

33^ο Φωσφίδιο ψευδαργύρου

Σημείωση:- Φωσφίδιο ψευδαργύρου ικανό για στιγμιαία
ανάφλεξη ή, υπό την επίδραση υγρασίας, να βγάλει το-
ξικά αέρια δεν γίνεται δεκτό για μεταφορά.

Ε.- Κράματα πυριτίου ικανά να βγάλουν τοξικά αέρια

41^ο Σιδηρο-πυρίτιο και μαγγανο-πυρίτιο με άνω του 30 τοις

(α) εκατόν και κάτω του 70^ο της εκατόν πυρίτιο.

(β) κράματα σιδηρο-πυριτίου με αλουμίνιο, μαγγάνιο, ασβέστιο

ή περισσότερα του ενός των μετάλλων αυτών, με ολικό

περιεχόμενο πυριτίου και στοιχείων διαφόρων του σι-

σίδηρου και μαγγανίου μεγαλύτερο του 306^{τοις} εκατόν 260I

αλλά λιγώτερο του 706^{τοις} εκατόν,

(συνεχίζε-
ται)

όλες οι ύλες της 4I^ο να έχουν αποθηκευθεί για χρονικό διάστημα όχι μικρότερο των τριών ημερών σε ξηρό τόπο ανοικτό στον αέρα.

Σημείωση:- I.- BRIQUETTES (πλινθάκια), σιδηροπυριτίου και μαγγανοπυριτίου, ανεξαρτήτως του περιεχομένου σε πυρίτιο, δεν υπόκεινται στις διατάξεις της ADR.

2.- Ύλες της 4I^ο δεν υπόκεινται στις διατάξεις της ADR εάν δεν κινδυνεύουν να βγάλουν επικίνδυνα αέρια υπό την επίδραση υγρασίας κατά την μεταφορά και ο αποστολέας βεβαιού τούτο στο έγγραφο μεταφοράς.

3.- Ύλες της 4I^ο που δεν αποθηκεύθηκαν για χρονικό διάστημα λιγώτερο των τριών ημερών σε ξηρό τόπον ανοικτόν στον αέρα δεν γίνονται δεκτές για μεταφορά.

ΣΤ. Άλλες τοξικές ανόργανες ύλες

51^ο Βηρύλλιον υπό μορφήν κόνεως· ενώσεις βηρυλλίου υπό μορφήν κόνεως.

52^ο Αρσενικά ενώσεις, όπως:-

(α) οξείδια αρσενικού.

(β) σουλφίδια αρσενικού

Σημείωσις:- Αναφορικώς με αρσενικές ύλες και παρασινευάσματα χρησιμοποιούμενα ως παρασιτοκτόνα, ωλέπε υπό στοιχείον 8I^ο (I), 82^ο (I) και 83^ο (I).

~~Ενώσεις~~ υδραργύρου, όπως

260I

Χλωριούχος υδράργυρος (διχλωριούχος υδράργυρος),

(Συνεχίζεται)

εκτός κιανάβαρι και υποχλωριούχου υδραργύρου (CALOMEL).

Σημειώσεις: - Αναφορικώς με υδραργυρικές ύλες και παρασκευάσματα χρησιμοποιούμενα ως παρασιτοκτόνα, βλέπε υπό στοιχείον 81^ο(στ), 82^ο(στ) και 83^ο(στ).

54^ο Ενώσεις θαλλίου

Σημειώσεις: - Αναφορικώς με ύλες και παρασκευάσματα περιέχοντα θάλλιον και χρησιμοποιούμενα ως παρασιτοκτόνα, βλέπε υπό στοιχείον 81^ο(η), 82^ο(η) και 83^ο(η).

Z.- Αλογονούχες οργανικές ύλες με επιβλαβές ή ερεθιστικό αποτέλεσμα

6I^ο Αλογονούχες οργανικές ύλες, πτητικές, εύφλεκτοι ή μή-εύφλεκτοι, με σημείον-αναφλέξεως 2I^οC και άνω και σημείον βρασμού κάτω των 200^οC, όπως:-

(α) αιθυλενικό διβρωμίδιο (συμμετρικό διβρωμοαιθάνιο)

(β) χλωροακετόνη

(γ) βρωμοακετόνη

(δ) I, 2-DIBROMOBUTAN-3-ONE

(ε) μεθυλικό χλωρο-οξικό άλας

(στ) αιθυλικό χλωρο-οξικό άλας

(ζ) μεθυλικό βρωμο-οξικό άλας

(η) αιθυλικό βρωμο-οξικό άλας

(θ) I, I-DICHLORO-I-NITROETHANE

(ι) χλωριούχο βενζύλιο (βενζυλοχλωρίδιο)

(κ) I-CHLORO-I-NITROPROPANE

62° Άλογονούχοι οργανικές ύλες χαμηλής πτητικότητας με 260I
σημείον βρασμού 200°C και άνω και μη καλυπτόμενες (Συνεχίζε-
ται)
υπό της 23°, όπως:-

(α) βενζυλο-ιωδίδιο (BENZYL IODIDE)

(β) τετραβρωμιούχο αιετυλένιο (I,I,2,2-TETRABROMOETHANE)

H.- Ανόργανες ύλες με επιβλαβές αποτέλεσμα

71° Ενώσεις βαρίου, όπως οξειδίο του βαρίου, υδροξείδιο
του βαρίου, σουλφίδιο του βαρίου και άλλα άλατα βα-
ρίου (εκτός θειϊκού βαρίου και τιτανικού βαρίου).

Σημειώσεις:- Χλωριδίο βάριο, υπερχλωριδίο, αζωτούχο, νι-
τρώδες, διοξειδίο του βαρίου, υπερμαγγανικό είναι ύ-
λες της Κλάσεως 5.I (βλέπε περιθώριο 250I υπό στοι-
χείον 4° (α) και (β), 7° (γ), 8° και 9° (β) και (γ)).

72° Ενώσεις μολύβδου, όπως οξειδία μολύβδου, άλατα μο-
λύβδου συμπεριλαμβανομένων του οξιού μολύβδου,
χρωστικών μολύβδου (π.χ. λευκός μόλυβδος και χρωμινός
μόλυβδος), εκτός τιτανικού μολύβδου και θειούχου μο-
λύβδου (γαληνίτου).

Σημειώσεις:- Χλωριδός μόλυβδος, υπερχλωριδός μόλυβδος
και αζωτούχος μόλυβδος είναι ύλες της Κλάσεως 5.I
(βλέπε περιθώριο 250I 4° (α) και (β) και 7° (γ)).

73° Υπολείμματα και απορρίματα περιέχοντα ενώσεις αντι-
μονίου ή μολύβδου ή αμφότερα, π.χ. τέφρα μολύβδου ή
αντιμονίου ή μολύβδου και αντιμονίου* ιλός μολύβδου
περιέχουσα λιγώτερο του 3^β εκατόν ελεύθερον οξύ.

Σημειώσεις:- Ιλός μολύβδου περιέχουσα 3 τοις εκατόν
και άνω ελεύθερο οξύ είναι ύλες της Κλάσεως 8 (βλέπε
περιθώριο 280I, I° (ε)).

74^ο Ενώσεις βαναδίου υπό μορφήν κόνεως, όπως πεντοξείδιο 260I βαναδίου και βαναδικά άλατα. (Συνεχίζεται)

Σημείωση:- Χλωρικό βανάδιο και υπερχλωρικό βανάδιο είναι ύλες της Κλάσεως 5.I (βλέπε περιθώριο 250I, 4^ο (α) και (β)).

75^ο Ενώσεις αντιμονίου, όπως οξείδια αντιμονίου και άλατα αντιμονίου, εκτός αντιμονίτου.

Σημείωση:- Χλωρικό αντιμόνιο και υπερχλωρικό αντιμόνιο είναι ύλες της Κλάσεως 5.I. (Βλέπε περιθώριο 250I, 4^ο (α) και (β)). Πενταχλωριούχο αντιμόνιο, τριχλωριούχο αντιμόνιο και πενταφθοριούχο αντιμόνιο είναι ύλες της Κλάσεως 8 (βλέπε περιθώριο 280I II^ο (α), I2^ο και I5^ο (β)).

Θ.- Ύλες και παρασκευάσματα χρησιμοποιούμενα ως παρασιτοκτόνα

8I^ο Ύλες και παρασκευάσματα παρουσιάζοντα κίνδυνον πολύ σοβαρής δηλητηρίασεως:-

(α) Οργανο-φωσφορώδεις ενώσεις, όπως:- AZINPHOS-ETHYL, AZINPHOSMETHYL, DEMETON-I/S, DIMEFOX, ENDOTHION, HETP, MECARBAM, METHYLPARATHION, MEVINPHOS, PARATHION, PHOSPHAMIDON, SULFOTEP και TEPP, και παρασκευάσματα περιέχοντα άνω του 106τα εκατόν των υλών αυτών.

(β) Αλογονούχοι οργανικές συνθέσεις (ενώσεις), όπως:- ALDRIN, DIELDRIN, HEPTACHLOR, και παρασκευάσματα περιέχοντα άνω του 106τα εκατόν των υλών αυτών.

(γ) Αζωτούχοι οργανικές ενώσεις, όπως:- 4,6-DINITROPENOL,

DINOSEB, DINITROPHENYL ACETATE, DINOTRO-O-CRESOL, 260I
και παρασκευάσματα περιέχοντα άνω του 50⁶τοις εκα- (Συνεχίζεται)
τόν των υλών αυτών.

(δ) Καρβαμιδικά και παράγωγα ουρίας, όπως: ANTU, ISOLAN,
και παρασκευάσματα περιέχοντα άνω του 25⁶τοις εκατόν
των υλών αυτών.

(ε) Αλκαλοΐδη, όπως: νικοτίνη, βρουκίνη, στρυχνίνη, ή
τα άλατα αυτών, και παρασκευάσματα περιέχοντα άνω
του 10⁶τοις εκατόν των υλών αυτών.

(στ) Οργανικές ενώσεις μετάλλων, όπως:-

1.- οργανικές υδραργυρικές ενώσεις, και παρασκευά-
σματα περιέχοντα άνω των 5⁶τοις εκατόν των υλών
αυτών.

2.- τριαλκύλναι και τριαρύλναι ενώσεις κασσιτέρου,
και παρασκευάσματα περιέχοντα άνω του 25⁶τοις
εκατόν των υλών αυτών.

(ζ) Άλλες οργανικές ενώσεις, όπως: CUMACHLOR, SODIUM
FLUORACETATE, FLUORACETAMIDE, PINDOME, WARFARIN,
και παρασκευάσματα περιέχοντα άνω του 5⁶τοις εκατόν
των υλών αυτών.

(η) Ανόργανες ενώσεις μετάλλων, όπως: ενώσεις θαλλίου,
και παρασκευάσματα άνω του 10⁶τοις εκατόν των υλών
αυτών.

(θ) Άλλες ανόργανες ενώσεις, όπως:- ενώσεις αρσενικού,
και παρασκευάσματα περιέχοντα άνω του 10⁶τοις
εκατόν των υλών αυτών.

82° Υλεις και παρασκευάσμα παρουσιάζοντα κίνδυνον σοβαράς
δηλητηριάσεως:-

(α) Οργανο-φωσφορώδεις ενώσεις, όπως:-

2601

(Συνεχίζεται)

- 1.- DEMETON-OS-METHYL, DIOXATION, ETHION,
FENTHION, PHENKAPTON, THIOMETON, και παρα-
σκευάσματα περιέχοντα άνω του 25 βτα εκατόν
των υλών αυτών.
- 2.- παρασκευάσματα AZINPHOS-ETHYL, AZINPHOS-METHYL,
DEMETON-OS, DIMEFOX, ENDOTHION, HETP, MECARBAM,
METHYLPARATHION, MEVINPHOS, PARATHION, PHOSPHAMIDON,
SULFOTEP και TEPP, περιέχοντα άνω του 2 βτα εκα-
τόν αλλά όχι άνω του 10 βτα εκατόν ενεργόν ύλην.

(β) Αλογονούχοι οργανικές εβώσεις, όπως:-

- 1.- TOXAPHENE, PENTACHLOROPHENOL, και παρασκευάσματα
περιέχοντα άνω του 20 βτα εκατόν των υλών αυτών.
- 2.- GAMMA-BHC (GAMMEXANE), DDT, και παρασκευάσματα πε-
ριέχοντα άνω του 50 βτα εκατόν των υλών αυτών.

(γ) Παρασκευάσματα αζωτούχων οργανικών ενώσεων, όπως:-

- 1.- παρασκευάσματα 4,6-DINITROPHENOL, DINOSEB, DINI-
TROPHENYL ACETATE και DINITRO-O-CRESOL, περιέχοντα
άνω του 10 βτα εκατόν αλλά όχι άνω του 50 βτα ε-
κατόν ενεργόν ύλην.
- 2.- παρασκευάσματα BINAPACRYL, περιέχοντα άνω του 50
βτα εκατόν ενεργόν ύλην.

(δ) Καρβαμιδικά και παράγωγα ουρίας, όπως:-

- 1.- DIMETHAN, URBAZID, και παρασκευάσματα περιέχοντα
άνω του 25 βτα εκατόν των υλών αυτών.
- 2.- παρασκευάσματα της ANTU και ISOLAN, περιέχοντα άνω
του 5 βτα εκατόν αλλά όχι άνω του 25 βτα εκατόν
ενεργόν ύλην.

- (ε) Παρασκευάσματα αλκαλοϊδών, όπως: παρασκευάσμα- 260I
τα νικοτίνης, βρουκίνης, και στρυχνίνης, ή (Συνεχίζεται)
τα άλατα αυτών, περιέχοντα άνω του 2.56τοι εκα-
τόν αλλά όχι άνω του 106τοι εκατόν ενεργόν ύλην.
- (στ) Παρασκευάσματα οργανικών ενώσεων μετάλλων, όπως:
- (I)) οργανικά παρασκευάσματα υδραργύρου, περιέ-
χοντα άνω του 16τοις εκατόν αλλά όχι άνω του
56τοις εκατόν ενεργόν ύλην.
- (2) παρασκευάσματα τριαλκυλικών και τριαρυλικών
ενώσεων κασσιτέρου, περιέχοντα άνω του 56τοις
εκατόν αλλά όχι άνω του 256τοις εκατόν ενεργόν
ύλην.
- (ζ) Παρασκευάσματα άλλων οργανικών ενώσεων, όπως:-
- I.- παρασκευάσματα CUMACHLOR, SODIUM FLUORACETATE,
PINDONE και WARFARIN, περιέχοντα άνω του 16τοις
εκατόν αλλά όχι άνω του 56τοις εκατόν ενεργόν
ύλην.
- 2.- παρασκευάσματα FLUORACETAMIDE, περιέχοντα όχι
άνω του 56τοις εκατόν ενεργόν ύλην.
- (η) Παρασκευάσματα ανοργάνων ενώσεων μετάλλων, όπως:-
- παρασκευάσματα ενώσεων θαλλίου, περιέχοντα άνω
του 2.56τοις εκατόν αλλά όχι άνω του 106τοις εκα-
τόν ενεργόν ύλην.
- (θ) Παρασκευάσματα άλλων ανοργάνων ενώσεων, όπως:-
- παρασκευάσματα ενώσεων αρσενικού, περιέχοντα όχι
άνω του 2.56τοις εκατόν αλλά όχι άνω του 106τοις
εκατόν ενεργόν ύλην.

83^ο Επιβλαβείς ύλες και παρασκευάσματα:-

260Ι

(α) Οργανο-φωσφορώδεις ενώσεις, όπως:-

(Συνεχίζεται)

- 1.- DIAZINON, DIMETHOATE, TRICHLORFON, MALATHION,
και παρασκευάσματα περιέχοντα άνω του 56τα
εκατόν των υλών αυτών.
- 2.- παρασκευάσματα DEMETON-O/S-METHYL, DIOXATHION,
ETHION, FENTHION, PHENKAPTON και THIOMETON,
περιέχοντα άνω του 2.56τα εκατόν αλλά όχι
άνω του 256τα εκατόν ενεργόν ύλην.
- 3.- παρασκευάσματα AZINPHOS-ETHYL, AZINPHOS-METHYL,
DEMETON-O/S, DIMEFOX, ENDOTHION, HETP, MECARBAM,
METHYLPARATHION, MEVINPHOS, PARATHION, PHOSPHA-
MIDON, SULFOTEP και TEPP, περιέχοντα όχι άνω
του 2.56τα εκατόν ενεργόν ύλην.

(β) Παρασκευάσματα αλογονούχων οργανικών ενώσεων, όπως:-

- 1.- παρασκευάσματα TOXAPHENE και PENTACHLOROPHENOL,
περιέχοντα άνω του 56τα εκατόν αλλά όχι άνω
του 206τα εκατόν ενεργόν ύλην.
- 2.- παρασκευάσματα GAMMA-BHC (GAMMEXANE) και DDT,
περιέχοντα άνω του 106τα εκατόν αλλά όχι άνω
του 506τα εκατόν ενεργόν ύλην.
- 3.- παρασκευάσματα ALDRIN, DIELDRIN και HEPTACHLOR,
περιέχοντα άνω του 2.56τα εκατόν αλλά όχι
άνω του 106τα εκατόν ενεργόν ύλην.

(γ) Παρασκευάσματα αζωτούχων οργανικών ενώσεων, όπως:

- 1.- παρασκευάσματα BINAPACRYL, περιέχοντα άνω του
106τα εκατόν αλλά όχι άνω του 506τα εκατόν
ενεργόν ύλην.

- 2.- παρασκευάσματα 4,6-DINITROPHENOL, DINOSEB, 260I
DINITROPHENYL ACETATE και DINITRO-O-CRESOL, (Συνεχίζε-
ται)
περιέχοντα άνω του 2.56τ~~α~~ εκατόν και όχι άνω
του 106τ~~α~~ εκατόν ενεργόν ύλην.

(δ) Παρασκευάσματα καρβαμιδιικών και παραγώγων ουρίας,
όπως:-

- 1.- παρασκευάσματα ANTU και ISOLAN, περιέχοντα άνω
του 16τ~~α~~ εκατόν αλλά όχι άνω του 56τ~~α~~ εκα-
τόν ενεργόν ύλην.
2.- παρασκευάσματα DIMETHAN και URBAZID, περιέχοντα
άνω του 2.56τ~~α~~ εκατόν αλλά όχι άνω του 256τ~~α~~
εκατόν ενεργόν ύλην.

(ε) Παρασκευάσματα αλκαλοϊδών, όπως:- παρασκευάσματα νι-
κοτίνης, βρουκίνης και στρυχνίνης, ή τα άλατα αυτών,
περιέχοντα όχι άνω του 2.56τ~~α~~ εκατόν ενεργόν ύλην.

(στ) Παρασκευάσματα οργανικών ενώσεων μετάλλων, όπως:-

- 1.- παρασκευάσματα οργανικών υδραργυρικών ενώσεων,
περιέχοντα όχι άνω του 16τ~~α~~ εκατόν ενεργόν ύλην.
2.- παρασκευάσματα τριαλκυλικών και τριαρυλικών ενώ-
σεων κασσιτέρου, περιέχοντα άνω του 16τ~~α~~ εκα-
τόν αλλά όχι άνω του 56τ~~α~~ εκατόν ενεργόν ύλην.

(ζ) Παρασκευάσματα άλλων οργανικών ενώσεων, όπως:-

παρασκευάσματα CUMACHLOR, SODIUM FLUORACETATE, PINDONE
και WARFARIN, περιέχοντα όχι άνω του 16τ~~α~~ εκατόν ενε-
ργόν ύλην.

(η) Παρασκευάσματα ανοργάνων ενώσεων μετάλλων, όπως:-

παρασκευάσματα ενώσεων θαλλίου, περιέχοντα όχι άνω
του 2.56τ~~α~~ εκατόν ενεργόν ύλην.

Παρασκευάσματα άλλων ανοργάνων ενώσεων, όπως:- 260Ι
παρασκευάσματα ενώσεων αρσενικού, περιέχοντα όχι (Συνεχίζεται)
 άνω του 2.56 τοις εκατόν ενεργόν ύλην.

84^ο (α) κδκκοι δημητριακών και σπόροι εμποτισμένοι με
 ένα ή περισσότερα παρασιτοκτόνα ή άλλες τοξικές
 ουσίες της Κλάσεως 6.Ι, χρησιμοποιούμενες ως παρα-
 σιτοκτόνα.

(β) ακαθάριστοι (DRESSED SEEDS)
σπόροι χρησιμοποιούμενοι με παρασιτοκτόνα ή με
 άλλες τοξικές ύλες της Κλάσεως 6.Ι, αλλά μη χρη-
 σιμοποιούμενοι ως παρασιτοκτόνα.

Ι.- Κενά είδη συσκευασίας:

91^ο Κενά είδη συσκευασίας, ακαθάριστα, κενές δεξαμενές,
 ακαθάριστες, και κενοί σάκκοι, ακαθάριστοι, που περι-
 είχαν ύλες των Ι^ο - 5^ο, ΙΙ^ο - Ι4^ο, 2Ι^ο - 23^ο, 3Ι^ο -
 33^ο, 4Ι^ο, 5Ι^ο - 54^ο, 8Ι^ο και 82^ο.

92^ο Κενά είδη συσκευασίας, ακαθάριστα, κενές δεξαμενές,
 ακαθάριστες, και κενοί σάκκοι, ακαθάριστοι, που περι-
 είχαν ύλες των 6Ι^ο, 62^ο, 7Ι^ο - 75^ο, 83^ο και 84^ο.

Σημειώσεις:- 91^ο και 92^ο. Κενά είδη συσκευασίας με
 υπολείμματα του προηγούμενου περιεχομένου των κολ-
 λημένα εξωτερικώς δεν γίνονται δεκτά για μεταφορά.

2.- Διατάξεις

Α.Θ Κόλα

2602

Ι.- Γενικοί όροι συσκευασίας

(Ι) Τα είδη συσκευασίας θα είναι έτσι κλεισμέ-
 να και διευθετημένα ώστε να αποφεύγεται οποιαδήποτε απώ-
 λεια του περιεχομένου. Για την ειδική διάταξη την αναφε-

ρομένην στις ύλες της 4I^ο βλέπε περιθώριο 2618.

2602

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και τα κλεισίματά των είναι κατασκευασμένα δεν πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενο ή να σχηματίζουν με αυτό επιβλαβείς ή επικινδύνους ενώσεις.

(Συνεχίζεται)

(3) Τα είδη συσκευασίας, περιλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη των ώστε να εμποδίζεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους συνήθεις όρους μεταφοράς. Ειδικότερα, οσάκις οι ύλες είναι σε υγρή κατάσταση ή σε διάλυμα, ή έχουν υγροποιηθεί με υγρό, τα δοχεία και τα κλεισίματά των πρέπει, εκτός εάν το άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης" προβλέπει άλλως, να είναι σε θέση να ανθίστανται σε οποιαδήποτε πύση ή οποία, λαμβανομένης επίσης υπόψη της υπέρξεως αέρος, μπορεί να εγερθεί εσωτερικώς των δοχείων κατά την συνήθη μεταφοράν. Για τον σκοπόν αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης υπόψη της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά το γέμισμα και της ανωτάτης μέσης θερμοκρασίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της μεταφοράς. Οι εσωτερικές συσκευασίες θα είναι θετικά ασφαλισμένες στις εξωτερικές συσκευασίες. Εκτός εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται στις εξωτερικές, είτε μία-μία είτε ομαδικά.

(4) Φιάλες και άλλα γυάλινα δοχεία πρέπει να 2602
είναι ελεύθερα από βλάβες ικανές να εξασθενήσουν την (Συνεχί-
αντοχήν τους ειδικώτερα, πρέπει να αίρονται καταλ- ζεται)
λήλως οι εσωτερικές τάσεις. Το πάχος των τοιχωμάτων
πρέπει να μην είναι λιγώτερο των 3 MM (χιλ.) προκει-
μένου περί δοχείων τα οποία, μαζί με το περιεχόμενό
τους, ζυγίζουν άνω των 35 KG, και πάχος όχι μικρότε-
ρο των 2 MM (χιλ.) προκειμένου περί άλλων δοχείων.

Η στεγανότητα του συστήματος κλεισίματος
πρέπει να εξασφαλίζεται με πρόσθετον μηχανισμόν
(πώμα, στέμμα (κορώνα), σφραγίδα, δέσιμο, κλπ.)
ικανόν να εμποδίζει οποιαδήποτε χαλάρωση του συστή-
ματος κλεισίματος διαρκούσης της μεταφοράς, εντός εάν το
αναφερόμενο κλεισίμον αποτελούν δύο πώματα, το ένα επά-
νω στο άλλο, το ένα των οποίων να είναι κοχλιωτό.

(5) Οσάμις δοχεία κατασκευασμένα από ύαλον,
πορσελάνη, είδη κεραμικής ή παρόμοιο υλικό προβλέ-
πονται ή επιτρέπονται, πρέπει να ασφαρίζονται με απο-
σβεστικό υλικό σε προστατευτικά είδη συσκευασίας. Το
αποσβεστικό υλικό θα ταιριάζει με την φύση του περιε-
χομένου· ειδικώτερα, θα είναι απορροφητικό όταν το
περιεχόμενο είναι υγρόν.

(6) Όταν παραδίδονται για μεταφορά, τα κόλα
δεν πρέπει να έχουν μολυνθεί εξωτερικώς από τοξικές
ώλες.

2.- Συσκευασία μιάς ύλης

2603

(I) Το υδροκυανικό οξύ και εύφλεκτοι πτητικοί

ύλες έχουσες όμοιο τοξικό αποτέλεσμα ($I^0(\alpha)$) θα συ- 2603
σκευάζονται:- (Συνεχίζε-
ται)

- (α) όταν απορροφούνται πλήρως από αδρανές πορώδες υλι-
κό: σε γερά κυτία από φύλλο-μετάλλου, με χωρητικό-
τητα όχι μεγαλύτερα των 7.5 λίτρων, εξ ολοκλήρου γε-
μισμένα με το πορώδες υλικό, το οποίο πρέπει να εί-
ναι τέτοιας φύσεως ώστε να μη στοιβάζεται κουνώντας
το ή σχηματίζει επικινδύνους χώρους, ακόμη και μετά
από παραταθείσαν χρήση ή υπό πρόσκρουσιν, σε θερμο-
κρασίες μέχρι 50°C . Τα κυτία πρέπει να είναι σε θέση
να ανθίστανται σε πίεση 6 KG/CM^2 και πρέπει, όταν
γεμισθούν στους 15°C , να εξακολουθούν να είναι στε-
γανά στους 50°C . Η ημερομηνία του γεμίσματος θα σταμ-
πάρεται στο κάλυμμα κάθε κυτίου. Τα κυτία θα τοποθε-
τούνται σε κιβώτια συσκευασίας με πλευρές πάχους όχι
μικροτέρου των 18 MM (χιλ.) κατά τοιούτον τρόπον
ώστε να μη μπορούν να έλθουν σε επαφή το ένα με τό
άλλο. Η ολική χωρητικότητα των κυτίων σε ένα κιβώτιο
συσκευασίας δεν πρέπει να υπερβαίνει τα 120 λίτρα και
το κόστος δεν πρέπει να ζυγίζει πάνω από 120 KG.
- (β) όταν υγρές αλλά χωρίς να έχουν απορροφηθεί από πορώ-
δες υλικό: σε δοχεία από ανθρακο-χάλωβα (CARBON-STEEL
RECEPTALS). Αυτά θα είναι σύμφωνα προς το πνεύμα των
διατάξεων που διέπουν τα τέτοια δοχεία της Κλάσεως 2,
περιθώρια 22I1, 22I2(I), 22I3, 22I5 και 22I8, μετά
των παρακάτω ανακλήσεων και ειδικών όρων:-

Η εσωτερική πίεση η οποία θα εφαρμοσθεί για τον

έλεγχου υδραυλικής πίεσεως πρέπει να είναι 100 KG/CM^2 . 2603

Ο έλεγχος της πίεσεως θα επαναλαμβάνεται (Συνεχίζεται)
κάθε δύο χρόνια, ότε και υπερβολικά λεπτολόγος επι-
θεώρησις του εσωτερικού των δοχείων θα διεξάγεται
είσης και θα καθορίζεται το βάρος του δοχείου.

Επιπροσθέτως των ενδείξεων των προβλεπομέ-
νων στο περιθώριο 2218(I)(α)-(γ) και (ε)-(ζ), τα δο-
χεία πρέπει να φέρουν την ημερομηνίαν (μήνα, έτος)
του ηρό τελευταίου γεμίσματος.

Το ανώτατο επιτρεπόμενο γέμισμα για τα δο-
χεία είναι 0.55 KG υγρό ανά λίτρο χωρητικότητας.

(γ) Αναφορικώς με τα στοιχεία του εγγράφου μεταφοράς,
βλέπε περιθώριο 2634(2).

(2) Υδάτινα διαλύματα του υδροκυανικού οξέος
($\text{H}^{\circ}(\beta)$) θα συσκευάζονται εντός φλογοστεγανών υαλίνων αμ-
πουλών περιεχουσών όχι περισσότερα των 50 γραμμ. , ή εντός
υαλίνων με αναστολέα φιαλών κλεισμένων κατά τρόπον ώστε
να είναι στεγανές και να περιέχουν όχι περισσότερα των
 250 γραμμαρίων . Οι αμπούλες και φιάλες θα ασφαρίζονται
με απορροφητικό αποσβεστικό υλικό σε κυτία από πλάκα-
κασσιτέρου μαλακής συγκολλήσεως ή σε προστατευτικά κιβώτια
με επένδυση πλακός-κασσιτέρου μαλακής συγκολλήσεως. Κόλον
αποτελούμενον από κυτίον εκ πλάκας-κασσιτέρου δεν πρέπει
να ζυγίζει περισσότερο των 15 KG ή να περιέχει περισσό-
τερο από 3 KG διάλυμα υδροκυανικού οξέος· κόλον αποτελού-
μενόν από κιβώτιον δεν πρέπει να ζυγίζει περισσότερο των
 75 KG .

(Ι) Οι ύλες της 2^ο θα συσκευάζονται:-

2604

(α) Ι.- σε κάνιστρα από φύλλο-χάλυβος με τοιχώματα πάχους όχι μικροτέρου του 1 MM (χιλ.) και χωρητικότητας μη υπερβαίνουσας τις 60 λίτρες, των ανοιγμάτων κλειομένων με δύο πώματα, το ένα τοποθετημένο πάνω από το άλλο, του ενός τούτων όντος κοχλιωτού. Τα από φύλλο-χάλυβος κάνιστρα πρέπει να έχουν συγκολλημένες κατά μήκος ραφές, δύο ενισχυτικές δοκίδες στα τοιχώματα, και προστατευτική στεφάνη κάτω από τον αρμόν του πυθμένας. Κάνιστρα χωρητικότητας 40 - 60 λιτρών πρέπει να έχουν τους πυθμένες τους συγκολλημένους και να διαθέτουν χειρολαβήν στο πλευρόν· ή

2.- σε εξ ολοκλήρου συγκολλημένα βαρέλια από χάλυβα με τοιχώματα πάχους όχι μικροτέρου των 1.25 MM (χιλ.), εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS) και ενισχυτικές δοκίδες, και τα ανοίγματά τους να κλείνουν με δύο πώματα, το ένα τοποθετούμενο πάνω στο άλλο, του ενός τούτων όντος κοχλιωτού.

(β) Το ακρυλονιτρίλιο μπορεί επίσης να συσκευάζεται:-

Ι.- σε φιάλες από αργύλιο (αλουμίνιο) χωρητικότητας μη υπερβαίνουσας τα 2 λίτρα, ασφαλισμένες με τριπολική γή ως αποσβεστικό υλικό εντός δοχείων από φύλλο-μετάλλου των οποίων τα πώματα (καλύμματα) θα κολλούν σταθερά με κατάλληλες κολλητικές λωρίδες. Τα από φύλλο-μετάλλου δοχεία θα τοποθετούνται, με

το υλικό γεμίσματος, σε ξύλινα κιβώτια. Το κόλον 2604 δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή (Συνεχίζεται))

2.- σε μη-επιστρεπτέα μεταλλικά βαρέλια (των καινούργιών συσκευασιών προοριζομένων όπως χρησιμοποιηθούν μόνον μία φορά)· τα βαρέλια αυτά, των οποίων τα τοιχώματα δεν θα έχουν πάχος μικρότερον των 1.2 MM (χιλ.), θα είναι εφοδιασμένα με κοχλιωτό πώμα διαθέτον παρέμβασμα. Το πώμα θα ευρίσκεται επί του ενός των άκρων και θα προστατεύεται από την στεφάνην του βαρελιού. Τα βαρέλια μπορεί να έχουν κορμόν με έχοντα υποδοχήν άκρα και αρμούς ενισχυμένους με ούγια· εάν δεν διαθέτουν κυλιόμενες στεφάνες θα εφοδιασθούν με ενισχυτικές δοκίδες. Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 200 KG. Η μεταφορά μη-επιστρεπτέων βαρελιών θα λαμβάνει χώραν μόνον ως πλήρες φορτίο πάνω σε ανοικτά οχήματα· ή

3.- σε μη-επιστρεπτέα βαρέλια από χάλυβα (των καινούργιών συσκευασιών προοριζομένων να χρησιμοποιηθούν μόνον μία φορά) έχοντα πλευρές κατασκευασμένες από φύλλο μετάλλου πάχους 1.24 MM (χιλ.), άκρα κατασκευασμένα από φύλλο μετάλλου πάχους 1.5 MM (χιλ.), και απόβαρο βάρους 22.5 KG· τα βαρέλια πρέπει να είναι εφοδιασμένα με ενισχυτικές δοκίδες. Η ραφή του κορμού θα συγκολλείται και τα άκρα θα έχουν διπλή ραφή δια συγκολλήσεως με τον κορμόν, με εσωτερικήν ενίσχυσιν πολυαιθυλενίου. Δύο μονάδες κλεισίματος κοχλιωτού πώματος, της μιάς 50.8 MM (χιλ.) (2" : ιντσών)

και μιάς 19.05 MM (χιλ.) ($3/4$ " : ιντσών), θα διπλο- 2604
 συρραφούν δια συγκολλήσεως σε ένα από τα άκρα, με (Συνεχίζεται)
 εσωτερική ενίσχυσιν συνθετικού ελαστικού. Κυάθια
 από λεπτό φύλλο-μετάλλου θα τοποθετούνται πάνω από
 τις μονάδες κλεισίματος.

(γ) το ακετονιτρίλιο μπορεί επίσης να συσκευασθεί σε δο-
 χεία από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια
 υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητος
 μη-υπερβαινούσης το I λίτρο, με τα ανοίγματα κλεισμέ-
 να με δύο πώματα, τοποθετημένα το ένα πάνω στο άλλο,
 το ένα εκ των δύο κοχλιωτό. Τα δοχεία αυτά θα ασφαλί-
 ζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κι-
 βώτιο ή κάποια άλλη εξωτερική συσκευασία καταλλήλου
 αντοχής. Ένα τέτοιο κέλον δεν πρέπει να ζυγίζει πάνω
 από 75 KG. Κόλα ζυγίζοντα πάνω από 30 KG, πλην των
 αποστελομένων ως πλήρες φορτίο, θα είναι εφοδιασμένα
 με χειρολαβή.

(2) Δοχεία περιέχοντα ακρυλονιτρίλιο ή ακε-
 τονιτρίλιο δεν πρέπει να γεμίζονται πέραν του 93 τοις εκα-
 τών, και δοχεία περιέχοντα ισοβουτυρονιτρίλιο όχι πέραν
 του 92 τοις εκατόν, της χωρητικότητός των.

(I) Υλεις της 3^ο θα συσκευάζονται σε δοχεία 2605
 (χαλύβας)
 κατασκευασμένα από φύλλο-μετάλλου/επαρκούς πάχους, τα οποία
 θα κλείνουν με κοχλιωτό πώμα στεγανόν τόσον για υγρά όσον
 και για ατμό δι' ενός καταλλήλου παρεμβάσματος. Τα δοχεία
 πρέπει να είναι σε θέση να αντέχουν σε εσωτερική πίεση 3 KG/
 CM². Το κάθε δοχείο θα ασφαρίζεται με απορροφητικό αποσβεστι-
 κό υλικό σε γερή και στεγανή προστατευτική μεταλλική συ-

συσκευασία. σε γερή και στεγανή προστατευτική μεταλλική 2605
 συσκευασία. Η προστατευτική συσκευασία θα είναι ερμη- (Συνεχίζεται)
 τικά κλεισμένη και το κλεισίματό της θα ασφαλίζεται κατά
 οποιουδήποτε εξ απροσεξίας ανοίγματος. Ο βαθμός του γε-
 μίσματος δεν θα υπερβαίνει τα 0.67 KG ανά λίτρο χωρητι-
 κότητας του δοχείου.

(2) Το κέλον δεν πρέπει να ζυγίζει περισσότερο
 από 75 KG. Κάλα ζυγίζοντα περισσότερο από 30 KG, πλήν
 των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδια-
 σμένα με χειρολαβήν.

Υλεις της 4^ο θα συσκευάζονται:-

2606

- (α) σε δοχεία από ύαλο, πορσελάνη, είδη κεραμεικής ή
 παρόμοια υλικά, ή από κατάλληλο πλαστική ύλη, χω-
 ρητικότητας μη υπερβαίνουσας τα 5 λίτρα, με τα α-
 νοίγματα κλεισμένα δια δύο πωμάτων, το ένα τοπο-
 θετημένο επάνω στο άλλο, του ενός τούτων όντος κο-
 χλιωτού. Τα δοχεία αυτά θα ασφαλίζονται με απορρο-
 φητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή κάποια
 άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα
 δοχεία δεν θα γεμίζονται πέραν του 93% εκατόν
 της χωρητικότητός των. Ένα τέτοιο κέλον δεν πρέπει
 να ζυγίζει περισσότερο από 75 KG. Κάλα ζυγίζοντα πε-
 ρισσότερο από 30 KG, πλήν εκείνων που αποστέλονται
 ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρο-
 λαβήν, ή
- (β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι
 περισσότερα των 100 γραμμ., οι οποίες θα ασφαλίζον-

ται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κι- 2606
βώτιο ή κάποια άλλη εξωτερική συσκευασία επαρ- (Συνεχίζεται)
κούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζον-
ται πέραν του 936^{τα} εκατόν της χωρητικότητάς των.
Ένα τέτοιο κδλον δεν πρέπει να ζυγίζει περισσότερο
από 75 KG. Κδλα ζυγίζοντα περισσότερο από 30 KG,
πλήν των αποστελομένων ως πλήρες φορτίον, θα είναι
εφοδιασμένα με χειρολαβήν· ή

(γ) σε μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλλη-
λογ επένδυσιν, των δοχείων εχόντων χωρητικότητα μη
υπερβαίνουσάν τις 15 λίτρες και ανοίγματα κλειδόμενα
με δύο πώματα, το ένα τοποθετημένο πάνω στο άλλο,
του ενός τούτων όντος κοχλιωτού. Τα δοχεία αυτά θα
ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύ-
λινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία
επαρκούς αντοχής. Τα δοχεία πρέπει να μη γεμίζονται
πέραν του 936^{τα} εκατόν της χωρητικότητός των. Ένα
τέτοιο κδλον δεν πρέι να ζυγίζει περισσότερο από
100 KG· ή

(δ) σε συγκολλημένα μεταλλικά βαρέλια έχοντα, εάν χρει-
ασθεί, κατάλληλον επένδυσιν, των βαρελίων εχόντων ανοίγ-
ματα κλειδόμενα δια δύο πωμάτων, το ένα τοποθετημένο
επάνω στο άλλο, του ενός τούτων όντος κοχλιωτού. Τα
βαρέλια δεν πρέπει να γεμίζονται πέραν του 936^{τα} ε-
κατόν της χωρητικότητός των. Εάν μαζί με το περιεχόμε-
νόν τους, ζυγίζουν πάνω από 275 KG, θα είναι εφοδια-
σμένα με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(ε) σε δοχεία κατασκευασμένα από γερό μαύρο φύλλο-σιδήρου ή πλάκα κασσιτέρου και ερμητικώς κλεισμένα. Το δοχείο από πλάκα-κασσιτέρου δεν πρέπει μαζί με το περιεχόμενό του να ζυγίζει πάνω από 6KG. Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό, είτε ένα-ένα είτε ομαδικά, σε ξύλινο κιβώτιο συσκευασίας. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

2606

(συνεχίζεται)

(Ι) Οι ύλες της 5^ο θα συσκευάζονται σε μεταλλικά δοχεία. Τα δοχεία πρέπει να είναι εφοδιασμένα με πλήρως στεγανούς μηχανισμούς κλεισίματος, οι οποίοι θα ασφαρίζονται για μηχανική βλάβη με προστατευτικά κυάθια (πώματα). Τα εκ χάλυβος δοχεία πρέπει να έχουν τοιχώματα πάχους όχι μικρότερου των 3 MM (χιλ.) και δοχεία κατασκευασμένα από άλλα υλικά πρέπει να έχουν τοιχώματα πάχους ικανού να εξασφαλίζει ισοδύναμον μηχανικήν αντοχήν. Το κόλον δεν πρέπει να περιέχει περισσότερο των 25 KG υγρόν. Το επιτρεπόμενον ανώτατον γέμισμα θα είναι 1 KG υγρού ανά λίτρον χωρητικότητος.

2607

(2) Τα δοχεία θα ελέγχονται προτού τεθούν σε υπηρεσία για πρώτη φορά. Η εφαρμοστέα πίεση ελέγχου για τον έλεγχο της υδραυλικής πίεσεως θα είναι όχι μικρότερα των 10 KG/CM². ~~Η πιέση ελέγχου~~ Ο έλεγχος της πίεσεως θα επαναλαμβάνεται κάθε πέντε χρόνια και θα περιλαμβάνει πολύ λεπτολόγο επιθεώρηση του εσωτερικού του δοχείου καί έλεγχον του βάρους του αποβάρου. Τα μεταλλικά δοχεία θα φέρουν τα παρακάτω στοιχεία με γράμματα ευανάγνωστα και ανεξίτηλα.

(α) την πλήρη ονομασία του προϊόντος (οι ονομασίες 2607
αμφοτέρων των υλών μπορούν επίσης να εικονίζον- (Συνεχίζε-
ται η μία πλάϊ στην άλλη). ται.)

(β) το όνομα του ιδιοκτήτη του δοχείου.

(γ) το απόβαρον του δοχείου, συμπεριλαμβανομένων τοι-
ούτων εξαρτημάτων ως βαλβίδων, προστατευτικών
κυαθίων (πωμάτων), κλπ.

(δ) την ημερομηνία (μήνα, έτος) του ελέγχου αποδοχής
και των μεταγενεστέρων ελέγχων, και την σφραγίδα
του εμπειρογνώμονος.

(ε) το ανώτατο επιτρεπτό γέμισμα ανά δοχείο σε κιλά (KG).

(στ) την εσωτερική πίεση (πίεση δοκιμής/ελέγχου) την
εφαρμοστέα για τον έλεγχο της υδραυλικής πίεσεως.

(I) Οι Ύλεις της II^ο(α) θα συσκευάζονται: 2608

(α) σε κάνιστρα από φύλλο-μετάλλου με τοιχώματα πάχους
όχι μικρότερου του 1 MM (χιλ.) και χωρητικότητας μη
υπερβαίνουσας τις 60 λίτρες, των ανοιγμάτων κλειο-
μένων δια δύο πωμάτων, του ενός επάνω στο άλλο, και
του ενός αυτών κοχλιωτού. Τα από φύλλο-χάλυβα κάνι-
στρα πρέπει να έχουν συγκολλημένες κατά μήκος ραφές,
δύο ενισχυτικές δοκίδες στα τοιχώματα, και προστα-
τευτική στεφάνη κάτω του φέροντος υποδοχήν αρμού
στον πυθμένα. Τα κάνιστρα με χωρητικότητα 40 - 60
λιτρών πρέπει να έχουν τους πυθμένες αυτών συγκολλη-
μένους και πρέπει να φέρουν χειρολαβές στις πλευρές
αυτών ή

(β) σε εξ ολοκλήρου συγκολλημένα βαρέλια εκ χάλυβα με

τοιχώματα πάχους όχι μικρότερου των 1.25 MM (χιλ.), 2608
εφοδιασμένα με κυλινδρικές στεφάνες (ROLLING HOOPS) (Συνεχί-
ζεται)
και ενισχυτικές δοκίδες και έχοντα τα ανοίγματα κλει-
σμένα δια δύο πωμάτων, τοποθετημένων το ένα επάνω στο
άλλο, του ενός τούτων όντος κοχλιωτού. Τα δοχεία αυτά
θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε
ξύλινο κιβώτιο ή σε κάποιες άλλες εξωτερικές συσκευα-
σίες επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζον-
ται πέραν του 956του εκατόν της χωρητικότητός των.

Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από
75 KG. Κόλα ζυγίζοντα άνω των 30 KG, πλην των αποστέλ-
λομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χει-
ρολαβήν ή

- (β) σε μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλον
επένδυσιν, των δοχείων εχόντων χωρητικότητα μη υπερβαί-
νουσαν τις 15 λίτρες και εχόντων δύο ανοίγματα κλειδ-
μένα δια δύο πωμάτων, το ένα επάνω στο άλλο, και το ένα
τούτων κοχλιωτό. Τα δοχεία αυτά θα ασφαρίζονται με απορ-
ροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια
άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία
δεν πρέπει να γεμίζονται πέραν του 956του εκατόν της
χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγί-
ζει περισσότερο από 100 KG ή

- (γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν
χρειασθεί, κατάλληλον επένδυσιν. Τα βαρέλια δεν πρέπει
να γεμίζονται πέραν του 956του εκατόν της χωρητικότη-
τάς των. Εάν ζυγίζουν, μαζί με το περιεχόμενόν των,

πάνω από 275 KG, θα είναι εφοδιασμένα με κυλινδρικές στεφάνες· ή
(Συνεχίζεται)

2608

- (δ) σε ερμητικώς-κλεισμένους ξύλινο κάδους (βαρέλια) επαρκούς αντοχής, με κατάλληλων επένδυσιν. Ένα τέτοιο κάδον δεν πρέπει να ζυγίζει περισσότερο από 250 KG.

(I) Οι ύλες της II^ο(α) και (β) θα συσκευάζον-

2609

ται:-

- (α) Όχι περισσότερες των 5 λιτρών ανά φιάλην, σε γυάλινες φιάλες τοποθετημένες χωριστά, με απορροφητικό υλικό, σε γερό από πλάκα-κασσιτέρου δοχείο· στη περίπτωση του I-CHLORO-2,3-EPOXYPROPANE, μαύρο φύλλο-σιδήρου μπορεί να χρησιμοποιηθεί αντί πλάκας-κασσιτέρου. Τα δοχεία θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο συσκευασίας. Το κάδον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή
- (β) Όχι περισσότερες των 5 λιτρών ανά δοχείον, σε δοχεία, κατασκευασμένα από γερή πλάκα-κασσιτέρου, με στεγανά κλεισίματα· στη περίπτωση του I-CHLORO-2,3-EPOXYPROPANE μαύρο φύλλο-σιδήρου μπορεί να χρησιμοποιηθεί αντί της πλάκας-κασσιτέρου. Τα δοχεία θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό ή αποσβεστικό υλικό από ξυλ-έριον (WOOD-WOOL) σε ξύλινο κιβώτιο συσκευασίας. Το κάδον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή
- (γ) σε συγκολλημένα βαρέλια από χάλυβα με ανοίγματα

κλειδόμενα με δύο πώματα, το ένα επάνω στο άλλο, και το ένα τούτων κοχλιωτό, και τα βαρέλια θα είναι εφοδιασμένα με κυλιδόμενες στεφάνες. Στη περίπτωση της GLYCOL CHLOROHYDRIN (γλυκόλης χλωροϋδρίνης) (2-CHLOROETHANOL) επιτρέπεται επίσης να χρησιμοποιούνται συγκολλημένα κάνιστρα με τα ανοίγματά των κλειδόμενα με δύο πώματα, το ένα επάνω στο άλλο, και το ένα από αυτά κοχλιωτό, και τα κάνιστρα θα είναι εφοδιασμένα με χειρολαβές, και θα κατασκευάζονται από φύλλο-χάλυβος πάχους 1 MM (χιλ.) γαλβανισμένο σε αμφότερες τις πλευρές, και θα έχουν χωρητικότητα μη υπερβαίνουσας τα 60 λίτρα.

2609
(Συνεχίζεται)

- (δ) τα δοχεία δεν πρέπει να γεμίζονται πέραν του 956τμ εκατόν της χωρητικότητός των.

(2) Οι ύλες της I2^ο(γ) θα συσκευάζονται:-

- (α) σε ερμητικώς-κλεισμένα δοχεία κατασκευαζόμενα από ύαλο, πορσελάνην, είδη κεραμεικής, ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαινούσης τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 956τμ εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβήν ή

(β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες 2609
 όχι άνω των 100 γραμμ., οι οποίες θα ασφαρίζονται (Συνεχίζε-
 με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώ-
 τιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς
 αντοχής. ~~Εκτός από~~ Οι αμπούλες δεν πρέπει να γεμίζ-
 ζονται πέραν του 956^{τοι} εκατόν της χωρητικότητάς
 των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισ-
 σότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από
 30 KG. πλήν των αποστελλομένων ως πλήρες φορτίον,
 θα είναι εφοδιασμένα με χειρολαβήν· ή

(γ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από
 κατάλληλο μέταλλο, συγκολλημένα ή συγκολλημένα με
 σκληρή-συγκόλληση, έχοντα χωρητικότητα μη υπερβαί-
 νουσα τα 60 λίτρα, και εφοδιασμένα με χειρολαβήν.
 Τα κάνιστρα δεν πρέπει να γεμίζονται πέραν του 95
 6^{τοι} εκατόν της χωρητικότητάς των, ή

(δ) σε ερμητικώς-κλεισμένα μεταλλικά βαρέλια έχοντα, εάν
 χρειασθεί, κατάλληλον εσωτερικήν επένδυσιν. Τα βα-
 ρέλια δεν πρέπει να γεμίζονται πέραν του 956^{τοι} ε-
 κατόν της χωρητικότητός των. Εάν ζυγίζουν, μαζί με
 το περιεχόμενό τους, περισσότερο των 275 KG, θα είναι
 εφοδιασμένα με κυλινδρικές στεφάνες (ROLLING HOOPS)).

(3) Οι ύλες της 12^ο (δ) και (ε) θα συσκευάζονται:-

(α) σε ερμητικώς-κλεισμένα δοχεία κατασκευασμένα από
 ύalon, πορσελάνην, είδη κεραμεικής ή παρόμοια υλικά,
 ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερ-
 βαίνουσας τα 5 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται

με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο 2609
ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αν- (Συνεχίζεται)
τοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν
του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέ-
τοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από
75 KG. Κόλα ζυγίζοντα άνω των 30 KG πλην των απο-
στελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα
με χειρολαβήν.

(β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι
περισσότερα των 100 γραμμ., οι οποίες θα ασφαλίζον-
ται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κι-
βώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς
αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν
του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο
κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.
Κόλα ζυγίζοντα περισσότερο από 30 KG, πλην των απο-
στελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα
με χειρολαβήν ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν
χρειασθεί, κατάλληλον επένδυσιν, και έχοντα χωρητι-
κότητα μη υπερβαίνουσα τα 15 λίτρα. Τα δοχεία αυτά
θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύ-
λινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία
επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζον-
ται πέραν του 95 τοις εκατόν της χωρητικότητάς των.
Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο
από 100 KG ή

(δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, 2609
 εάν χρειασθεί, κατάλληλον επένδυσιν. Τα βαρέλια (Συνεχίζεται)
 δεν πρέπει να γεμίζονται πέραν του 956^{του} εκατόν
 της χωρητικότητός των. Εάν ζυγίζουν, μαζί με το
 περιεχόμενόν τους, περισσότερο από 375 KG, θα εί-
 ναι εφοδιασμένα με κυλινδρικές στεφάνες (ROLLING
 HOOPS).

(4) Οι ύλες της I2^ο(ε) μπορούν επίσης να
 συσκευάζονται σε ερμητικώς κλεισμένα κάνιστρα κατα-
 σκευασμένα από κατάλληλο μέταλλο, συγκολλημένα με μα-
 λακή ή σκληρή συγκόλληση, έχοντα χωρητικότητα μη υπερ-
 βαίνουσα τις 60 λίτρες, και εφοδιασμένα με χειρολαβήν.
 Τα κάνιστρα δεν πρέπει να γεμίζονται πέραν του 956^{του}
 εκατόν της χωρητικότητός των.

(5) Οι ύλες της I2^ο(στ) θα συσκευάζονται:-

- (α) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα,
 εάν χρειασθεί, κατάλληλον επένδυσιν, και έχοντα χω-
 ρητικότητα μη υπερβαίνουσαν τις 15 λίτρες. Τα δο-
 χεία αυτά θα ασφαρίζονται με απορροφητικό αποσβε-
 στικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξω-
 τερική συσκευασία επαρκούς αντοχής. Τα δοχεία/πρέπει
 να γεμίζονται πέραν του 936^{του} εκατόν της ^{δεν}απώλειαν
 χωρητικότητός των. Ένα τέτοιο κδλον δεν πρέπει να
 ζυγίζει περισσότερο από 100 KG· ή
- (β) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από
 κατάλληλο μέταλλο, συγκολλημένα με μαλακή ή σκληρή
 συγκόλληση, έχοντα χωρητικότητα μη υπερβαίνουσα

τις 60 λίτρες, και εφοδιασμένα με χειρολαβήν. Τα 2609
 κάνιστρα δεν πρέπει να γεμίζονται πέραν του 936 τοις (Συνεχί-
 εκατόν της χωρητικότητάς των· ή ζεται)

- (γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα,
 εάν χρειασθεί, κατάλληλον επένδυσιν. Τα βαρέλια
 δεν πρέπει να γεμίζονται πέραν του 936 τοις εκατόν
 της χωρητικότητάς των. Εάν ζυγίζουν, μαζί με το πε-
 ριεχόμενό τους, περισσότερο των 275 KG, θα είναι εφο-
 διασμένα με κυλιδόμενες στεφάνες (ROLLING HOOPS).

(I) Υλεις της Ι3^ο (α) και (β) θα συσκευάζονται:- 2610

- (α) σε φλογο-στεγανές γυάλινες αμπούλες ή σε ερμητικώς
 κλεισμένες γυάλινες φιάλες· για τον σκοπόν αυτόν
 μπορεί να χρησιμοποιηθεί αναστολεύς (STOPPER) κατα-
 σκευασμένος από φελλόν επενδυμένον με κηρόν παραφίνης,
 ή γυάλινος (GROUND-GLASS) αναστολεύς. Οι αμπούλες και
 οι φιάλες δεν πρέπει να γεμίζονται πέραν του 93 τοις
 εκατόν της χωρητικότητάς των και δεν πρέπει να ζυγί-
 ζουν, μαζί με το περιεχόμενό τους, περισσότερο από
 3 KG. Θα τυλίγονται σε κυματοειδή ινοδανίδα και ασφα-
 λίζονται με κατάλληλο ποσότητα αδρανούς και απορροφη-
 τικού αποσβεστικού υλικού (τριπολική γή ή παρεμφερές
 υλικό) σε μαλακώς συγκολληθέντα κυτία από πλάκα κασ-
 σιτέρου ή σε ξύλινα κιβώτια επενδυμένα με επένδυσιν
 πλάκας-κασσιτέρου/δια μαλακής συγκολλήσεως. Κόλον
 αποτελούμενον από κυτίον εκ πλάκας-κασσιτέρου δεν
 πρέπει να ζυγίζει περισσότερο από 15 KG και κόλον
 αποτελούμενον από ξύλινο κιβώτιο όχι περισσότερο

από 75 KG· ή

2610

- (β) σε συγκολληθέντα ή άνευ-ραφών δοχεία από φύλλο-με- (Συνεχί-
 τάλλου ή σε δοχεία κατασκευασμένα από κατάλληλο πλα- ζεται)
 στική ύλη. Τα δοχεία αυτά θα είναι ερμητικώς κλεισμέ-
 να· δεν πρέπει να γεμίζονται πέραν του 936τοι εκα-
 τόν της χωρητικότητός των και δεν πρέπει να ζυγίζουν,
 μαζί με το περιεχόμενό τους, περισσότερο των 50 KG·
 εάν είναι κατασκευασμένα από λεπτό φύλλο-μετάλλου,
 π.χ. πλάκα-κασσιτέρου, δεν πρέπει να ζυγίζουν, μαζί με
 το περιεχόμενό τους, περισσότερο από 6 KG. Τα από φύλλο
 μετάλλου ή από πλαστική ύλη δοχεία θα ασφαρίζονται
 με κατάλληλο ποσότητα αδρανούς και απορροφητικού απο-
 σβεστικού υλικού (π.χ. τριπολική γή ή παρόμοιο υλικό)
 σε προστατευτικά δοχεία εφοδιασμένα με χειρολαβή. Ένα
 τέτοιο κέλυφος δεν πρέπει να ζυγίζει περισσότερο από
 100 KG· ή

- (γ) σε ερμητικώς κλεισμένα συγκολλημένα ή άνευ ραφών μεταλ-
 λικά βαρέλια εφοδιασμένα με ταινίες στα άκρα και κυ-
 λιδόμενες στεφάνες (ROLLING HOOPS) και μη γεμιζόμενα
 πέραν του 936τοι εκατόν της χωρητικότητάς των.

(2) Οι ύλες της I3^ο(γ) θα συσκευάζονται:-

- (α) σε ερμητικώς-κλεισμένα δοχεία κατασκευασμένα από ύαλο,
 πορσελάνη, είδη κεραμεικής ή παρεμφερή υλικά, ή από
 κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέ-
 χουν περισσότερα των 5 KG το καθένα. Δοχεία, κατα-
 σκευασμένα από πλαστική ύλη μπορούν, εάν αποστέλονται
 ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG της ύλης.

Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό υλικό σε ξύλινο δοχείο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

2610

(Συνεχίζεται)

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλη επένδυση και τα οποία δεν πρέπει να περιέχουν περισσότερα των 15 KG το καθένα. Τα δοχεία αυτά θα ασφαρίζονται με αποσνεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλη επένδυση. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες· ή

(δ) σε ερμητικώς κλεισμένους ξυλίνους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG· ή

(ε) σε πακίους κατασκευασμένους από κατάλληλη πλαστική ύλη, έτσι κλεισμένους ώστε να είναι αδιασπαστικοί, και τοποθετούμενους σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

ΟΙ ύλες της Ι4^ο θα συσκευάζονται:-

2611

(α) σε συγκολλημένα από χάλυβα βαρέλια με ανοίγματα

κλειόμενα με δύο πώματα, το ένα επάνω στο άλλο, 26II
το ένα από τα πώματα κοχλιωτό, και τα βαρέλια εφο- (Συνεχίζεται)
διασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS). Τα
βαρέλια δεν πρέπει να γεμίζονται πέραν του 95 έτος
εκατόν της χωρητικότητάς των ή

- (β) σε δοχεία κατασκευασμένα από γερό μαύρο φύλλο σι-
δήρου ή πλάκα-κασσιτέρου και ερμητικώς κλεισμένα.
Δοχείο από φύλλο-κασσιτέρου δεν πρέπει, μαζί με το
περιεχόμενό του, να ζυγίζει περισσότερο από 6 KG.
Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό απο-
σβεστικό υλικό σε ξύλινο κιβώτιο συσκευασίας. Ένα
τέτοιο κέλον δεν πρέπει να ζυγίζει περισσότερο από
75 KG.

(I) Υλεις των 2I^ο (α), (β), (γ) και (δ), και 26I2
υγρά της 2I^ο (ε) και (στ), θα συσκευάζονται:-

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύα-
λο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή
από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερ-
βαίνουσας τα 5 λίτρα. Τα δοχεία αυτά θα ασφαρίζον-
ται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κι-
βώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρ-
κούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται
πέραν του 95 έτος εκατόν της χωρητικότητάς των.
Ένα τέτοιο κέλον δεν πρέπει να ζυγίζει περισσότερο
από 75 KG. Κέλα ζυγίζοντα περισσότερο από 30 KG,
πλην των αποστελλομένων ως πλήρες φορτίον, θα είναι
εφοδιασμένα με χειρολαβήν ή

- Β)** σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες 2612
όχι περισσότερα από 100 γραμμ. οι οποίες θα ασφα-
λίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλι-
νο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία
επαρκούς αντοχής. Οι αμπούλες δεν πρέπει να γεμί-
ζονται πέραν του 95% εκατόν της χωρητικότητάς
των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισ-
σότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από
30 KG, πλην εκείνων που αποστέλλονται ως πλήρες
φορτίο, θα είναι εφοδιασμένα με χειρολαβή· ή
- (γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα,
εάν χρειασθεί, κατάλληλη επένδυση, και έχοντα
χωρητικότητα μη υπερβαίνουσα τις 15 λίτρες. Τα δο-
χεία αυτά θα ασφαλίζονται με απορροφητικό αποσβε-
στικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη
εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία
δεν πρέπει να γεμίζονται πέραν του 95% εκατόν
της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει
να ζυγίζει περισσότερο από 100 KG· ή
- (δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα,
εάν χρειασθεί, κατάλληλη επένδυση. Τα βαρέλια
δεν πρέπει να γεμίζονται πέραν του 95% εκατόν
της χωρητικότητάς των. Εάν ζυγίζουν, μαζί με το πε-
ρεχόμενό τους, περισσότερο από 275 KG, θα εφοδιά-
ζονται με κυλιόμενες στεφάνες (ROLLING HOOPS).

(2) Υλεις της 21^ο(β), (γ) και (δ) και υγρά της
21^ο(ε) και (στ) μπορούν επίσης να συσκευασθούν σε ερμη-

τίκως κλεισμένα κάνιστρα κατασκευασμένα από κατάλληλο 2612
 μέταλλο, με μαλακή ή σκληρή συγκόλληση, έχοντα χωρητι- (Συνεχίζεται)
 κότητα μη υπερβαίνουσα τα 60 λίτρα, και εφοδιασμένα με
 χειρολαβήν. Τα κάνιστρα δεν πρέπει να γαμίζονται πέραν
 του 956^{του} εκατόν της χωρητικότητός των.

(3) Οι ύλες της 21^ο(ε) και (στ) σε στερεά κατά-
 σταση, και οι ύλες της 21^ο(ζ), (η), (θ) και (ι), θα συ-
 σκευάζονται:-

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύα-
 λο, πορσελάνη, είδη κεραμεικής και παρόμοια υλικά,
 ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει
 να περιέχουν περισσότερο από 5 KG το καθένα. Δοχεία
 κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποστα-
 λούν ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG ύλης.
 Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό
 σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευα-
 σία επαρκούς αντοχής. Ένα τέτοιο κιβώτιο δεν πρέπει
 να ζυγίζει περισσότερο από 75 KG· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν
 χρειασθεί, κατάλληλον επένδυση και τα οποία δεν πρέ-
 πει να περιέχουν περισσότερον από 15 KG το καθένα.

Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό
 σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευα-
 σία επαρκούς αντοχής. Ένα τέτοιο κιβώτιο δεν πρέπει να
 ζυγίζει περισσότερο από 100 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν
 χρειασθεί, κατάλληλον επένδυση. Εάν τα βαρέλια ζυ-

γίζουν, μαζί με το περιεχόμενό τους, περισσότερο 2612
από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφά- (Συνεχίζε-
τες (ROLLING HOOPS)). ται).

(4) Οι ύλες της 21^ο(ε) και (στ) σε στερεά κατά-
σταση, και οι χύλες της 21^ο(ζ) και (η), μπορούν επίσης να
συσκευασθούν:-

(α) σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύ-
λη, έτσι κλεισμένους ώστε να είναι στεγανοί, και τοπο-
θετημένους σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερι-
κή συσκευασία επαρκούς αντοχής. Ένα τέτοιο κέλον δεν
μπορεί να ζυγίζει περισσότερο από 75 KG· ή

(β) σε ερμητικώς κλεισμένα ξύλια βυτία (βαρέλια, κάδους)
επαρκούς αντοχής με κατάλληλη επένδυση. Ένα τέτοιο
κέλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG.

(5) Οι ύλες της 21^ο(ζ) μπορούν επίσης να συ-
σκευασθούν σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα
από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας
τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα
και σφικτά σε προστατευτική συσκευασία με πλήρεις πλευρές,
κατασκευασμένη από χαρτοσανίδα ή από κάποιο άλλο υλικό ε-
παρκούς αντοχής.

(6) Οι ύλες της 21^ο(λ), (μ), (ν), (ξ) και (ο)
θα συσκευάζονται:-

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο,
πορσελάνη, είδη κεραμικής ή παρόμοια υλικά, ή από
κατάλληλο πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας
τα 5 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται με απορροφη-

τινός αποσβεστικού υλικού σε ξύλινο κιβώτιο ή σε κά- 2612
ποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. (Συνεχίζε-
ται)

Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95
τόις εκατόν της χωρητικότητάς των. Ένα τέτοιο κό-
λον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν εκείνων
που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται
με χειρολαβήν· ή

- (β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι
περισσότερο από 100 γραμμ., οι οποίες θα ασφαλίζον-
ται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κι-
βώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς
αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν
του 95τόις εκατόν της χωρητικότητάς των. Ένα τέ-
τοιο κολον δεν πρέπει να ζυγίζει περισσότερο από
75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν
εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφο-
διάζονται με χειρολαβήν· ή

- (γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν
χρειασθεί, κατάλληλη επένδυση, και έχοντα χωρητι-
κότητα μη υπερβαίνουσαν τις 15 λίτρες. Τα δοχεία αυτά
θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε
ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευα-
σία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμί-
ζονται πέραν του 95τόις εκατόν της χωρητικότητάς
των. Ένα τέτοιο κολον δεν πρέπει να ζυγίζει περισ-
σότερο από 100 KG· ή

(δ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από 26I2 κατάλληλο μέταλλο, με μαλακή ή σκληρή συγκόλληση, (Συνεχίζεται) έχοντα χωρητικότητα μη υπερβαίνουσα τις 60 λίτρες, και εφοδιασμένα με χειρολαβές. Τα κάνιστρα δεν πρέπει να γεμίζονται πέραν του 956του εκατόν της χωρητικότητάς των· ή

(ε) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλη επένδυση. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 956του εκατόν της χωρητικότητάς των. Εάν ζυγίζουν, μαζί με το περιεχόμενό τους, περισσότερο από 275 KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες.

(7) Η 4-NITROTOLUENE (Νιτροτολουόλη) (2I⁰(I)) μπορεί επίσης να συσκευασθεί:

- (α) σε σάκκους κατασκευασμένους από κατάλληλο πλαστική ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί, και τοποθετημένους σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή
- (β) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250KG· ή
- (γ) σε σάκκους κατασκευασμένους από γερό τετράφυλλο χαρτί, επενδεδυμένους με σάκκον καταλλήλου πλαστικής ύλης, έτσι κλεισμένοι ώστε να είναι στεγανοί. Ένας τέτοιος σάκκος (κόλον) δεν πρέπει να ζυγίζει περισσότερο από 55 KG.

(8) Οι ύλες της 21^ο (Ξ) σε νιφάδες (FLAKES) μπο- 2612
 ρουν επίσης να συσκευάζονται σε σάκκους κατασκευασμένους (Συνεχίζεται)
 από γερό τετράφυλλο χαρτί, επενδεδυμένους με σάκκον κατα-
 σκευασμένον από κατάλληλο πλαστική ύλη και έτσι κλεισμέ-
 νοι ώστε να είναι στεγανοί. Ένα τέτοιο κόλον δεν πρέπει
 να ζυγίζει περισσότερο από 55 KG.

Οι ύλες της 22^ο θα συσκευάζονται:-

2613

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο,
 πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από
 κατάλληλο πλαστική ύλη, τα οποία δεν πρέπει να πε-
 ριέχουν περισσότερο από 5 KG το καθένα. Δοχεία κατα-
 σκευασμένα από πλαστική ύλη μπορούν, εάν αποστέλλον-
 ται ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG ύλης.
 Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό
 σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευα-
 σία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει
 να ζυγίζει περισσότερο από 75 KG* ή
- (β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν
 χρειασθεί, κατάλληλη επένδυση και τα οποία δεν πρέ-
 πει να περιέχουν περισσότερο από 15 KG το καθένα. Τα
 δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε
 ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία
 επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυ-
 γίζει περισσότερο από 100 KG* ή
- (γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν
 χρειασθεί, κατάλληλη επένδυση. Εάν τα βαρέλια, μαζί
 με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275 KG,

θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

2613
(Συνεχίζεται)

- (δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς αντοχής· ή
- (ε) σε σάκους κατασκευασμένους από κατάλληλο πλαστική ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί, και τοποθετημένους σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG, ή
- (στ) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG.

(I) Υγρά της 23^ο θα συσκευάζονται:-

2614

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τις 5 λίτρες. Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95^{ου} της χωρητικότητας των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλην εκείνων που

αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με 2614
χειρολαβές· ή (Συνεχίζεται)

- (β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι
άνω των 100 γραμμ., οι οποίες θα α-σφαλίζονται με
απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή
σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής.
Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 956τος
εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν
πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζον-
τα άνω από 30 KG, πλήν εκείνων που αποστέλλονται ως πλή-
ρες φορτίο, θα εφοδιάζονται με χειρολαβές· ή
- (γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν
χρειασθεί, κατάλληλη επένδυση, και έχοντα χωρητικό-
τητα μη υπερβαίνουσαν τις 15 λίτρες. Τα δοχεία αυτά θα
ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύ-
λινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία ε-
παρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται
πέραν του 956τος εκατόν της χωρητικότητάς των. Ένα
τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από
100 KG· ή
- (δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν
χρειασθεί, κατάλληλη επένδυση. Τα βαρέλια δεν πρέ-
πει να γεμίζονται πέραν του 956τος εκατόν της χωρη-
τικότητάς των. Εάν ζυγίζουν, μαζί με το περιεχόμενό
τους περισσότερο από 275 KG, θα εφοδιάζονται με κυ-
λιδόμενες στεφάνες (ROLLING HOOPS).

(2) Στερεά της 23^ο θα συσκευάζονται κατά τον ίδιο
τρόπον όπως οι ύλες της 22^ο.

(Ι) Οι θάλασσες της 31^ο(α) και τα στερεά παρασκευά-2615
σματα της 31^ο(γ) θα συσκευάζονται:-

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο,
πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από
κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν
περισσότερο από 5 KG το καθένα. Δοχεία κατασκευασμένα
από πλαστική ύλη μπορούν, εάν αποστέλλονται ως πλήρες
φορτίο, να περιέχουν μέχρι 10 KG ύλης. Τα δοχεία αυτά θα
ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή
σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής.

Ένα τέτοιο κιβώτιο δεν πρέπει να ζυγίζει περισσότερο από
75 KG· ή

(β) σε ερμητικώς κλεισμένα δοχεία έχοντα, εάν χρειασθεί,
κατάλληλον επένδυση, και τα οποία δεν πρέπει να πε-
ριέχουν περισσότερο από 15 KG το καθένα. Τα δοχεία αυτά
θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο
ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής.

Ένα τέτοιο κιβώτιο δεν πρέπει να ζυγίζει περισσότερο από
100 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν
χρειασθεί, κατάλληλον επένδυση. Εάν τα βαρέλια, μαζί με
το περιεχόμενό τους, ζυγίζουν άνω των 275 KG, θα εφοδιά-
ζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή
δοχεία, κατασκευασμένα από κατάλ-

(δ) σε ερμητικώς κλεισμένα
κατάλληλη πλαστική ύλη,
~~κλειστά~~ χωρητικότητας μη υπερβαίνουσας τις 60 λίτρες.

Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφίχτὰ σε
προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευα-

σμένα από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς 2615
αντοχής· ή

(Συνεχίζε-
ται)

- (ε) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βα-
ρέλια) επαρκούς αντοχής, με κατάλληλον επένδυση. Ένα
τέτοιο κδλον δεν πρέπει να ζυγίζει περισσότερο από 250KG.

(2) Οι όλες της 31^ο(β) και τα υγρά παρασκευάσμα-
τα της 31^ο(γ) θα συσκευάζονται:-

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο,
πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κα-
τάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας
τα 5 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται με απορροφη-
τικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια
άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία
δεν πρέπει να γεμίζονται πέραν του 956του εκατόν της
χωρητικότητός των. Ένα τέτοιο κδλον δεν πρέπει να ζυ-
γίζει περισσότερο από 75 KG. Κδλα ζυγίζοντα άνω των
30 KG, πλην εκείνων που αποστέλλονται ως πλήρες φορτίο,
θα εφοδιάζονται με χειρολαβές· ή

- (β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όλη πε-
ρισσότερο από 100 γραμμ., οι οποίες θα ασφαρίζονται
με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή
σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής.
Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 956τους
εκατόν της χωρητικότητάς των. Ένα τέτοιο κδλον δεν
πρέπει να ζυγίζει περισσότερο από 75 KG. Κδλα ζυγίζον-
τα περισσότερο από 30 KG, πλην εκείνων που αποστέλλον-
ται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές· ή

- (γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν 26Ι5
χρειασθεί, κατάλληλον επένδυσιν, και έχοντα χωρητι- (Συνεχί-
κότητα μη υπερβαίνουσαν τις 15 λίτρες. Τα δοχεία αυτά ζεται)
θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε
ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία
επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζον-
ται πέραν του 95^{ου} εκατόν της χωρητικότητάς των.
Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από
100 KG· ή
- (δ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από κα-
τάλληλο μέταλλο, συγκολλημένα με μαλακή ή σκληρή συγ-
κόλληση, έχοντα χωρητικότητα μη υπερβαίνουσα τις 60
λίτρες, και εφοδιασμένα με χειρολαβήν. Τα κάνιστρα
δεν πρέπει να γεμίζονται πέραν του 95^{ου} εκατόν της
χωρητικότητάς των· ή
- (ε) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν
χρειασθεί, κατάλληλον επένδυσιν. Τα βαρέλια δεν πρέ-
πει να γεμίζονται πέραν του 95^{ου} εκατόν της χωρη-
τικότητάς των. Εάν τα βαρέλια, μαζί με το περιεχόμενό
τους, ζυγίζουν περισσότερο από 275 KG, θα εφοδάζονται
με κυλιόμενες στεφάνες (ROLLING HOOPS).

(Ι) Το αζίδιο του νατρίου (32^ο(α)) θα συσκευάζεται 26Ι6
σε δοχεία κατασκευασμένα από μαύρο φύλλο σιδήρου ή πλάκα-
κασσιτέρου.

(2) Οι ύλες της 32^ο(β) θα συσκευάζονται σε δοχεία
κατασκευασμένα από ύαλο ή κατάλληλη πλαστική ύλη. Το δοχείο
δεν πρέπει να περιέχει περισσότερο από 10 KG αζίδιο του βα-

ούτε περισσότερο από 20 λίτρες διάλυμα αζιδίου του 26I6
 βαρίου. Τα δοχεία θα ασφαρίζονται χωριστά, με απορρο- (Συνεχίζεται)
 φητικό αποσβεστικό υλικό, σε κιβώτια ή σιδηρο-καλάθους
 με πλήρεις πλευρές· ο όγκος του αποσβεστικού υλικού πρέ-
 πει να είναι τουλάχιστον ίσος με το περιεχόμενο του δο-
 χείου. Οσάκις χρησιμοποιούνται καλάθι, το αποσβεστικό
 υλικό, εάν ευχερώς εύφλεκτον, θα φλογο-στεγανοποιείται
 επαρκώς ώστε να αποφεύγεται η ανάφλεξη σε επαφή με τη
 φλόγα.

Ο φωσφορούχος ψευδάργυρος (33°) θα συσκευάζεται 26I7
 σε μεταλλικά δοχεία ασφαλισμένα σε ξύλινα κιβώτια. Το
 κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

Οι ύλες της 4I^ο θα εγκλείονται σε ξύλινα ή μεταλ-26I8
 λικά είδη συσκευασίας τα οποία μπορούν να εφοδιάζονται με
 μηχανισμό επιτρέποντα τα αέρια να διαφύγουν. Λεπτώς κοκκο-
 ποιημένες ύλες μπορούν επίσης να συσκευάζονται σε σάκους.

Οι ύλες της 5I^ο θα συσκευάζονται:- 26I9

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύα-
 λο, πορσελάνη, είδη κεραμικής ή παρόμοια υλικά, ή
 από κατάλληλο πλαστική ύλη, τα οποία δεν πρέπει να
 περιέχουν άνω των 5 KG το καθένα. Δοχεία κατασκευα-
 σμένα από πλαστική ύλη μπορούν, εάν αποσταλούν ως
 πλήρες φορτίο, να περιέχουν μέχρι 10 KG ύλης. Τα δο-
 χεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε
 ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευα-
 σία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει
 να ζυγίζει περισσότερο από 75 KG· ή

- (β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν 2619
χρειασθεί, κατάλληλον επένδυσιγ, και τα οποία δεν (Συνεχίζε-
πρέπει να περιέχουν περισσότερο από 15 KG το καθένα. ται);
- Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό
σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευα-
σία επαρκούς αντοχής. Ένα τέτοιο κδλον δεν πρέπει να
ζυγίζει περισσότερο από 100 KG* ή
- (γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν
χρειασθεί, κατάλληλον επένδυσιν. Εάν τα βαρέλια, μαζί
με το περιεχόμενό τους, ζυγίζουν περισσότερο από
275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLL-
ING HOOPS)* ή
- (δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από
κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνου-
σας τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται
ένα-ένα και σφιχτά σε προστατευτική συσκευασία με
πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από
κάποια άλλη ύλη επαρκούς αντοχής* ή
- (ε) σε σάκκους κατασκευασμένους από κατάλληλο πλαστική ύλη,
έτσι κλεισμένους ώστε να είναι στεγανοί, οι οποίοι θα
τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική
συσκευασία επαρκούς αντοχής. Ένα τέτοιο κδλον δεν πρέ-
πει να ζυγίζει περισσότερο από 75 KG* ή
- (στ) σε ερμητικώς κλεισμένους ξύλινους κδδους (βυτία, βα-
ρέλια), έτσι κλεισμένους ώστε να είναι στεγανοί, επαρ-
κούς αντοχής, με κατάλληλον επένδυσιγ. Ένα τέτοιο κδ-
λον δεν πρέπει να ζυγίζει περισσότερο από 250 KG* ή

(Ι) Οι θάλασσες της 52^ο θα συσκευάζονται:-

2620

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμικής, ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG το καθένα· δοχεία κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποσταλούν ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG ύλης. Τα δοχεία θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κώλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή
- (β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλων επένδυσιν και τα οποία δεν πρέπει να περιέχουν περισσότερο από 15 KG το καθένα. Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κώλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή
- (δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφικτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς αντοχής· ή
- (γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλων επένδυσιν. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275 KG θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS), ή

(ε) σε σάκκους κατασκευασμένους από κατάλληλο πλαστική ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(στ) σε δοχεία κατασκευασμένα από ξύλο ή χαρτοσανίδα, επενδεδυμένα με ατμο-στεγανή πλαστική ύλη και ερμητικώς κλεισμένα. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(ζ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG·.

(2) Όταν αποστέλλονται ως πλήρες φορτίο, οι ύλες μπορούν επίσης να συσκευάζονται:-

(α) σε ερμητικώς κλεισμένους ξυλίνους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση.

Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG· ή

(β) σε σάκκους κατασκευασμένους από γερό τετράφυλλο χαρτί, επενδεδυμένους με σάκκον κατασκευασμένον από κατάλληλη πλαστική ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 55 KG·.

(I) Στερεά της 53^ο θα συσκευάζονται:-

262I

(α) όχι περισσότερα από 10 KG ανά σάκκον, σε σάκκους κατασκευασμένους από δί-φυλλο χαρτί· ή

(β) σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη· ή

- (γ) σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη· ή (Συνεχίζεται)
- (δ) σε χαλύβδινα δοχεία ή σε γερούς ξύλινους κάδους (βυτία, βαρέλια) εφοδιασμένους με ενισχυτικές ταινίες.

Περί: (α), (β) και (γ):— Τα δοχεία και οι σάκκοι θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινες εξωτερικές συσκευασίες.

(2) Υγρά ή ύλες σε διάλυμα της 53° θα συσκευάζονται:—

- (α) σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά. Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε προστατευτικές συσκευασίες ου οποίες, εάν δεν είναι κιβώτια, θα είναι εφοδιασμένες με χειρολαβές· ή
- (β) σε μεταλλικά δοχεία.

(3) Κδλον περιέχον εύθραυστα δοχεία ή σάκκους κατασκευασμένους από πλαστική ύλη δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

Οι ενώσεις θαλλού (54°) θα συσκευάζονται:— 2622

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλο πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG. το καθένα. Δοχεία κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποστέλλονται ως πλήρες φορτίο, να περιέχουν άνω των 10 KG ύλης. Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο

ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή (Συνεχίζεται).

- (β) σε δοχεία από πλάμα-κασσιτέρω· ή
- (γ) σε ξύλινα κιβώτια εφοδιασμένα με ενισχυτικές ταινίες· ή
- (δ) σε ξύλινους κάδους (βυτία, βαρέλια) με σιδηρές στεφάνες ή γερές ξύλινες στεφάνες (HOOPS).

(Ι) Οι ύλες των 61^ο και 62^ο, πλήν των υλών της 61^ο(Ι), θα συσκευάζονται:- 2623

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τις 5 λίτρες. Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζονται περισσότερο από 30 KG, πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές· ή
- (β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι περισσότερα από 100 γραμμ., οι οποίες θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν

πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζω- 2623
γίζοντα περισσότερο από 30 KG, πλην εκείνων που (Συνεχίζε-
αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται ται)
με χειρολαβές· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν
χρειασθεί, κατάλληλον επένδυσιν, και έχοντα χωρη-
τικότητα μη υπερβαίνουσιν τας 15 λίτρες. Τα δοχεία
αυτά θα α-σφαλίζονται με απορροφητικό αποσβεστικό
υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική
συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να
γεμίζονται πέραν του 956του εκατόν της χωρητικότη-
τάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πε-
ρισσότερο από 100 KG· ή

(δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν
χρειασθεί, κατάλληλον επένδυσιν. Τα βαρέλια δεν πρέ-
πει να γεμίζονται πέραν του 956του εκατόν της χωρη-
τικότητάς των. Εάν τα βαρέλια, μαζί με το περιεχόμε-
νό τους, ζυγίζουν περισσότερο από 275 KG πρέπει να
εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(ε) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από
κατάλληλο μέταλλο, συγκολλημένα με μαλακή ή σκληρή
συγκόλληση, έχοντα χωρητικότητα μη υπερβαίνουσα
τις 60 λίτρες, και εφοδιασμένα με χειρολαβάς. Τα κά-
νιστρα δεν πρέπει να γεμίζονται πέραν του 956του
εκατόν της χωρητικότητάς των· ή

(στ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από
κατάλληλο πλαστική ύλη, χωρητικότητας μη υπερβαίνου-

σής τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία (Συνεχίζεται) α με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητός των.

(2) Οι δλές της 61^ο(I) θα συσκευάζονται:-

- (α) σε εξ ολοκλήρου συγκολλημένα χαλύβδινα βαρέλια με τοιχώματα πάχους όχι μικροτέρου των 1.25 MM (χιλ.), εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS) και ενισχυτικές δοκίδες και έχοντα πα ανοίγματα κλεισμένα με δύο πώματα, το ένα επάνω στο άλλο, το ένα τούτων κοχλιωτό, ή
- (β) σε κάνιστρα από φύλλο-μετάλλου με τοιχώματα πάχους όχι μικροτέρου του 1 MM (χιλ.) και χωρητικότητα μη υπερβαίνουσα τις 60 λίτρες, τα ανοίγματα κλεισμένα με δύο πώματα, το ένα πάνω στο άλλο, του ενός τούτων κοχλιωτού. Τα κάνιστρα από φύλλο-μετάλλου πρέπει να έχουν συγκολλημένες κατά μήκος ραφές, δύο ενισχυτικές δοκίδες στα τοιχώματα, και προστατευτική στεφάνη (RIM) κάτω από τον φέροντα υποδοχήν αρμόν του πυθμένος. Τα κάνιστρα χωρητικότητος 40 έως 60 λιτρών πρέπει να έχουν συγκολλημένους τους πυθμένες των και να είναι εφοδιασμένα με χειρολαβές στις πλευρές· ή
- (γ) σε φιάλες αλουμινίου χωρητικότητος μη υπερβαινούσης τις 2 λίτρες, ασφαλισμένες με αποσβεστικό υλικό από

~~από~~ πολική γή σε δοχεία από φύλλο-μετάλλου των οποίων τα πώματα θα κολλούνται σταθερά με κατάλληλες κολλητικές λωρίδες. Τα από φύλλο-μετάλλου δοχεία θα τοποθετούνται, μαζί με το υλικό πληρώσεως, σε ξύλινα κιβώτια. Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. ή

2623
(Συνεχίζεται)

- (δ) σε μη-επιστρεπτέα μεταλλικά βαρέλια (καινούργη είδη συσκευασίας προοριζόμενα να χρησιμοποιηθούν μόνο μία φορά)* τα βαρέλια αυτά, των οποίων τα τοιχώματα θα έχουν πάχος όχι μικρότερο των 1.2 MM (χιλ.), θα είναι εφοδιασμένα με κοχλιωτό πώμα εφαρμοσμένο με παρέμβυσμα. Το πώμα θα ευρίσκεται σε ένα από τα άκρα του βαρελιού και θα προστατεύεται από την στεφάνη. Τα βαρέλια μπορούν να έχουν κορμόν με άκρα φέροντα υποδοχήν, και αρμούς ενισχυμένους με ούγιες* εάν δεν διαθέτουν κυλιόμενες στεφάνες (ROLLING HOOPS) πρέπει να είναι εφοδιασμένα με ενισχυτικές δοκίδες. Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 200 KG. Η μεταφορά σε μη-επιστρεπτέα βαρέλια θα λαμβάνει χώραν μόνον ως πλήρες φορτίο πάνω σε ανοικτά οχήματα* ή
- (ε) σε μη-επιστρεπτέα χαλύβδινα βαρέλια (καινούργη είδη συσκευασίας προοριζόμενα να χρησιμοποιηθούν μόνο μία φορά) έχοντα πλευρές κατασκευασμένες από φύλλο-χάλυβος πάχους 1.24 MM (χιλ.), άκρα κατασκευασμένα από φύλλο χάλυβος πάχους 1.5 MM (χιλ.), και απόβαρον 22.5 KG* τα βαρέλια πρέπει να είναι εφοδιασμένα με ενισχυτικές δοκίδες. Η παφή του κορμού θα συγκολλείται και τα

άκρα θα διπλο-συρράπτονται δια συγκολλήσεως με τον 2623
 κορμό, μετ' εσωτερικής επενδύσεως πολυαιθυλενίου. (Συνεχίζεται)
 Δύο μονάδες κλεισίματος δια κοχλιωτών πωμάτων,
 μία των 50.8 MM (2") και μία των 19.05 MM (3/4"),
 θα διπλο-συρράπτονται δια συγκολλήσεως εις ένα των
 άκρων, μετ' εσωτερικής επενδύσεως εκ συνθετικού καου-
 τσούκ. Κυάθια εκ λεπτού φύλλου χάλυβος θα τοποθετούν-
 ται υπεράνω των μονάδων κλεισίματος.

(3) Τα δοχεία τα αναφερόμενα υπό στοιχείον

(2) (α) έως (ε) δεν πρέπει να γεμίζονται πέραν του 93%
 εκατόν της χωρητικότητάς των.

ΟΙ ύλες της 71^ο θα συσκευάζονται:-

2624

- (α) σε σιδηρά ή ξύλινα είδη συσκευασίας· ή
- (β) σε σάκκους κατασκευασμένους από γερό δί-φυλλο χαρτί,
 ή κατασκευασμένους από γιούτα, επενδεδυμένους με σάκ-
 κον κατασκευασμένον από κατάλληλον πλαστικήν ύλην,
 έτσι κλεισμένους ώστε να είναι στεγανοί.

(I) Οι ύλες των 72^ο και 73^ο θα συσκευάζονται: 2625

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο,
 πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από
 κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέ-
 χουν περισσότερο από 5 KG το καθένα. Δοχεία κατασκευα-
 σμένα από πλαστική ύλη μπορούν, εάν αποστέλλονται ως
 πλήρες φορτίο, να περιέχουν μέχρι 10 KG της ύλης. Τα
 δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε
 ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία
 επαρκούς αντοχής. Ένα τέτοιο κόλο δεν πρέπει να ζυγί-

ζει περισσότερο από 75 KG· ή

2625

(β) σε χαλύβδινα ή ξύλινα είδη συσκευασίας· ή

(Συνεχίζεται)

(γ) σε σάκκους κατασκευασμένους από γερδ δέ-φυλλο του-

λάχιστο χαρτί. Εν τούτοις, οι σάκκοι για οξικό μδ-
λυβδο πρέπει να κατασκευάζονται:-

1.- από κάρναβιν επενδεδυμένη με κατάλληλη πλαστι-
κή ύλη ή με γερδ κρέπ χαρτί κολλημένο με βι-
τούμιον (π λσα). Ένας τέτοιος σάκκος, μαζί με
το περιεχόμενό του, δεν πρέπει να ζυγίζει περισ-
σότερο από 30 KG· ή

2.- από γερδ χαρτί τουλάχιστο δέ-φυλλο, επενδεδυμέ-
νο με σάκκον κατασκευασμένον από κατάλληλη πλα-
στική ύλη· ένας τέτοιος σάκκος, μαζί με το περιε-
χόμενό του, δεν πρέπει να ζυγίζει περισσότερο από
30 KG· ή

3.- από γερδ χαρτί τουλάχιστο πεντά-φυλλο, επενδεδυ-
μένο με σάκκον κατασκευασμένον από κατάλληλη πλα-
στική ύλη· ένας τέτοιος σάκκος, μαζί με το περιε-
χόμενό του, δεν πρέπει να ζυγίζει περισσότερο από
55 KG· ή

4.- από γερδ χαρτί τουλάχιστο τρι-φυλλο, τοποθετημέ-
νο σε σάκκους από γιούτα· ένας τέτοιος σάκκος,
μαζί με το περιεχόμενό του, δεν πρέπει να ζυγί-
ζει περισσότερο από 55 KG· ή

(δ) σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη,
έτσι κλεισμένους ώστε να είναι στεγανοί, οι οποίοι
θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη
εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κδ-

λον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

2625

(2) Οι ύλες της 72^ο μπορούν επίσης να συσκευασθούν σε δοχεία κατασκευασμένα από πλάκα κασιιτέρου ή από φύλλο χάλυβος.

(Συνεχίζεται)

Οι ύλες των 74^ο και 75^ο θα συσκευάζονται:-

2626

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG το καθένα. Δοχεία κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποστέλλονται ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG της ύλης. Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κιβώτιο δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή
- (β) σε χαλύβδινα ή ξύλινα είδη συσκευασίας· ή
- (γ) σε σάκκους κατασκευασμένους από γερό χαρτί τουλάχιστο δι-φύλλο, ή σε σάκκους από γιούτα· ή
- (δ) σε δοχεία κατασκευασμένα από πλάκα-κασσιιτέρου ή από φύλλο-μετάλλου.

Τα παρασιτοκτόνα της 81^ο θα συσκευάζονται:-

2627

(α) υπό στερεάν/ή υπό μορφήν ζύμης (PASPE FORM):-

- I.- σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG το καθένα. Δοχεία κατασκευασμένα από πλαστική ύλη μπορούν,

- εάν αποστέλλονται ως πλήρες φορτίο, να περιέχουν 2627
μέχρι 10 KG της ύλης. Τα δοχεία αυτά θα ασφαλίζονται (συνεχίζε-
ται)
με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κά-
ποια άλλη εξωτερική συσκευασία επαρκούς αντοχής.
Ένα τέτοιο κλώβον δεν πρέπει να ζυγίζει περισσό-
τερο από 75 KG ή
- 2.- σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα,
εάν χρειασθεί, κατάλληλων επένδυσιν, και τα οποία
δεν πρέπει να περιέχουν περισσότερο από 15 KG το
κάθενα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβε-
στικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη
εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο
κλώβον δεν πρέπει να ζυγίζει περισσότερο από 100KG ή
- 3.- σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα,
εάν χρειασθεί, κατάλληλων επένδυσιν. Εάν τα βα-
ρέλια, μαζί με το περιεχόμενόν τους, ζυγίζουν πε-
ρισσότερο από 275 KG, θα εφοδιάζονται με κυλιόμενες
στεφάνες (ROLLING HOOPS) ή
- 4.- σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από
κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαί-
νουσας τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούν-
ται ένα-ένα και σφικτά σε προστατευτική συσκευασία
με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα
ή από κάποια άλλη ύλη επαρκούς αντοχής ή
- 5.- σε σάκκους κατασκευασμένους από κατάλληλη πλαστική
ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί, οι ο-
ποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια

άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή (Συνεχίζεται)

- 6.- σε δοχεία κατασκευασμένα από ξύλο ή χαρτοσανίδα, επενδεδυμένα με ατμο-στεγανή πλαστική ύλη και ερμητικώς κλεισμένα. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή
- 7.- σε ερμητικώς κλεισμένα μεταλλικά δοχεία. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG·
- 8.- αρσενικά ενώσεις αποστελλόμενες ως πλήρες φορτίο μπορούν επίσης να συσκευάζονται σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG·
- 9.- παρασκευάσματα μπορούν επίσης να εγκλείονται σε συσκευασίες έτοιμα προς χρήση, τα οποία θα συσκευάζονται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG·

(β) υπό υγρή μορφή:-

- I.- σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τις 5 λίτρες, με τα ανοίγματα κλεισμένα με δύο πώματα, το ένα πάνω στο άλλο, και το ένα από αυτά κοχλιωτό. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό απο-

σβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξω- 2627
 τερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέ- (Συνεχίζεται)
 πει να γεμίζονται πέραν του 936 του εκατόν της χωρητι-
 κότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει
 περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30KG
 πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφο-
 διαζονται με χειρολαβές ή

2.- σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι
 περισσότερο από 50 γραμμ., οι οποίες θα ασφαρίζονται με
 απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε
 κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Οι
 αμπούλες δεν πρέπει να γεμίζονται πέραν του 936 του ε-
 κατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέ-
 πει να ζυγίζει περισσότερο από 30 KG. Πλήν εκείνων που
 αποστέλλονται ως πλήρες φορτίο, κόλα ζυγίζοντα περισσό-
 τερο από 30 KG θα εφοδιαζονται με χειρολαβές ή

3.- σε μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλον
 επένδυσιν, έχοντα χωρητικότητα μη υπερβαίνουσιν τις 15
 λίτρες και έχοντα ανοίγματα κλειδόμενα με δύο πώματα, το
 ένα τοποθετημένο πάνω στο άλλο, και το ένα από αυτά κο-
 χλιωτό. Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό
 αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη
 εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν
 πρέπει να γεμίζονται πέραν του 936 του εκατόν της χω-
 ρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγί-
 ζει περισσότερο από 100 KG ή

4.- σε κάμιστρα κατασκευασμένα από κατάλληλο μέταλλο, συγ-

καλλημένα με μαλακή ή σκληρή συγκόλληση, με τοιχώματα 2627
 πάχους όχι μικρότερου των 0.5 MM (χιλ.) και χωρητικότητας (Συνεχίζεται)
 μη υπερβαίνουσα τις 60 λίτρες, και ανοίγματα
 κλειόμενα με δύο πώματα, τó ένα τοποθετημένο επάνω
 στο άλλο, και τó ένα από αυτά τα πώματα κοχλιωτό, και
 εφοδιασμένα με χειρολαβές. Τα κάλιστα δεν πρέπει να
 γεμίζονται πέραν του 93 τοις εκατόν της χωρητικότη-
 τος των ή

- 5.- σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν
 χρειασθεί, κατάλληλη επένδυση. Εάν τα βαρέλια, μαζί
 με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275
 KG, θα εφοδιάζονται με κυλινδρικές στεφάνες (ROLLING
 HOOPS). Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του
 93 τοις εκατόν της χωρητικότητάς των ή
- 6.- σε δοχεία κατασκευασμένα από κατάλληλη πλαστική ύλη,
 χωρητικότητας μη υπερβαίνουσας τις 60 λίτρες, με α-
 νοίγματα κλειόμενα με δύο πώματα, το ένα τοποθετημένο
 πάνω στο άλλο, και το ένα από τα πώματα κοχλιωτό. Τα
 δοχεία αυτά θα τοποθετούνται ένα-ένα και σφικτά σε
 προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευα-
 σμένα από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς
 αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του
 93 τοις εκατόν της χωρητικότητάς των.

Τα παρασιτοκτόνα της 82^ο θα συσκευάζονται:-

2628

(α) υπό στερεάν μορφήν:

- 1.- κατά τον αυτόν τρόπον όπως τα στερεά της 81^ο.
- 2.- όταν αποστέλλονται ως πλήρες φορτίο, επίσης σε
 σάκκους κατασκευασμένους από γερό τετρά-φυλλο χαρτί

επενδεδυμένους με σάκκον κατασκευασμένον από κατάλλη- 2628
 λην πλαστικήν ύλην, έτσι κλεισμένους ώστε να είναι (Συνεχίζε-
 στεγανοί. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πε-
 ρισσότερο από 55 KG.

(β) υπό υγρά μορφήν:

κατά τον ίδιο τρόπον όπως τα υγρά της 81^ο.

Τα παρασιτοκτόνα της 83^ο θα συσκευάζονται: 2629

(α) υπό στερεά μορφήν:

- 1.- κατά τον ίδιο τρόπον όπως τα στερεά της 81^ο ή
- 2.- σε σάκκους από γιούτα καταστάντας αδιαπεράστους από την υγρασία δι' επενδύσεως γενομένης από κα-
 τάλληλο υλικό, κολλημένο με βιτούμιον (πίσσα), ή
 σε σάκκους από γιούτα επενδεδυμένους με σάκκον
 κατασκευασμένον από κατάλληλην πλαστικήν ύλην,
 έτσι κλεισμένοι ώστε να είναι στεγανοί. Ένα τε-
 τοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από
 55 KG. ή
- 3.- στη περίπτωση των παρασκευασμάτων, και άλλων πα-
 ρασιτοκτόνων, εάν αποστέλλονται ως πλήρες φορτίο, σε
 σάκκους κατασκευασμένους από γερό τετρά-φυλλο χαρτί,
 επενδεδυμένους με σάκκον κατασκευασμένον από κατάλλη-
 λην πλαστικήν ύλην και ερμητικώς κλεισμένοι. Ένα τέ-
 τοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 55KG. ή
- 4.- στη περίπτωση τερεών αρσενικών ενώσεων:
 - I.- σε ξύλινους κάδους (βυτία, βαρέλια) με διπλά τοι-
 χώματα, επενδεδυμένους με γερό χαρτί. ή
 - II.- σε κυτία από ινοσανίδα τοποθετημένα σε ξύλινο κι-
 βώτιο. ή

III.- όχι άνω των 12.5 KG ανά σάκκον, σε διπλούς 2629
 σάκκους, κατασκευασμένους από γερό χαρτί ή (Συνεχίζεται)
 κατάλληλη πλαστική ύλη, οι οποίοι θα τοποθε-
 τούνται είτε σε ξύλινο κιβώτιο επενδεδυμένο
 με χονδρό χαρτί ή σφιχτά σε γερό κιβώτιο κα-
 τασκευασμένο από διπλής-όψης κυματοειδούς ινο-
 σανίδος ή στερεάς ινοσανίδος ισοδυνάμου αντο-
 χής, του κιβωτίου επενδεδυμένου με γερό χαρτί.
 Όλοι οι αρμοί και πτερύγια θα καλύπτονται με
 κολλητικές λωρίδες. Κόλον αποτελούμενον από
 κιβώτιον ινοσανίδος δεν πρέπει να ζυγίζει πε-
 ρισσότερο από 30 KG.

5.- στη περίπτωση αρσενικών ενώσεων αποστελλομένων ως πλή-
 ρες φορτίον:-

I.- σε συνήθη ξύλινα είδη συσκευασίας επενδεδυμένα
 με γερό χαρτί ή

II.- όχι περισσότερο των 25 KG ανά σάκκον, σε σάκ-
 κους από δι-φυλλο χαρτί, ή σε σάκκους κατα-
 σκευασμένους από κατάλληλη πλαστική ύλη, οι
 οποίοι θα τοποθετούνται χωριστά σε σάκκους κατα-
 σκευασμένους από γιούτα ή παρόμοιο υλικό επεν-
 δεδυμένους με κρέπ χαρτί ή

III.- σε σάκκους κατασκευασμένους από χαρτί τουλάχισ-
 στον τρι-φυλλο ή σε σάκκους από δι-φυλλο χαρτί
 επενδεδυμένους με σάκκον κατασκευασμένον από
 κατάλληλη πλαστική ύλη. Ένα τέτοιο κόλον
 δεν πρέπει να ζυγίζει περισσότερο από 20 KG ή

- IV.- σε σάκκους από δέ-φυλλο χαρτί ή σε σάκκους κατα- 2629
σκευασμένους από κατάλληλη πλαστική ύλη, οι ο- (Συνεχί-
ποίοι θα τοποθετούνται σε σάκκους από τετρά- ζεται)
φυλλο χαρτί. Ένα τέτοιο κέλον δεν πρέπει να ζυ-
γίζει περισσότερο από 60 KG.

Στις περιπτώσεις των III και IV ανωτέρω, κάθε αποστολή πρέπει να συνοδεύεται από κενούς σάκκους εν αναλογία I για κάθε 20 σάκκους περιέχοντας αρσενικής ύλης (ύλης αρσενικού), οι κενοί δε αυτοί σάκκοι προορίζονται να περιλάβουν ποσότητες των υλών που ενδέχεται να διαφύγουν από σάκκους καταστραφέντας κατά την μεταφοράν.

(β) υπό υγρὰν μορφήν:-

I.- κατά τον ίδιον τρόπον όπως τα υγρά της 8I^ο ή

2.- στη περίπτωση των παρασκευασμάτων:-

I.- σε ερμητικώς κλεισμένα κυλινδρικά δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, χωρητικότητος μη υπερβαίνουσας τις 25 λίτρες. Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 956 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κέλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG ή

II.- σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, χωρητικότητος μη υπερβαίνουσας τις 25 λίτρες, οι οποίες θα ασφαρίζονται με απορροφητικό απο-

σβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη 2629
εξωτερική συσκευασία επαρκούς αντοχής, ή οι οποίες (Συνεχίζεται))
θα ασφαλίζονται σε σιδηρούς ή φαθωτούς καλάθους.

Οι νταμιζάνες δεν πρέπει να γεμίζονται πέραν του
956τοι εκατόν της χωρητικότητάς των. Ένα τέτοιο
κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG·ή

III.- σε δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύ-
λη, με τοιχώματα πάχους όχι μικρότερου των 4 MM
(χιλ.) και χωρητικότητας μη υπερβαίνουσας τις 60 λί-
τρες, των ανοιγμάτων κλειομένων με δύο πώματα, το
ένα τοποθετημένο πάνω στο άλλο, του ενός των πω-
μάτων κοχλιωτού, των δοχείων μη εχόντων προστατευ-
τικήν συσκευασίαν εάν η αρμόδια αρχή της χώρας της
αναχωρήσεως το επιτρέπει. Τα δοχεία δεν πρέπει να
γεμίζονται πέραν του 956τοι εκατόν της χωρητικότητάς
των. Το ποιούτο κόλον δεν πρέπει να ζυγίζει περισσό-
τερο από 75 KG.

ΟΙ ύλες της 84° θα συσκευάζονται:- 2630

- (α) κατά τον ίδιον τρόπον όπως τα στερεά της 81°· ή
- (β) στη περίπτωση υλών της 84° (α), λίαν εμφανώς εγχρώμων,
σε σάκκους κατασκευασμένους από χαρτί τουλάχιστον δι-
φυλλον, ή σε κατάλληλη πλαστική ύλη, οι οποίοι θα
τοποθετούνται σε υφασματένιους σάκκους· ή
- (γ) στη περίπτωση υλών της 84°, σε στενά-υφασμένους σάκ-
κους από γιούτα.

3.- Μικτή συσκευασία

2631

(I) Ύλες ομαδοποιημένες υπό τον αυτόν αριθμόν

είδους μπορούν να συμπεριλαμβάνονται στο αυτό κώλον. 263I
Οι εσωτερικές συσκευασίες θα είναι σύμφωνοι με ό,τι
προβλέπεται για κάθε ύλη, και η εξωτερική συσκευασία
θα είναι η ορισθείσα για τις ύλες του εν θέματι αριθμού
είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται
υπό του άρθρου του τιτλοφορουμένου "Συσκευασία μιάς ύλης",
οι ύλες της παρούσας Κλάσεως, σε ποσότητες μη υπερβαίνου-
σες τα 6 KG στη περίπτωση στερεών ή τις 3 λίτρες στη πε-
ρίπτωση των υγρών για όλες τις ύλες τις αναγραφόμενες υπό
τον αυτόν αριθμόν είδους ή το αυτό γράμμα, μπορούν να εγ-
κλείονται στο αυτό κώλον είτε με ύλες άλλου αριθμού είδους
ή άλλου γράμματος της αυτής Κλάσεως, η με επικίνδυνες ύ-
λες ανήκουσες σε άλλες Κλάσεις (εάν μικτή συσκευασία ομοί-
ως επιτρέπεται στη περίπτωση τοιούτων υλών), ή με άλλα
εμπορεύματα, υπό την επιφύλαξη των παρακάτω ειδικών όρων:-

Οι εσωτερικές συσκευασίες πρέπει να πληρούν
τους γενικούς και ειδικούς όρους συσκευασίας. Επιπροσθέ-
τως, οι γενικοί όροι των περιθωρίων 200I(5) και 2002 (6)
και (7) πρέπει να τηρούνται.

Το κώλον δεν πρέπει να ζυγίζει περισσότερο
από 150 KG, ή περισσότερο από 75 KG εάν περιέχει εύθραυστα
δοχεία.

2631

(Συνεχίζεται)

Ειδικοί όροι:-

| Αριθμός Είδους | Περιγραφή Ύλης | <u>Ανωτάτη Ποσότης</u> ανά ανά δοχείον κδλον | | Ειδικές Διατάξεις |
|--------------------|---|--|---------|---|
| | | | | |
| I ^ο (α) | Υδροκυανικό οξύ | Μικτή συσκευασία δεν επιτρέπεται | | |
| I ^ο (β) | Διαλύματα υδροκυανικού οξέος περιέχοντα όχι άνω του 4 ^ο /ο υδροκυανικών οξέ (διαλύματα περιέχοντα άνω του 4 ^ο /ο απαγορεύονται) | I λίτρα | I λίτρα | Δεν πρέπει να συσκευάζονται με οποιοδήποτε άλλο οξύ |
| 2 ^ο | Ακρυλονιτρίλιο, ακετονιτρίλιο, ισοβουτυρονιτρίλιο | I λίτρα | I λίτρα | Δεν πρέπει να συσκευάζονται μαζί με όλες της Κλάσεως 5.Ι Και Κλάσεως 8. Γυάλινα δοχεία πρέπει να ασφαλίζονται με αποσβεστικό υλικό σε |

263I

(Συνεχίζεται)

| Αριθμός Είδους | Περιγραφή Υλης | Ανωτάτη ανά δοχείο | Ποσότητα ανά κόλον | Ειδικές Διατάξεις |
|-------------------|-------------------|--------------------------|--------------------------|----------------------|
|-------------------|-------------------|--------------------------|--------------------------|----------------------|

(Σ υ ν ε χ ε ι α)

προστατευτικά

δοχεία

5^ο(α) Καρβονώλιο Νικελίου Μικτή συσκευασία
απαγορεύεται

II^ο(α) 2-CYANOPROPAN-2-ol I λίτρα I λίτρα Δεν πρέπει να
συσκευάζονται
μαζί με ύλες
των Κλάσεων
5.I και 8.
Γυάλινα δοχεία
πρέπει να ασφα-
λίζονται με
αποσβεστικό
υλικό σε προ-
στατευτικά δο-
χεία

I3^ο(β) Θειϊκό Διμεθύλιο I λίτρα 3 λίτρες
(DIMETHYL SULPHATE)

3I^ο(α) Κυανίδια σε στερεά μορφή Δεν πρέπει να
- σε εύθραυστα δοχεία 500 γραμ. 500 γραμ. συσκευάζονται
- σε συνήθη δοχεία 5 KG 5 KG μαζί με ύλες
φύσεως οξέος

3I^ο(β) Διαλύματα ανοργάνων
κυανιδίων I λίτρα 3 λίτρες

4I^ο(β) Κράματα σιδηρο-πυριτίου
με αλουμίνιο 2.5KG 2.5 KG

4.- Ενδείξεις (μαρκάρισμα) και ετικέτες κινδύνου 2632
επί των κδλων (βλέπε Προσθήκη Α.9)

(1) Κδλα περιέχοντα ύλες των I^o - 5^o, II^o - I4^o, 2I^o - 23^o, 3I^o - 33^o, 4I^o, 5I^o - 54^o, 8I^o και 82^o θα φέρουν ετικέτα σύμφωνον προς το μοντέλο Νο.4· κδλα περιέχοντα ύλες των 2^o, 4^o(α), 5^o και II^o(α), θα φέρουν, επιπροσθέτως, ετικέτα σύμφωνον προς το μοντέλο Νο. 2Α. Κδλα περιέχοντα ύλες των 6I^o, 62^o, 7I^o - 75^o, 83^o και 84^o θα φέρουν ετικέτα σύμφωνον προς το μοντέλο 4Α.

Κδλα περιέχοντα χρωμικά άλατα μολύβδου (χρωμικό μόλυβδο), μίνιον (κόκκινος μόλυβδος), κυανανίδιο μολύβδου της 72^o, ή ύλες της 83^o ή 84^o, θα φέρουν ετικέτα σύμφωνον με το μοντέλο 4Α.

(2) Κδλα περιέχοντα εύθραυστα δοχεία άδρατα από έξω θα φέρουν ετικέτα σύμφωνον προς το μοντέλο Νο. 9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κδλα επιπροσθέτως, πλην της περιπτώσεως των σφραγισμένων αμπουλών, θα φέρουν ετικέτες σύμφωνες προς το μοντέλο Νο. 8· οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατ'ά τρόπον ισοδύναμον όταν χρησιμοποιούνται άλλα είδη συσκευασίας.

(3) Προκειμένου περί φορτώσεων αποστελλομένων ως πλήρες φορτίον, οι ετικέτες 2Α, 4 ή 4Α δεν χρειάζεται να τοποθετούνται στα κδλα εάν το όχημα φέρει την ένδειξη την προβλεπομένην υπό του Παραρτήματος Β, περιθώριον 10.500.

B.- Στοιχεία εγγράφου μεταφοράς

2633

(I) Προκειμένου περί υλών που αναφέρονται με την ονομασία του καταλόγου υλών (περιθώριον 260I), η περιγραφή των εμπορευμάτων στο έγγραφο μεταφοράς πρέπει να συμφωνεί με την ονομασίαν την υπογραμμισμένην στο περιθώριο 260I. Η περιγραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκκινο και ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμόν του είδους (μαζί με το, τυχόν, γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ. 6.I, I⁰(α), ADR).

2634

Προκειμένου περί υλών που δεν αναφέρονται με την ονομασίαν του καταλόγου υλών (περιθώριον 260I), η εμπορική ονομασία ή η χημική ονομασία πρέπει να χρησιμοποιείται. Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο και να ακολουθείται από τα στοιχεία της Κλάσεως και τον αριθμόν του είδους (μαζί με το, τυχόν, γράμμα), της ύλης της παρουσιαζούσης συγκρινόμενον (ανάλογον) βαθμόν κινδύνου, και τα αρχικά "ADR" ή "RID" (π.χ. 6.I, 2I⁰(μ), ADR).

(2) Προκειμένου περί του υδροκυανικού οξέος (I⁰(α)) τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο μεταφοράς: "Η φύσις των εμπορευμάτων, και το είδος της συσκευασίας, συμφωνούν με τις διατάξεις της ADR".

(3) Προκειμένου περί των υλών της 4I⁰, τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο μεταφοράς:-
"Αποθηκευμένα στον ανοικτόν αέρα και σε ξηρόν τόπον όχι λιγώτερο από τρείς ημέρες".

(4) Προκειμένου περι αποστολών υλών που πολυ- 2634
μεροποιούνται ευχερώς, τα παρακάτω πρέπει να βεβαι- (Συνεχίζε-
ούνται στο έγγραφο μεταφοράς: "Πάρθηκαν τα απαραίτητα
μέτρα για την αποφυγήν πολυμερισμού διαρκούσης της
μεταφοράς".

2635-

2642

Γ.- Κενά είδη συσκευασίας

(1) Οι σάκκοι της 91^ο και 92^ο πρέπει να συ- 2643
σκευάζονται σε κιβώτια ή σε αδιαπέραστους σάκκους
προς αποφυγήν οιασδήποτε απώλειας των υλών .

(2) Άλλα είδη συσκευασίας και δεξαμενές της 91^ο
και 92^ο πρέπει να κλείνονται κατά τον ίδιο τρόπον και
και με τον αυτόν βαθμόν στεγανότητας ως εάν ήσαν πλήρεις.

(3) Κόλα αποστέλλόμενα όχι ως πλήρες φορτίο, δε-
ξαμενές, και συσκευασθέντες σάκκοι της 91^ο θα φέρουν
ετικέτες σύμφωνες προς το μοντέλο Νο. 4* συσκευασμένοι
σάκκοι της 92^ο θα φέρουν ετικέτες σύμφωνες προς το μον-
τέλο Νο. 4Α (βλέπε Προσθήκη Α.9).

(4) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να
είναι: "Κενή συσκευασία. 6.Ι, 91^ο (ή 92^ο), ADR (ή RID)".
Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο.

2644-

2649

ΚΛΑΣΗ 6.2 ΑΠΕΧΘΕΙΣ ΥΛΕΣ ΚΑΙ ΥΛΕΣ ΠΟΥ ΜΠΟΡΟΥΝ
ΝΑ ΠΡΟΚΑΛΕΣΟΥΝ ΜΟΛΥΝΣΗ

I.- Κατάλογος υλών

Μεταξύ των υλών και ειδών που καλύπτονται 2650
υπό τον τίτλον Κλάσης 6.2, μόνον εκείνες που αναγράφον-
ται στο περιθώριο 265I γίνονται δεκτές προς μεταφοράν,
και μόνον υπό την επιφύλαξη των διατάξεων του παρόντος
Παραρτήματος και του Παραρτήματος Β. Οι ύλεις αυτές και
είδη που γίνονται δεκτά για μεταφορά υπό ωρισμένους ό-
ρους θεωρούνται ως ύλεις και είδη της ADR.

I^ο (α) Νωποί τένοντες, ξακρίδια νωπών δερμάτων, μη αβε- 265I
σταμμένων ή αλατισμένων, απορροζόμενα από νωπούς τέ-
νοντες ή από ξακρίδια νωπών δερμάτων.

Σημείωση:- Ξακρίδια υγρών νωπών δερμάτων, ασβεστο-
μένων ή αλατισμένων, δεν υπόκεινται στις διατάξεις
της ADR.

(β) νωπά κέρατα, ή οπλές μη καθαρισμένες από κόκκαλο
και μαλακά συναφή μέρη, νωπά κόκκαλα μη καθαρι-
σμένα από το κρέας ή άλλα μαλακά συναφή μέρη.

(γ) ανατέργαστες γουρουνότριχες και μαλλί.

2^ο Νωπά δέρματα, μη αλατισμένα ή αλατισμένα, από τα οποία
προκλητικές ποσότητες αίματος ή άλμης στάζουν.

Σημείωση:- Κανονικώς αλατισμένα δέρματα περιέχοντα
μικράν μόνον ποσότητα υγρασίας δεν υπόκεινται στις
διατάξεις της ADR.

3^ο Καθαρισμένα ή ξηραμένα κόκκαλα, καθαρισμένα ή ξηραμέ-
να κέρατα και οπλές.

Σημειώσεις: - Ξηρά κόκκαλα από τα οποία αφαιρέθηκαν 265I
λίπος, μή αναδύοντα βρώμικη (σάπια) οσμή, δεν υπο- (Συνεχίζεται)
κείνται στις διατάξεις της ADR.

- 4° Νωπές ρενέτες μοσχαριού, καθαρισμένες από όλα τα
έχνη εδωδίου ύλης.

Σημειώσεις: - Ξηραμένες ρενέτες μοσχαριού (CALF RENNETS)
που δεν αναδύουν προκλητική οσμή δεν υπόκεινται
στις διατάξεις της ADR.

- 5° Πεπιεσμένα υπολείμματα εκ της κατασκευής δερματό-
κόλλας (ασβεστούχα υπολείμματα, υπολείμματα από το
ασβέστωμα ξακριδιών δερμάτων, ή υπολείμματα χρησι-
μοποιούμενα ως λιπάσματα).

- 6° Μη-πεπιεσμένα υπολείμματα εκ της κατασκευής δερμα-
τόκολλας.

- 7° Μη-μολυβθέντα ούρα προστατευόμενα κατά της αποσυνθέ-
σεως.

- 8° Ανατομικά τεμάχια, εντόσθια και αδένες.

(α) μη-μολυβθέντα

(β) μολυβθέντα

- 9° Κοπριά

- 10° Περιττώματα

- 11° Άλλες ύλες ζώων, απεχθείς ή δυνάμενες να προκαλέσουν
μόλυνση, μη ήδη ειδικώς αναφερθείσαι εις I° έως 10°.

- 12° Κενά είδη συσκευασίας και κενοί σάκκοι που περιείχαν
ύλες των I° έως 8°, 10° και 11°, και φύλλα που χρησιμο-
ποιήθηκαν για κάλυμμα των υλών της Κλάσεως 6.2.

Σημειώσεις: - Εάν δεν ελκαθαρίστηκαν, τα είδη αυτά της
συσκευασίας, σάκκοι και φύλλα δεν γίνονται δεκτά για

μεταφορά.

2.- Διατάξεις

A.- Κόλα

I.- Γενικοί όροι συσκευασίας

(I) Τα είδη συσκευασίας θα είναι έτσι κλεισμέ- 2652
να και στεγανά ώστε να αποφεύγεται οποιαδήποτε απώλεια
του περιεχομένου.

(2) Τα είδη συσκευασίας, συμπεριλαμβανομένων
των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα
και γερά σε όλα τα μέρη τους για να αποφεύγεται οποια-
δήποτε χαλάρωση διαρκούσης της μεταφοράς και πρέπει να
τηρούν τους συνήθεις όρους μεταφοράς. Ειδικότερα οσάκις
οι ύλες είναι σε υγρά κατάσταση ή είναι υποκείμενες σε
ζυμώσεις, τα δοχεία και τα κλεισίματα αυτών πρέπει,
εκτός εάν το άρθρο το τιτλοφορούμενο "Συσκευασία μιάς
ύλης" προβλέπει άλλως, να είναι σε θέση να ανθίστανται
σε οποιαδήποτε πίεση η οποία, λαμβανομένης επίσης υπόψη
της παρουσίας του αέρος, ενδέχεται να εγερθεί εσωτερικώς
των δοχείων κατά την συνήθη μεταφοράν. Για τον σκοπόν
αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης
υπόψη της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά
τον χρόνον της πληρώσεως και της ανωτάτης μέσης θερμοκρα-
σίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της μετα-
φοράς.

(3) Ουδέν ίχνος του περιεχομένου πρέπει να κολλά
στο εξωτερικό των κόλων.

2.- Συσκευασία μιάς ύλης

Οι ύλες της I^ο θα συσκευάζονται:-

(α) εάν δεν αποστέλλονται ως πλήρες φορτίο:-

2653

1.- σε μεταλλικά δοχεία εφοδιασμένα με ασφαλές

(Συνεχίζε-
ται)

κλείσιμο ικανό να λειτουργεί σε εσωτερική
(λεκάνες)
πίεση, ή σε κάδους, μικρά βυτία/ή κιβώτια· ή-

2.- στη περίπτωση των υλών της I^ο(γ), σε ξηρά κατά-

σταση, επίσης σε σάκκους, υπό τον όρον ότι η
κακή οσμή μπορεί να αφαιρεθεί δι' απολυμάνσεως.

Στη περίπτωση υλών όχι σε ξηρά κατάσταση, η
συσκευασία σε σάκκους επιτρέπεται μόνον από
της 1ης Νοεμβρίου μέχρι της 15ης Απριλίου·

(β) εάν αποστέλλονται ως πλήρες φορτίο:

1.- σε είδη συσκευασίας οριζόμενα εν (α) I. ανωτέ-
ρω· ή

2.- υπό τον όρον ότι η κακή οσμή μπορεί να αφαιρεθεί
δι' απολυμάνσεως, σε σάκκους εμποτισμένους με
κατάλληλα απολυμαντικά.

Οι ύλες της 2^ο θα συσκευάζονται:

2654

(α) εάν δεν αποστέλλονται ως πλήρες φορτίο:-

1.- σε κάδους, μικρές λεκάνες ή κιβώτια· ή

2.- κατά τους μήνες από Νοεμβρίου μέχρι Φεβρουαρίου
συμπεριλαμβανομένων, σε σάκκους εμποτισμένους
με κατάλληλα απολυμαντικά, υπό τον όρον ότι η
κακή οσμή μπορεί να αφαιρεθεί δι' απολυμάνσεως·

(β) εάν αποστέλλονται ως πλήρες φορτίο:-

1.- σε είδη συσκευασίας οριζόμενα εν (α) I. ανωτέρω·
ή

2.- υπό τον όρον ότι η κακή οσμή μπορεί να αφαιρεθεί

δι' απολυμάνσεως σε σάκκους εμποτισμένους με κατάλ- 2654
ληλα απολυμαντικά. (Συνεχίζεται)

ΟΙ ύλες της 3^ο θα συσκευάζονται σε κάδους, μι- 2655
κρές λεκάνες, κιβώτια, μεταλλικά δοχεία ή σάκκους.

Οι ύλες της 4^ο θα συσκευάζονται:- 2656

(α) εάν δεν αποστέλλονται ως πλήρες φορτίο:-

σε κάδους, μικρές λεκάνες, κιβώτια, μεταλλικά δο-
χεία ή σάκκους.

(β) εάν αποστέλλονται ως πλήρες φορτίο: σε οποιαδήποτε
κατάλληλα είδη συσκευασίας.

Οι ύλες της 5^ο και 6^ο θα συσκευάζονται σε κά- 2657
δους (βυτία, βαρέλια), μικρές λεκάνες, κιβώτια ή μεταλ-
λικά δοχεία.

Οι ύλες της 7^ο θα συσκευάζονται ^{σε}/ερμητικώς 2658
κλεισμένα δοχεία κατασκευασμένα από γαλβανισμένο φύλλο-
μετάλλου.

(Ι) Οι ύλες της 8^ο θα συσκευάζονται σε μεταλλι- 2659
κά δοχεία εφοδιασμένα με κατάλληλο κλείσιμο ικανό να
λειτουργεί σε εσωτερική πίεση, σε κάδους ή μικρές λε-
κάνες. οι ύλες της 8^ο(α) μπορούν επίσης να συσκευασθούν
σε κιβώτια.

(2) Οι ύλες της 8^ο μπορούν επίσης να συσκευά-
ζονται ως κάτωθι:-

(α) ύλες της 8^ο(α), σε δοχεία κατασκευασμένα από ύαλο,
πορσελάνη, είδη κεραμεικής, μέταλλο ή κατάλληλο
πλαστική ύλη. Τα δοχεία αυτά θα τοποθετούνται, είτε
ένα-ένα είτε ομαδικά, σε γερό ξύλινο κιβώτιο, με

απορροφητικό αποσβεστικό υλικό εάν τα δοχεία εί- 2659
ναι εύθραυστα. Εάν οι προς μεταφοράν ύλες έχουν (Συνεχίζε-
ταί)
εμβυθισθεί σε διατηρητικό ρευστό, οι απορροφητι-
κές ύλες θα είναι επαρκούς ποσότητας ώστε να απορ-
ροφηθεί όλο το ρευστό. Το διατηρητικό ρευστό δεν
πρέπει να είναι εύφλεκτο. Κόλα ζυγίζονται πάνω από
30 KG θα είναι εφοδιασμένα με χειρολαβές.

(β), ύλες της 8^ο(β), σε κατάλληλα δοχεία τοποθετημένα
με αποσβεστικό υλικό σε γερό ξύλινο κιβώτιο έχον
μεταλλικήν επένδυσιγ καταστάσαν στεγανήν π.χ. δια
συγκολλήσεως. Κόλα ζυγίζονται, πάνω από 30 KG θα
είναι εφοδιασμένα με χειρολαβές.

Οι ύλες της 9^ο θα αποστέλλονται μόνον χύμα. 2660

Οι ύλες της 10^ο θα συσκευάζονται σε δοχεία 2661
κατασκευασμένα από φύλλο-μετάλλου.

Οι ύλες της 11^ο θα συσκευάζονται σε μεταλλικά 2662
δοχεία εφοδιασμένα με κλείσιμο ασφαλείας ικανό να
λειτουργεί σε εσωτερική πίεση, ή σε κádους, μικρές
λεκάνες ή κιβώτια.

3.- Μικτή συσκευασία

Ύλες αναγραφόμενες υπό αριθμόν είδους του πε- 2663
ριθμίου 265I μπορούν να συμπεριληφθούν στο αυτό κóλον
μόνον με ύλες αναγραφόμενες υπό τον αυτόν αριθμόν είδους,
και τότε μόνον υπό τον όρον ότι θα χρησιμοποιηθούν τα
είδη συσκευασίας τα προβλεπόμενα υπό των άρθρων Α.Ι και
2 ανωτέρω.

4.- Ενδείξεις (μαρκάρισμα) και ετικέτες κινδύνου
επί των κδλών (βλέπε Προσθήκη Α.9).

Κδλα περιέχοντα εύθραυστα δοχεία αόρατα από 2664
 έξω θα φέρουν ετικέτα σύμφωνον προς το μοντέλο Νο.9.
 Εάν τα εύθραυστα δοχεία περιέχουν υγρό, τα κδλα, επι-
 προσθέτως, εκτός της περιπτώσεως των σφραγισμένων αμ-
 πουλών, θα φέρουν ετικέτες σύμφωνες προς το μοντέλο
 Νο. 8· οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο
 αντίθετες πλευρές των κιβωτίων ή κατά τρόπον ισοδύναμον
 όταν χρησιμοποιούνται άλλα είδη συσκευασίας.

2665

B.- Στοιχεία εγγράφου μεταφοράς

2666

Η περιγραφή των εμπορευμάτων στο έγγραφο με-
 ταφοράς πρέπει να συμφωνεί με μία των ονομασιών των υπο-
γραμμισμένων στο περιθώριο 265I. Οσάκις η ονομασία της
 ύλης δεν σημειούται, θα χρησιμοποιείται η εμπορική ο-
 νομασία. Η περιγραφή των εμπορευμάτων πρέπει να υπο-
γραμμίζεται με κόκκινο και ακολουθείται από τα στοιχεία
 της Κλάσεως, τον αριθμόν του είδους (μαζί με το, τυχόν,
 γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ. 6.2, I^o(α),
ADR).

Γ.- Κενά είδη συσκευασίας

(1) Τα είδη της I2^o θα καθαρίζονται και επεξεργά- 2673
 ζονται με κατάλληλα απολυμαντικά.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να
 είναι: "Κενή συσκευασία (ή κενός σάκος, ή φύλλον), 6.2,
I2^o, ADR (ή RID)". Η περιγραφή αυτή πρέπει να υπογραμμί-
 ζεται με κόκκινο.

2674-

2699

ΚΛΑΣΙΣ 7
ΡΑΔΙΕΝΕΡΓΕΙΣ ΥΛΕΣ

Εισαγωγή.-

(I) Αντικείμενον

2700

(α) Μεταξύ των υλών με ειδικήν ενέργειαν άνω των 0.002 MICROCURIE ανά γραμμάριον και ειδών περιεχόντων τέτοιες ύλες, μόνον εκείνες και εκείνα που σημειούνται στους πί-
νακες του περιθωρίου 2703 γίνονται δεκτά για μεταφορά
και τότε μόνον υπό τους όρους τους ανεφερομένους στους
καταλλήλους πίνακες του ρηθέντος περιθωρίου και στη προ-
σθήκη Α.6 (περιθώρια 3600 - 3699).

(β) Οι εν (α) ανωτέρω ύλες και είδη είναι ύλες και εί-
δη της ADR.

ΣΗΜΕΙΩΣΙΣ:- Καρδιακοί βημαποδότες περιέχοντες ραδιενεργείς
ύλες, όταν έχουν χειρουργικώς εμφυτευθεί σε ασθε-
νείς ή μεταφέρονται εντός των ασθενών κατά την
ιατρικήν των θεραπείαν, δεν υπόκεινται στην ADR.

(2) Ορισμοί και επεξηγήσεις

A₁ και A₂

"A₁" σημαίνει την ανωτάτη ενέργεια ειδικής μορφής ραδιε-
νεργών υλών που επιτρέπεται για κώλον Τύπου Α. "A₂" ση-
μαίνει την ανωτάτη ενέργεια ραδιενεργών υλών, πλην των
ειδικής μορφής ραδιενεργών υλών, που επιτρέπεται για
κώλον Τύπου Α. Οι τιμές αυτές είτε απαριθμούνται στη
Προσθήκη Α.6 Πίναξ XXI είτε μπορούν να εξαχθούν σύμφωνα
με τη διαδικασία την περιγραφομένην στα περιθώρια 3690
και 369I της Προσθήκης Α.6.

Επιτρεπτός αριθμός κόλων

2700

(Συνεχίζεται)

"Επιτρεπτός αριθμός I/ κόλων" σημείνει τον ανώτατον αριθμόν κόλων Διασπαστής Κλάσεως II ή Διασπαστής Κλάσεως III που μπορούν να ομαδοποιηθούν σε ένα μέρος κατά την διάρκεια της μεταφοράς ή διακούσης της αποθηκεύσεως κατά την διαμετακίνωσιν (TRANSIT STORAGE).

I/ Όταν η ομάδα αποτελείται από κόλα διαφόρων σχεδίων, ο ανώτατος αριθμός κόλων θα είναι τέτοιος ώστε να ικανοποιείται ο παρακάτω τύπος

$\frac{v_1}{N_1} \neq \frac{v_2}{N_2} \neq \frac{v_3}{N_3} \neq \dots$ δεν θα υπερβάλει την I. Στον τύπο

αυτών τα v_1, v_2, v_3, \dots είναι οι αριθμοί των κόλων για τα οποία οι αντίστοιχοι επιτρεπτέοι αριθμοί είναι τα N_1, N_2, N_3, \dots αντιστοίχως.

Σύστημα Συστολής

"Σύστημα συστολής" σημαίνει τα συστατικά στοιχεία της συσκευασίας τα οριζόμενα υπό του σχεδιαστού και προοριζόμενα να συγκρατήσουν την ραδιενεργό ύλη διαρκούσης της μεταφοράς.

Σχέδιο

"Σχέδιο" σημαίνει την περιγραφή ύλης ειδικής μορφής, ή κόλου ή συσκευασίας συγκεκριμένου είδους, η οποία παρέχει τη δυνατότητα της πλήρους αναγνώρισεως αυτών. Η περιγραφή μπορεί να περιλαμβάνει προδιαγραφές, μηχανικά σχέδια, εκθέσεις δεικνύουσες τη συμμόρφωση προς τους κανονιστικούς (ρυθμιστικούς) δρους, και λοιπά σχετικά έγγραφα.

2700

(Συνεχίζεται)

Διασπαστή ύλη σημαίνει πλουτόνιο-238, πλουτόνιο-239, πλουτόνιο-241, ουράνιο-233, ουράνιο-235, και όλες οι ύλες που περιέχουν οιαδήποτε των ραδιοπυρηνικών αυτών. Μη-ακτινοβόλον/και εξασθενημένον ουράνιον δεν συμπεριλαμβάνονται στον ορισμόν αυτόν.

Χαμηλής-στάθμης στερεές ραδιενεργείς ύλες

"Χαμηλής-στάθμης στερεά ραδιενεργός ύλη" (LLS) σημαίνει οιαδήποτε των κατωτέρω:-

(α) Στερεά (π.χ. ενοποιημένα υπολείμματα, ενεργείς ύλες) στα οποία:-

(I) η ενέργεια κατά την συνήθη μεταφοράν είναι και παραμένει κατανεμημένη σε ολόκληρο το στερεό ή τη συλλογή στερεών ή είναι και παραμένει ομοιόμορφα κατανεμημένη σε στερεό συμπαγή άγοντα συνδέσεως (όπως σκυρόδεμα, βιτούμιον, κεραμικόν)·

(II) η ενέργεια είναι και παραμένει αδιάλυτη σε τρόπον ώστε ακόμη και επί απώλειας του κόλου η απώλεια της ραδιενεργού ύλης ανά κόλον προερχομένη εκ των επιδράσεων του ανέμου, βροχής, κλπ., ή και από ολικήν βύθισιν στο ~~υπό~~ να περιορίζεται κάτω των $0.1 A_2$ σε χρονική περίοδο μιας εβδομάδας· και

(III) η μέση ενέργεια ολοκλήρου της ραδιενεργού ύλης δεν υπερβαίνει $2 \times 10^{-3} A_2$ /Γραμμ.

(β) Είδη μη-ραδιενεργού ύλης τα οποία μολύνονται με ραδιενεργόν ύλην, υπό τον όρον ότι η ραδιενεργός μόλυνσις είναι μορφής μη δυναμένης ευχερώς να διασπαρεί και ότι

το μέσον επίπεδον μολύνσεως σε $1 \mu^2$ (ή σε χώρο επιφάνειας 2700 μ^2 εάν ο χώρος είναι κάτω του $1 \mu^2$) δεν υπερβαίνει (Συνεχίζεται)

ναι τα:-

20 $\mu\text{Ci}/\text{cm}^2$ για πομπούς β και γ και τους χαμηλής-τοξικότητας πομπούς α τους σημειούμενους στον Πίνακα XIX της Προσθήκης Α.6* και τα 2 $\mu\text{Ci}/\text{cm}^2$ για άλλους πομπούς α.

Υλεις Χαμηλής Ειδικής Ενέργειας (I)

"Υλεις χαμηλής ειδικής ενέργειας (I)" (LSA) σημαίνει οιαδήποτε των κάτωθι:-

- (α) Μεταλλεύματα ουρανίου ή θορίου και φυσικά ή χημικά συμπυκνώματα των μεταλλευμάτων αυτών.
- (β) Μη-ακτινοβόλον φυσικόν ή εξασθενημένον ουράνιον ή μη-ακτινοβόλον φυσικόν θόριον.
- (γ) Οξείδιο του τριτίου σε υδατώδη διαλύματα, υπό τον όρον ότι το συμπύκνωμα δεν υπερβαίνει τα Ci/LITRE .
- (δ) Υλεις στις οποίες η ενέργεια είναι ομοιόμορφα κατανεμημένη και οι οποίες εάν εμειούντο στον κατώτατο όγκο αυτών υπό συνθήκας προφανώς αντιμετωπιζόμενας κατά την μεταφορά, όπως διάλυσις στο ύδωρ και μετέπειτα επανакρυστάλλωσις, κατακρήμνισις (καθίζημα), καύσις, απόξεσις (εκτριβή) * κλπ., θα είχαν μέσην ειδικήν ενέργειαν όχι μεγαλύτεραν των $10^{-4} \text{ A}_2/\text{G}$ (γραμμ.).
- (ε) Είδη μη-ραδιενεργού ύλης τα οποία μολύνονται με ραδιενεργό ύλην, υπό τον όρον ότι ή μη-καθορισμένη μόλυνσις επιφανείας δεν υπερβαίνει δέκα φορές τις τιμές του Πίνακος XIX της Προσθήκης Α.6 και ότι το μολυνθέν

αέρος ή η επ' αυτού μόλυνση, εάν εμειούτο στον
κάτωτατο όγκο αυτής υπό συνθήκας προφανώς αντι-
μετωπιζόμενας κατά την μεταφορά, όπως διάλυσιν
στο ύδωρ και μετέπειτα επανακρυστάλλωσιν· κατα-
κρήμνισιν (καθίζημα)· καύσιν· απόξεσιν (εκτριβή)·
κλπ. θα είχε μέσην ειδικήν ενέργειαν όχι μεγαλύ-
τεράν των 10^{-4} A₂/G (γραμμ.).

2700
(Συνεχίζε-
ται.)

Υλεις Χαμηλής Ειδικής Ενέργειας (II)

"Υλεις χαμηλής ειδικής ενέργειας (II)" σημαίνει
οιονδήποτε των κατωτέρω:-

(α) Υλεις στις οποίες η ενέργεια κατά την συνήθη
μεταφοράν είναι και παραμένει ομοιόμορφα κατανεμη-
μένη και στις οποίες η μέση ειδική ενέργεια δεν
υπερβαίνει τα 10^{-4} A₂/G (γραμμ.).

(β) Είδη μη-ραδιενεργού ύλης που μολύνονται με
ραδιενεργόν ύλην, υπό τον όρον ότι η ραδιενεργός
μόλυνση είναι μορφής μη ευχερέως δυναμένης να δια-
σπαρεί και ότι το επίπεδον μέσης μόλυνσεως σε 1 μ²
(ή σε χώρον επιφανείας εάν ο χώρος αυτός είναι κάτω
του 1 μ²) δεν υπερβαίνει τα:

1 UCI/CM² για πομπούς β και γ και χαμηλής τοξικό-
τητος πομπούς α αναφερομένους στον Πίνακα XIX
της Προσθήκης Α.6· και 0.1 UCI/CM² για άλλους
πομπούς α.

Ανωτάτη Πίεσις Κανονικής Λειτουργίας

"Ανωτάτη πίεσις κανονικής λειτουργίας" σημαίνει
την ανωτάτην πίεσιν άνω της ατμοσφαιρικής πιέσεως σε μέσον
επίπεδον θαλάσσης η οποία θα μπορούσε να αναπτυχθεί στο

~~αυτοτήτων~~ συστολής σε χρονική περίοδο ενδός έτους υπό 2700
~~αυτοτήτων~~ θερμοκρασίας και ηλιακής ακτινοβολίας αντι- (Συνεχίζεται)
 στοιχοῦσας στις περιβαλλοντικές συνθήκες μεταφοράς
 ελλείψει εξαερισμού, εξωτερικής ψύξεως δι' επικουρικού
 συστήματος, ή μοχλῶν λειτουργίας κατά την διάρκεια της
 μεταφοράς.

Πολύπλευρος Έγκριση

"Πολύπλευρος έγκριση" σημαίνει έγκριση της αρμό-
 διας αρχής της χώρας προελεύσεως και της αρμόδιας αρχής
 κάθε χώρας στην επικράτεια της οποίας πρόκειται να διε-
 ξαχθεί η αποστολή.

Κόλον

"Κόλον Τύπου Α" σημαίνει συσκευασία Τύπου Α με το
 περιορισμένο ραδιενεργό περιεχόμενό του. Επειδή το πε-
 ριεχόμενο ενδός κόλου Τύπου Α περιορίζεται σε A_1 ή A_2 ,
 ένα τέτοιο κόλον δεν χρειάζεται την έγκρισιν της αρμό-
 διας αρχής.

"Κόλον Τύπου B(U)" σημαίνει συσκευασία Τύπου B,
 μαζί με το ραδιενεργό περιεχόμενό του, το οποίον εφ' όσον
 έχει σχεδιασθεί σύμφωνα με καθορισμένο σχέδιο και τα κρι-
 τήρια συστολής απαιτεί ετερόπλευρον (μονόπλευρον) έγκρι-
 σιν μόνον του σχεδίου του κόλου και οπωσδήποτε δρων στοι-
 βασίας που ενδέχεται να είναι απαραίτητοι για διάχυση της
 θερμότητας.

"Κόλον Τύπου B(M)" σημαίνει συσκευασία Τύπου B,
 μαζί με το ραδιενεργό περιεχόμενό του, εφ' όσον το σχέδιό
 του δεν πληροί ένα ή περισσότερα ειδικά συμπληρωματικά
 κριτήρια σχεδιάσεως για κόλα Τύπου B(U) (βλέπε περιθώριο

~~3605~~ της Προσθήκης Α.6) απαιτεί πολύπλευρον έγκρισιν 2700
του σχεδίου του κόλου και, υπό ωρισμένες συνθήκες, (Συνεχίζεται)
των όρων προωθήσεως.

Συσκευασία

"Συσκευασία" σημαίνει την συναρμολόγησιν συστατικών μερών απαιτήτων να εξασφαλίσουν την συμμόρφωσιν προς τους όρους συσκευασίας της παρούσας Κλάσεως. Μπορεί, ειδικότερα, να αποτελείται από ένα ή περισσότερα δοχεία, απορροφητικό υλικό, χωρίσματα, προστασία (θωράξεις) κατά της ακτινοβολίας, και μηχανισμούς ψύξεως, για την απορρόφησιν μηχανικών κρούσεων (σδκ) και για θερμική μόνωσιν. Οι μηχανισμοί αυτοί περιλαμβάνουν το σχήμα με το σύστημα στερεώσεως (ακινητοποιήσεως) (TIE-DOWN SYSTEM) όταν προορίζονται να αποτελέσουν αναπόσπαστον τμήμα της συσκευασίας.

"Συσκευασία Τύπου Α" σημαίνει συσκευασία η οποία κατά τη συνήθη μεταφορά είναι ικανή να εμποδίσει οιαδήποτε απώλειαν ή διασποράν του ραδιενεργού περιεχομένου και συγκρατήσει την προστατευτική του λειτουργία. Οι όροι της κανονικής μεταφοράς θα ανατυπούνται βάσει των ελέγχων των προβλεπομένων υπό του περιθωρίου 3635 και 3636 της Προσθήκης Α.6, τους οποίους ελέγχους η συσκευασία θα εικονίζει ότι διεξήλθε.

"Συσκευασία Τύπου Β" σημαίνει συσκευασία η οποία είναι ικανή να αντέξει όχι μόνον στους όρους της κανονικής μεταφοράς, όπως η συσκευασία Τύπου Α, αλλά και (συνθήκες) και σε ατύχημα μεταφοράς. Οι όροι/ενός τέτοιου ατυχήματος

θα ανατυπούνται βάσει των των ελέγχων των προβλεπο- 2700
μένων υπό των περιθωρίων 3635 έως 3637 της Προσθή- (Συνεχίζεται)
κης Α.6, τους οποίους ελέγχους η συσκευασία, θα ει-
κονίζεται ότι διεξήλθε υπό τας ομοίως προβλεπομένας
συνθήκας (όρους).

Επίπεδον Ακτινοβολίας

"Επίπεδον Ακτινοβολίας" σημαίνει την αντίστοι-
χον ισοδύναμον προς ραδιενεργόν δόσιν τιμήν εκφραζο-
μένην εις MILLIREM ωριαίως. Τα επίπεδα ακτινοβολίας
μπορούν να καθορίζονται δι' οργάνων, σε συνδυασμό με
την χρήση πινάκων μετατροπής οσάκις απαιτείται ή με
υπολογισμόν. Μετρημένες ή υπολογισθείσες πυκνότητες
ροής ουδετερονίου μπορούν να μετατρέπονται σε επίπεδα
ακτινοβολίας με την χρήση των στοιχείων των διδομένων
στον παρακάτω πίνακα.

Πυκνότητες ροής ουδετερονίου θεωρούμενες ως

ισοδύναμες προς επίπεδο ακτινοβολίας των

1 MREM/H (ωριαίως),

Ενέργεια ουδετερονίου Πυκνότητα ροής ισοδύναμη προς
1 MREM/H ($N/CM^2 \cdot S$)

| | |
|-------------------|-----|
| Θερμική (THERMAL) | 268 |
| 5 KEV | 228 |
| 20 KEV | 112 |
| 100 KEV | 32 |
| 500 KEV | 12 |
| 1 MEV | 7.2 |
| 5 MEV | 7.2 |
| 10 MEV | 6.8 |

~~Σημείωση:~~ - Ισοδύναμες πυκνότητες ροής για ενέργειες 2700
μεταξύ των ανωτέρω αναφερομένων θα λαμβάνονται δια γραμμικής παρεμβολής. (Συνεχίζεται)

Ραδιενεργόν περιεχόμενον

"Ραδιενεργόν περιεχόμενον" σημαίνει την ραδιενεργόν ύλην μαζί με οποιαδήποτε μολυνθέντα στερεά, υγρά ή αέρια του κόλου.

Ραδιενεργός ύλη ειδικής μορφής

"Ραδιενεργός ύλη ειδικής μορφής" σημαίνει είτε μη-δυναμένη να διασπαρεί στερεά ραδιενεργός ύλη είτε σφραγισμένη κάψουλα περιέχουσα ραδιενεργόν ύλην. Η σφραγισμένη κάψουλα θα είναι έτσι κατασκευασμένη ώστε να μπορεί να ανοιχθεί μόνον με την καταστροφήν αυτής. Η ραδιενεργός ύλη ειδικής μορφής θα πληροί τους κάτωθι όρους:-

(α), θα έχει τουλάχιστον μίαν διάστασιν όχι κάτω των

5 χιλ.· και

(β), θα πληροί τους σχετικούς όρους ελέγχου τους οριζόμενους υπό των περιθωρίων 3640 έως 3642 της Προσθήκης Α.6.

Γενικώς, ή έννοια "Ειδικής μορφής" παρέχει την δυνατότητα στις ύλες που παρουσιάζουν υψηλότερον επίπεδον ενεργείας να συμπεριλαμβάνονται σε κόλον Τύπου Α.

Ειδική ενέργεια

Η "ειδική ενέργεια" ραδιοπυρηνικού σημαίνει την ενέργειαν ραδιοπυρηνικού ανά μάζαν μονάδος. Η ειδική ενέργεια ύλης στην οποία τα ραδιοπυρηνικά έχουν βασικώς ομοιομόρφως κατανεμηθεί είναι η ενέργεια της ύλης αυτής

ανωτάτης μονάδος.

Δείκτης Μεταφοράς

2700

(Συνεχίζεται).

Ο "δείκτης μεταφοράς" ενός κόλου σημαίνει:-

(α) Τον αριθμόν ο οποίος εκφράζει το επίπεδον της ανωτάτης ακτινοβολίας σε MILLIREM ωριαίως σε I μ. εκ της εξωτερικής επιφανείας του κόλου· ή

(β) Προκειμένου περί κόλων της Διασπαστής Κλάσεως II ή Διασπαστής Κλάσεως III, τον ανώτερον των παρακάτω αριθμών:

ο αριθμός ο οποίος εκφράζει το επίπεδον της ανωτάτης ακτινοβολίας, ως υπό στοιχείον (α) ανωτέρω, και ο αριθμός ο λαμβανόμενος δια διαίρεσεως του 50 με τον επιτρεπόμενον αριθμόν τούτων κόλων.

Ο "δείκτης μεταφοράς" δοχείου σημαίνει είτε:

το άθροισμα των δεικτών μεταφοράς όλων των κόλων εντός του δοχείου, πλην των δοχείων των μεταφερόντων κόλα Διασπαστής Κλάσεως III, ο δείκτης μεταφοράς θα είναι 50 εκτός εάν το άθροισμα των δεικτών μεταφοράς των κόλων αναγκαστεί υψηλότερον αριθμόν.

είτε για δοχεία μη μεταφέροντα κόλα των Διασπαστών Κλάσεων II ή III και υπό πλήρες φορτίον, ο αριθμός ο οποίος εκφράζει το επίπεδον ανωτάτης ακτινοβολίας εις MREM/H (ωριαίως) σε I μ. εκ της εξωτερικής επιφανείας του δοχείου πολλαπλασιαζόμενος επί της τιμής του παρακάτω πίνακος της

καταλλήλου δια την ανωτάτην επιφάνειαν εγκαρσίας 2700
τομής του δοχείου. (Συνεχί-
ζεται)

Συντελεστές Πολλαπλασιασμού

Μέγεθος φορτίου

Συντελεστής Πολλαπλα-
σιασμού

Μέτρηση

(μετρήσεως επιφανείας εγκαρσίας
τομής του φορτίου καθέτως προς
την ενδιαφερομένην κατεύθυνσιν)

| | |
|------------------------------|----|
| I μ^2 και κάτω | I |
| > I μ^2 έως 5 μ^2 | 3 |
| > 5 μ^2 έως 20 μ^2 | 6 |
| > 20 μ^2 έως 100 μ^2 | 19 |

(γ) Ο αριθμός ο οποίος εκφράζει τον δείκτην μεταφοράς
θα στρογγυλεύεται προς τα άνω μέχρι του πρώτου
δεκαδικού ψηφίου.

Μη-πεπιεσμένον αέριον

"Μη-πεπιεσμένον αέριον" σημαίνει αέριον σε πίεση
μη υπερβαίνουσα την ατμοσφαιρική πίεση του περιβάλλοντος
όταν το σύστημα συστολής είναι κλειστό.

Ετερόπλευρος (μονόπλευρος) έγκρισις

"Ετερόπλευρος (μονόπλευρος) έγκρισις" σημαίνει την
έγκρισιν της αρμόδιας αρχής της χώρας προελεύσεως και
μόνον. Εάν η χώρα προελεύσεως δεν είναι συμβληθέν μέρος
της ADR, η έγκρισις θα απαιτεί επικύρωσιν της αρμόδιας
αρχής της πρώτης χώρας ADR εις την οποίαν θα φθάσει η
αποστολή.

Μη-ακτινοβόλον ουράνιον

2700

(Συνεχίζεται)

"Μη-ακτινοβόλον ουράνιον" σημαίνει ουράνιον περιέχον όχι άνω των 10^{-6} G (γραμμ.) πλουτονίου ανά G (γραμμ.) ουρανίου-235 και ενέργειαν προϊόντος διασπάσεως όχι μεγαλύτεραν των 0.25 MCI ανά G (γραμμ.) ουρανίου-235.

Μη-ακτινοβόλον θόριον

"Μη-ακτινοβόλον θόριον" σημαίνει θόριον περιέχον όχι άνω των 10^{-7} G (γραμμ.) ουρανίου-233 ανά G (γραμμ.) θορίου-232.

Ουράνιον· εξασθενημένον, εμπλουτισμένον, φυσικόν

"Φυσικόν ουράνιον" σημαίνει χημικώς-διαχωρισμένον ουράνιον με την φυσικώς-προκύπτουσα κατανομήν των ισοτόπων ουρανίου (περίπου 99.28 τοις εκατόν ουρανίου-238 και 0.72 τοις εκατόν ουρανίου-235). "Εξασθενημένον ουράνιον" σημαίνει ουράνιον περιέχον κάτω των 0.72 τοις εκατόν ουρανίου-235, του υπολοίπου όντος ουρανίου-238.

"Εμπλουτισμένον ουράνιον" σημαίνει ουράνιον περιέχον άνω των 0.72 τοις εκατόν ουρανίου-235, του υπολοίπου όντος ουρανίου-238. Σε όλες τις περιπτώσεις υπάρχει μία πολύ μικρή ποσότητα ουρανίου-234.

(3) Απαγορεύσεις επί μικτής φορτώσεως

Υλές της Κλάσεως 7 περιεχόμενες σε κόλα φέροντα ετικέτα σύμφωνα προς τα μοντέλα 6A, 6B ή 6Γ δεν θα φορτώνονται στο αυτό όχημα μαζί με ύλές και είδη της Κλάσεως Ια (περιθώριο 2Ι0Ι), Ιβ (περιθώριο 2Ι3Ι) ή Ιγ (περιθώριο

~~2192~~ 2192) ~~Προβλεπόμενα~~ σε κώδα φέρονται μίαν ή δύο επι- 2700
~~κετε~~ ~~ομωμένων~~ προς το μοντέλο Νο. Ι. (Συνεχίζε-
 ται)

Οι ύλες και είδη της παρούσης Κλάσεως περιέχουν ένα 2701
 ή περισσότερα των ραδιοπυρηνικών των αναφερομένων
 στο κεφάλαιον VI της Προσθήκης Α.6 (περιθώρια 3690
 και 3691).

Ο κατωτέρω κατάλογος καθορίζει τους διαφόρους τύπους 2702
 αποστολής:

- 1.- Κενά κώδα που περιείχαν ραδιενεργείς ύλες·
- 2.- Είδη κατασκευασμένα από φυσικόν ή εξασθενημένον
 ουράνιον ή φυσικόν θόριον·
- 3.- Μικρές ποσότητες ραδιενεργών υλών·
- 4.- Όργανα και βιομηχανοποιηθέντα είδη·
- 5.- Ύλες χαμηλής ειδικής ενεργείας LSA (I)
- 6.- Ύλες χαμηλής ειδικής ενεργείας LSA (II)
- 7.- Χαμηλής-στάθμης (επιπέδου), στερεές ραδιενεργείς
 ύλες·
- 8.- Ραδιενεργείς ύλες σε κώδα Τύπου Α·
- 9.- Ραδιενεργείς ύλες σε κώδα Τύπου Β(Υ)·
- 10.- Ραδιενεργείς ύλες σε κώδα Τύπου Β(Μ)·
- 11.- Διασπαστές ύλες·
- 12.- Ραδιενεργείς ύλες μεταφερόμενες υπό ειδικήν διευθέ-
 τησιν.

Πίνακας I

2703

I.- Ύλες

Ετικέτες κινδύνου

Κενά κώδα: που περιείχαν ραδιε-
 νεργείς ύλες.

Επί των κώδων

Ουδεμία

Πίνακας I

2703

(Συνεχίζεται) (Συνεχίζεται)

Σημειώσεις:2.- Συσκευασία/Κόλον

(α) Η συσκευασία θα είναι σύμφωνα με τους όρους του περιθωρίου 3600 της Προσθήκης Α.6, και θα κλείνεται ασφαλώς και σε καλή κατάσταση.

Οιαδήποτε ετικέτα σημειούσα κίνδυνον θα είναι καλυμμένη ή θα αφαιρείται

(β) Επιτρεπόμενα επίπεδα εσωτερικής μόλυνσης: όχι περισσότερο από 100 φορές τα επίπεδα τα αναγραφόμενα στη παράγραφο 5.

(γ) Οσφίς κενή συσκευασία περιλαμβάνει φυσικόν ή εξασθενημένον ουράνιον ή φυσικόν θόριον στη κατασκευή της, η επιφάνειά της θα καλύπτεται από ουσιαστικές, μη-ενεργόν προστασιαν από μέταλλο ή από κάποιο άλλο ανθεκτικό υλικό.

3.- Ανώτατον επίπεδον ακτινοβολίας κόλου

0.5 MREM/H (ωριαίως) στην επιφάνεια του κόλου.

4.- Μικτή συσκευασία

Ουδεμία διάταξη.

5.- ~~Πίνακας~~ επί κδλων

Πίνακας I

2703

Μη-ωρισμένα όρια εξωτερικής
μολύνσεως:

(Συνεχίζεται)

(Συνεχίζεται)

β/ γ/ χαμηλής-τοξικότητας

α, πομποί

 10^{-4} ΜCi/cm²

Φυσικόν/εξασθενημένον ουρά-

νιον/φυσικόν θόριον

 10^{-3} ΜCi/cm²

Άλλοι α πομποί

 10^{-5} ΜCi/cm²

Για πλήρεις λεπτομέρειες, βλέπε

περιθώριο 365I της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) κδλων

(α) Τα κδλα θα μαρκάρονται καθαρά και

ανεξέτηλα με το βάρος εάν τούτο

είναι άνω των 50 KG.

(β) Πάσα ένδειξις αναφέρουσα ραδιενερ-

γδν κίνδυνον δεν θα είναι ορατή.

7.- Έγγραφα μεταφοράς

Το έγγραφο μεταφοράς θα περιλαμβάνει την

περιγραφήν "Ραδιενεργείς ύλες (Κενά κδλα),

7, πίνακας I, ADR", με την ονομασίαν υπογραμ-

μισμένην με κδκκινο.

8.- Αποθήκευσις και προώθησις

Ουδεμία διάταξις.

9.- Μεταφορά κδλων με οχήματα και δοχεία (CONTAINERS)

Ουδεμία διάταξις.

10.- Μεταφορά σε χδμα με οχήματα και δοχεία (CONTAINERS)

Δεν έχει εφαρμογήν.

ΠίνακxI
(Συνεχίζεται)

2703
(Συνεχίζεται)

I2.- Επιγραφές και ετικέτες επί οχημάτων,
βυτιοφόρων, TANK CONTAINERS και δο-
χείων (CONTAINERS).

Ουδεμία

I3.- Απαγορεύσεις επί μικτής φορτώσεως

Ουδεμία διάταξη

I4.- Απολύμανσις οχημάτων, βυτιοφόρων,

TANK CONTAINERS και δοχείων (CONTAINERS)

Ουδεμία διάταξη

I5.- Άλλες διατάξεις

Ουδεμία.

Πίνακx2

Ετικέτες κινδύνου
επί των κόλων

I.- Υλεις

Ουδεμία

Είδη κατασκευασθέντα

από φυσικό ή εξασθενημένο ουράνιο
ή φυσικό θόριο.

Η εξωτερική επιφάνεια του ουρανίου
ή θορίου θα καλύπτεται από ουσιαστι-
κήν, ανενεργόν προστασίαν (θωράκισιν)
από μέταλλο ή κάποιο άλλο ανθεκτικό
υλικό.

ΣΗΜΕΙΩΣΗ:- Τέτοια είδη μπορεί π.χ. να
είναι αχρησιμοποίητες συσκευασίες προο-

~~Απαιτήσεις~~ για τη μεταφορά ραδιε-
νεργών υλών.

Πίναξ 2 2703
(Συνεχίζεται) (Συνεχί-
ζεται)

2.- Συσκευασία/Κόλον

Η συσκευασία θα είναι συμφώνως προς
τους όρους του περιθωρίου 3600 της
Προσθήκης Α.6.

3.- Επίπεδον ανωτάτης ακτινοβολίας Κόλου

0.5 MREM/H (ωριαίως), στην επιφάνεια
του κόλου.

4.- Μικτή συσκευασία

Ουδεμία διάταξις.

5.- Μόλυνσις επί των κόλων

Μη-ωριαμένα όρια εξωτερικής μόλυνσεως:

| | | |
|-----------------------------------|-----------|---------------------|
| β/γ/χαμηλής-τοξικότητας α. πομποί | 10^{-4} | MCI/CM ² |
| φυσικών/εξασθενημένον ουράνιον/ | | |
| φυσικών θόριον | 10^{-3} | MCI/CM ² |
| Άλλοι α πομποί | 10^{-5} | MCI/CM ² |

Για πλήρεις λεπτομέρειες βλέπε περιθώριο
3651 της Προσθήκης Α.6.

6.- Ενδείξεις (Μαρμάρισμα) επί των κόλων

Ουδεμία.

7.- Έγγραφα μεταφοράς

Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφή
"Ραδιενεργείς Ύλες (Βιομηχανοποιηθέντα/Κατασκευασθέντα
Είδη), 7, πίναξ 2, ADR", με την ονομασίαν υπογραμμι-
σμένην με κόκκινο.

8.- Αποθήκευσις και προώθησις

Ουδεμία διάταξις.

Πίνακας 2

2703

(Συνεχίζεται) (Συνεχίζεται)

ται)

- 9.- Μεταφορά κόλων με οχήματα και δοχεία (CONTAINERS)
Ουδεμία διάταξις.
- 10.- Μεταφορά εις χύμα με οχήματα και δοχεία (CONTAINERS)
Δεν έχει εφαρμογήν.
- 11.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS.
Δεν έχει εφαρμογήν.
- 12.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)
Ουδεμία.
- 13.- Απαγορεύσεις επί μικτής φορτώσεως
Ουδεμία διάταξις.
- 14.- Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)
Ουδεμία διάταξις.
- 15.- Άλλες διατάξεις
Ουδεμία.

Πίνακας 3I.- Υλεις

Μικρές ποσότητες ραδιενεργών υλών
σε ποσότητες που δεν υπερβαίνουν
τους αριθμούς τους διδομένους στον
κατωτέρω πίνακα και οι οποίες δεν
περιέχουν άνω των 15 G (γραμμαρίων)
ουρανίου-235.

Ετικέτες κινδύνου
επί των κόλων

Ουδεμία (αλλά βλέπε
παράγραφον 15).

2703

Φυσικά υλικά

Όρια Κόλου (Συνεχίζεται)

Στερεά και αέρια

Ειδικής μορφής

 $10^{-3} A1$

Άλλων μορφών

 $10^{-3} A2$

Τρίτιον

 $20 \text{ CI}^B/$

Υγρά

Οξείδιο Τριτίου σε υδατώδη διαλύματα

κάτω των 0.1 CI/I 1000 CI μεταξύ 0.1 CI/I και 1.0 CI/I 100 CI άνω των 1.0 CI/I 1 CI

Άλλα υγρά

 $10^{-4} A2$

Για μίγματα ραδιοπυρηνικών, βλέπε περιθώριο 369I της Προσθήκης Α.6.

β/ Οι τιμές για το τρίτιο ισχύουν επίσης για τρίτιον ενεργού φωτεινού χρώματος και τρίτιον απορροφούμενον επί στερεών μεταφορέων.

2.- Συσκευασία/Κόλου

(α) Η συσκευασία θα είναι συμφώνως προς τους όρους του περιθωρίου 3600 της Προσθήκης Α.6.

(β) Κατά την μεταφοράν δεν θα υπάρχει διαρροή ραδιενεργού ύλης.

3.- Ανώτατον επίπεδον ακτινοβολίας κόλου

0.5 MREM/H στην επιφάνεια του κόλου.

4.- Μικτή συσκευασία

Ουδεμία διάταξη.

Πίναξ 3

2703

(Συνεχίζεται) (Συνεχίζεται)

5.- Μόλυνση (επί) των κόλων

Μη-ωρισμένα δρια εξωτερικής μολύνσεως:

β/γ/χαμηλής-τοξικότητας

α πομποί

 10^{-4} MCI/CM²

φυσικόν/εξασθενημένον ουράνιον/

φυσικόν θόριον

 10^{-3} MCI/CM²

Άλλοι α πομποί

 10^{-5} MCI/CM²

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο

365I της Προσθήκης Α.6.

6.- Ένδειξεις (μαρκάρισμα) επί των κόλων

Η εξωτερική επιφάνεια του συστήματος συστολής

θα φέρει την ένδειξιν "ΡΑΔΙΕΝΕΡΓΟΝ" ως προειδοποίηση για το άνοιγμα του κόλου.

7.- Έγγραφο μεταφοράς

Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφήν

"Ραδιενεργείς ύλες (Μικρές ποσότητες), 7, πίναξ 3,

ADR", με την ονομασίαν υπογραμμισμένην με κόκκινο.

8.- Αποθήκευση και προώθηση

Ουδεμία διάταξις.

9.- Μεταφορά κόλων με οχήματα και δοχεία (CONTAINERS)

Ουδεμία διάταξις.

10.- Μεταφορά εις χύμα με οχήματα και δοχεία (CONTAINERS)

Δεν επιτρέπεται.

11.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν επιτρέπεται.

12.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων,

~~ΤΑΝΚ~~ CONTAINERS και δοχείων (CONTAINERS). Πίνακας 3

2703

(Συνεχίζεται) (Συνεχίζεται)

~~Ευδελία~~.

~~13.- Απογορεύσεις επί μικτής φορτώσεως~~

Ουδεμία διάταξη.

14.- ~~Απολύμανση οχημάτων, βυτιοφόρων, TANK~~
~~CONTAINERS και δοχείων (CONTAINERS)~~

Βλέπε περιθώριο 3695 (3) της Προσθήκης Α.6.

15.- ~~Άλλες~~ διατάξεις

(α) Διατάξεις περί ατυχημάτων - βλέπε περιθώριο 3695 (1) της Προσθήκης Α.6.

(β) Απολύμανση εν αποθηκεύσει - βλέπε περιθώριο 3695 (2) της Προσθήκης Α.6.

(γ) Ραδιενεργές ύλκες που έχουν άλλες επικινδύνους ιδιότητες θα συμμορφούνται επίσης με τις διατάξεις της καταλλήλου κλάσεως.

Πίνακας 4

Επικίνδυνος κινδύνου
επί των κόλων

I.- Υλκες

Όργανα και Βιομηχανοποιηθέντα Είδη

Ουδεμία

όπως, ωρολόγια τσίχου, ηλεκτρονικές λυχνίες (λυχνίες ασυρμάτου) ή συσκευαί,

που έχουν ραδιενεργείς ύλκες ως συστα-

τικόν μέρος αυτών , η ενέργεια των οποίων

δεν υπερβαίνει τα ποσά που δίδονται στον

παρακάτω πίνακα και οι οποίες δεν περιέ-

χουν άνω των 15 G. (γραμμαρίων) ουρανί-

ου-235.

Πίνακας 4

2703

(Συνεχίζεται) (Συνεχίζεται)

| Φύσις υλών | Όρια Είδους | Όρια Κόλου |
|----------------|----------------|-----------------|
| Στερεά | | |
| Ειδικής μορφής | $10^{-2} A_I$ | A_I |
| Άλλων μορφών | $10^{-2} A_2$ | A_2 |
| Υγρά | $10^{-3} A_2$ | $10^{-1} A_2$ |
| Αέρια | | |
| Τρίτιον | 20 CI^{ρ} | 200 CI^{ρ} |
| Ειδικής μορφής | $10^{-3} A_I$ | $10^{-2} A_I$ |
| Άλλων μορφών | $10^{-3} A_2$ | $10^{-2} A_2$ |

Για μίγματα ραδιοπυρηνικών, βλέπε περιθώριο 369I της Προσθήκης Α.6.

ρ Οι τιμές για το τρίτιο θα ισχύουν και για τρίτιο ενεργού φωτεινού χρώματος και τρίτιον απορροφούμενον επί στερεών μεταφορέων.

2.- Συσκευασία/Κόλον

(α) Η συσκευασία θα είναι συμφώνως προς τους όρους του περιθωρίου 3600 της Προσθήκης Α.6.

(β) Τα όργανα και είδη θα συσκευάζονται ασφαλώς.

3.- Ανώτατον επίπεδον ακτινοβολίας Κόλου

0.5 MREM/H στην επιφάνεια του κόλου και 10 MREM/H σε 10 CM από οποιοδήποτε σημείο επί της εξωτερικής επιφανείας οποιουδήποτε μη-συσκευασμένου οργάνου ή είδους.

4.- Μικτή συσκευασία

Ουδεμία διάταξις.

5.- Μολυνσις κδλων

Πίναξ 4

2703

Πη-ωρισμένα δρια εξωτερικής μολύνσεως: (Συνεχίζεται) (Συνεχίζεται)

β/γ/χαμηλής-τοξικότητας α πομποί 10^{-4} $\mu\text{Ci}/\text{cm}^2$

Φυσικόν/εξασθενημένον ουράνιον/

φυσικόν θόριον

10^{-3} $\mu\text{Ci}/\text{cm}^2$

Άλλοι α πομποί

10^{-5} $\mu\text{Ci}/\text{cm}^2$

Για πλήρεις λεπτομέρειες, βλέπε περιθώ-
ριο 365I της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) επί των κδλων

ραδιαιγνοβδλων

Κάθε όργανον ή είδος (πλήν/τεμαχίων χρονισμού ή
συσκευών) θα φέρει την ένδειξιν "ΡΑΔΙΕΝΕΡΓΟΝ".

7.- Έγγραφα Μεταφοράς

Το έγγραφον μεταφοράς θα περιλαμβάνει την περι-
γραφήν "Ραδιενεργείς ύλες (Όργανα) ή (Βιομηχα-
νοποιηθέντα είδη), 7, πίναξ 4, ADR", με την ονο-
μασίαν υπογραμμισμένην με κόκκινον.

8.- Αποθήκευσις και προώθησις

Ουδεμία διάταξις.

9.- Μεταφορά κδλων με οχήματα και δοχεία (CONTAINERS)

Ουδεμία διάταξις.

10.- Μεταφορά εις χύμα με οχήματα και δοχεία (CONTAINERS)

Δεν έχει εφαρμογήν.

11.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν έχει εφαρμογήν.

12.- Επιγραφές και Ετικέτες επί οχημάτων, βυτιοφόρων,
TANK CONTAINERS και δοχείων (CONTAINERS).

Ουδεμία.

13.- Απαγορεύσεις επί μιντικής φορτώσεως

Ουδεμία διάταξις.

14. Απολύμανσις οχημάτων, βυτιοφόρων, TANK
CONTAINERS, δοχείων (CONTAINERS)

Πίνακας 4 2703
 (Συνεχίζεται) (Συνεχίζεται)

Βλέπε περιθώριο 3695(3) της Προσθήκης Α.6.

15. - Άλλες διατάξεις

(α) Διατάξεις περί ατυχημάτων - βλέπε περιθώριο 3695(1) της Προσθήκης Α.6.

(β) Απολύμανσις εν αποθηκείσει - βλέπε περιθώριο 3695(2) της Προσθήκης Α.6.

Πίνακας 5

I. - Υλεις

Ετικέτες κινδύνου
επί των κόλων

Υλεις χαμηλής ειδικής ενέργειας LSA(I),
 ανήκουσες σε μία των παρακάτω ομάδων
 ως ορίζονται πλήρως στο περιθώριο 2700(2):

(Βλέπε Προσθήκη Α.9)

(I) μεταλλεύματα ουρανίου ή θορίου ή συμπυκνώματα (εδάφιο (α) του ορισμού)

Εκτός εάν μεταφέρονται ως πλήρες φορτίο, ετικέτες των μοντέλων 6Α, 6Β ή 6Γ θα τοποθετούνται εξωτερικώς σε δύο αντίθετες πλευρές, βλέπε περιθώρια 3655 έως 3655 της

(II) μη-ακτινοβόλον φυσικόν ή εξασθενημένον ουράνιον ή μη-ακτινοβόλον φυσικόν θόριον (εδάφιο (β) του ορισμού)

Προσθήκης Α6 για κατηγορία κόλου. Το περιεχόμενο θα περιγράφεται επί των ετικετών ως "Ραδιενεργόν LSA". Δευτερεύουσες

(III) οξείδιο του τριτίου σε υδατώδη διαλύματα - συμπύκνωμα IOCI/I και κάτω (εδάφιο (γ) του ορισμού)

(IV) ύλεις με ομοιόμορπον ενέργειαν υπό συνθήκες κατωτάτου όγκου όχι μεγαλύτερου ετικέτες:

των IO-4 A2/G (εδάφιο (δ) του ορισμού).

(I) για νιτρικόν θόριον και νιτρικόν ουράνιον -

(V) Μη-ραδιενεργά εξέδω μολυνθέντα όχι περισσότερο από 10 φορές τα όρια κόλου τα αναφερόμενα στη παρακάτω παράγραφο 5

απαιτούνται ετικέτες μοντέλου Νο.3.

(II) για φθοριούχο ουράνιο - απαι-

Πίνακας 2703
(Συνεχίζεται) (Συνεχίζεται)

(V)...και κατά τρόπον ώστε η ειδική ενέργεια υπό συνθήκες κατωτάτου δγ-
του No.4.
του ουδέποτε να υπερβαίνει τα 10-4
A2/G (ρδάφιο (ε) του ορισμού).

Εάν υπάρχουν διασπαστές ύλες οι όροι του πίνακος II θα τηρούνται επιπροσθέτως των όρων του παρόντος πίνακος.

2.- Συσκευασία/Κόλον

Κόλα μεταφερόμενα όχι, ως συσκευασία πλήρους φορτίου θα είναι σύμφωνα προς το περιθώριο 3600, περιθώριο 3650 έως 2655 και περιθώριο 3656(I), έως (4) της Προσθήκης A.6.

Υλές της ανωτέρω παραγράφου I(II) υπό μαζική στερεά μορφή θα συσκευάζονται κατά τρόπον ώστε να αποφεύγεται η απόξεσις (εκτριβή), και υπό άλλες στερεές μορφές θα περιέχονται σε ουσιαστική θωράκιση.

3.- Ανώτατο επίπεδο ακτινοβολίας Κόλου

200 MREM/H στην επιφάνεια του κόλου και 10 MREM/H σε I μέτρο από την επιφάνεια αυτή (βλέπε. περιθώρια 3653 έως 3655 της Προσθήκης A.6).

εκτός της περίπτωσης πλήρους φορτίου οπότε το όριον είναι 1,000 MREM/H στην επιφάνεια του κόλου και μπορεί να υπερβεί τα 10 MREM/H σε I μέτρο από την επιφάνεια αυτή (βλέπε περιθώριο 3659(7) της Προσθήκης A.6).

4.- Μικτή συσκευασία

Βλέπε περιθώριο 3650 της Προσθήκης A.6.

5.- Μολύνσεις επί των κόλων

Πίναξ 5

2703

(α) Μη-υφιστάμενα όρια εξωτερικής μολύν-

(Συνεχίζεται) (Συνεχίζεται)

σεως για κόλα μεταφερόμενα όχι ως πλήρες φορτίο.

β/γ/χαμηλής-τοξικότητας α πομποί 10^{-4} UCI/CM²

Φυσικόν/εξασθενημένον ουράνιον/

φυσικόν θόριον

10^{-3} UCI/CM²

Άλλοι α πομποί

10^{-5} UCI/CM²

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο 365I της Προσθήκης Α.6.

(β) Για κόλα μεταφερόμενα ως πλήρες φορτίο - Ουδεμία διάταξις.

6.- Ένδειξεις (μαρκάρισμα) επί των κόλων

Κόλα μεταφερόμενα ως πλήρες φορτίο - πολυγραφημένη ή άλλως σημειούμενη ένδειξις "ΡΑΔΙΕΝΕΡΓΟΝ LSA".

Κόλα μεταφερόμενα όχι ως πλήρες φορτίο - θα μαρκάτεται καθαρά και ανεξίτηλα το βάρος εάν υπερβαίνει τα 50 KG.

7.- Έγγραφα μεταφοράς

Το έγγραφο μεταφοράς θα περιλαμβάνει την επιγραφήν "Ραδιενεργείς ύλες (Χαμηλής ειδικής ενεργείας LSA(I)), 7, πίναξ 5, ADR", με την ονομασίαν υπογραμμισμένην με κόκκινο, και τις λεπτομέρειες τις οριζόμενες στα περιθώρια 3680 και 368I της Προσθήκης Α.6.

8.- Αποθήκευσις και προώθησις

(α) Αποθήκευσις και διαχωρισμός από άλλα επικίνδυνα εμπορεύματα - βλέπε περιθώριο 3658(I) της Προσθήκης Α.6.

Πίνακας 5 2703

(β) Αποθήκευση και διαχωρισμός από κόλα (Συνεχίζεται)(Συνεχίζεται)
φέροντα ετικέτα "FOTO" - βλέπε περιθώριο 240 001
της Προσθήκης Β.4 για τον πίνακα διαχωρισμού.

(γ) Όριο δείκτη ολικής μεταφοράς για αποθήκευση,
ουδέν όριον εκτός της περιπτώσεως κόλων Δια-
σπαστής Κλάσεως II ή III, βλέπε περιθώριο 3658(2),
έως (5), της Προσθήκης Α.6.

9.- Μεταφορά κόλων με οχήματα και δοχεία (CONTAINERS)

(α) Διαχωρισμός από κόλα φέροντα ετικέτα "FOTO" -
βλέπε περιθώριο 240 001 της Προσθήκης Β.4 για
τον Πίνακα διαχωρισμού.

(β) Όριο δείκτη ολικής μεταφοράς - 50. Το όριο
αυτό δεν ισχύει για πλήρες φορτίο, υπό τον όρον
ότι εάν υπάρχουν κόλα Διασπαστής Κλάσεως II ή
III δεν θα υπερβαίνεται ο επιτρεπόμενος αριθ-
μός, (βλέπε περιθώριον 3659(5) της Προσθήκης Α.6).

(γ) Ανώτατα επίπεδα ακτινοβολίας για οχήματα και μεγά-
λα δοχεία (CONTAINERS) προκειμένου περί πλήρους
φορτίου

200 MREM/H στην επιφάνεια

10 MREM/H σε 2 μέτρα από την επιφάνεια.

(βλέπε περιθώριο 3659(I) της Προσθήκης Α.6)

Επίσης, για οχήματα - 2 MREM/H σε οποιαδήποτε κανο-
νικώς καταληφθείσα θέση - βλέπε περιθώριο 3659(8)
της Προσθήκης Α.6.

(δ) Κόλα μη συμμορφούμενα προς τους όρους του περιθωρί-
ου 3600 θα μεταφέρονται ως πλήρες φορτίο, και δεν θα
υπερβαίνονται τα όρια του παρακάτω πίνακος:-

Πίνακας 2703
(Συνεχίζεται) (Συνεχίζεται)

Φύσας Υλών

Όριο Ενεργείας
Οχήματος ή μεγάλου δο-
χείου (CONTAINER)

Στερεά

Ουδέν όριον

Οξείδιο του Τριτίου σε υδατώδη

διαλύματα

50,000 CI

Άλλα υγρά και αέρια

100 X A₂

ΙΟ.- Μεταφορά εις χύμα με οχήματα και δοχεία (CONTAINERS)

Επιτρέπεται υπό πλήρες φορτίο υπό τον όρον ότι, μετά την φόρτωσιν, οι εξωτερικές επιφάνειες των οχημάτων θα έχουν προσεκτικώς καθαρισθεί υπό του αποστολέως και εφ' όσον ουδεμία διαρροή μπορεί να προκύψει υπό κανονικήν μεταφο-ράν. Ποσοτικά όρια ως εις τον πίνα-κα της ανωτέρω παραγράφου 9.

ΙΙ.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Επιτρέπεται υπό ωρισμένης συνθήκας (όρους) ως η ανωτέ-ρω παράγραφος ΙΟ, και υπό τους όρους των περιθωρίων 3660 και 366Ι, εκτός για ύλες που έχουν κριτικήν θερμοκρασίαν κάτω των 50°C ή, στη θερμοκρασία αυτή, πίεση ατμού άνω των 3 KG/CM², ή οι οποίες υπόκεινται σε στιγμιαία καύση.

Μόνον στερεές ή υγρές χαμηλής ειδικής ενεργείας ύλες, συμπεριλαμβανομένου κατά παρέκκλισιν του περιθωρίου 2Ι2 ΙΟΟ, φυσικού ή εξασθενημένου εξαφθοριούχου ουρα-

~~Οχήματα~~ μπορούν να μεταφέρονται σε Πίνακας 2703
TANK CONTAINERS (Δεξαμενοδοχεία). (Συνεχίζεται) (Συνεχίζεται)

12.- Επιγραφές και ετικέτες επί οχημάτων,
βυτιοφόρων, TANK CONTAINERS και δοχείων
(CONTAINERS) (βλέπε Προσθήκες Α.9 και Β.4)

Δοχεία (CONTAINERS) - ετικέτες μοντέλων 6Α,
6Β ή 6Γ επί όλων των τεσσάρων πλευρών. Οχή-
ματα και μεγάλα δοχεία (CONTAINERS) - επιγρα-
φές συμφώνως προς το μοντέλο της Προσθήκης
Β.4 περιθώριον 240 ΟΙΟ σε κάθε πλευρά και
οπίσθιο τοίχωμα του οχήματος (βλέπε περιθώ-
ρια 3659(6) και 7Ι 500).

Δευτερεύουσες ετικέτες

(Ι), για νιτρικό θόριο και νιτρικό ουράνιο -
απαιτούνται ετικέτες μοντέλου Νο.3

(ΙΙ) για εξαφθοριούχο ουράνιο - απαιτούνται
ετικέτες μοντέλου Νο. 4.

Ι/ Για εμπλουτισμένο εξαφθοριούχο ουράνιο, βλέπε
πίνακα ΙΙ.

13.- Απαγορεύσεις επί μιντικής φορτώσεως
Βλέπε περιθώριο 2700(3).

14.- Απολύμανση οχημάτων, βυτιοφόρων, TANK CONTAINERS
και δοχείων (CONTAINERS)

(α) Για αποστολές πλήρους φορτίου, μετά την εκφόρτω-
ση, τα οχήματα θα απολυμαίνονται υπό του παρα-
λήπτου στα επίπεδα του Πίνακος ΧΙΧ της Προσθή-
κης Α.6 εκτός εάν χρησιμοποιηθούν για τη μετα-

φορὰ των ίδιων υλών. Βλέπε επίσης πε- Πίνακας 2703
 ριθώριο 3695(4) της Προσθήκης Α.6. (Συνεχί- (Συνεχί-
 ζεται) ζεται)

β)) Για αποστολές δχι-πλήρους φορτίου, βλέπε
 περιθώριο 3695(3) της Προσθήκης Α.6.

15.- Άλλες διατάξεις

(α) Διατάξεις περί ατυχημάτων - βλέπε περιθώριο
 3695(1) της Προσθήκης Α.6.

(β) Απολύμανση εν αποθηκείσει - βλέπε περιθώ-
 ριο 3695(2) της Προσθήκης Α.6.

Πίνακας

1.- Υλεις

Υλεις χαμηλής ειδικής ενεργείας LSA(II)

ανήκουσαι σε οποιαδήποτε των παρακάτω
 ομάδων ως ορίζονται πλήρως στο περιθώ-
 ριο 2700(2):

Επικίνδυνος κινδύνου
επί των κόλων

Ουδεμία απαιτείται
 εκτός εάν υπάρχουν
 διασπαστές ύλεις.
 (βλέπε Πίνακα II)

(I) ύλεις με ομοιόμορφον ενέργειαν δχι
 μεγαλύτεραν των 10^{-4} A2/G. (εδάφιον
 (α) του ορισμού).

(II) μη-ραδιενεργά είδη μολυνθέντα σε επί-
 πεδο μη υπερβαίνον το I MCI/CM² για
 β και γ πομπούς και χαμηλής τοξικότη-
 τος α πομπούς, ή 0.1 MCI/CM² για άλλους
 α πομπούς (εδάφιον (β) του ορισμού).

Εάν υπάρχουν διασπαστές ύλεις οι όροι του
 πίνακος II θα τηρούνται επιπροσθέτως των
 όρων του παρόντος πίνακος.

2.- Συσκευασία/Κόλον

Η συσκευασία θα είναι συμφώνως προς τους ό-
 ρους του περιθωρίου 3600, περιθωρίου 3650

- ήταν περιθώριου 365I της Προσθήκης Α.6. Πίνακας 2703
- 3.- Ανώτατον επίπεδον ακτινοβολίας Κόλου (Συνεχίζει- (Συνεχίζει-
 Κλειστά οχήματα υπό τούς όρους του περι- ται) ται),
 θωρίου 3659(7)(α) της Προσθήκης Α.6 -
 1000 MREM/H στην επιφάνεια του κόλου και
 μπορούν να υπερβούν τα 10 MREM/H σε ένα
 μέτρο από της επιφανείας αυτής. Όλα τα
 άλλα οχήματα που δεν υπόκεινται στους ό-
 ρους του περιθωρίου 3659 (7) (α) της Προ-
 σθήκης Α.6 - 200 MREM/H στην επιφάνεια του
 κόλου και 10 MREM/H σε ένα μέτρο από της
 επιφανείας αυτής.
- 4.- Μικτή συσκευασία
 Βλέπε περιθώριο 3650 της Προσθήκης Α.6.
- 5.- Μόλυνσες επί των κόλων
 Μη-ωρισμένα όρια εξωτερικής μόλυνσεως:
- | | |
|---|-------------------------------|
| β/γ/χαμηλής τοξικότητας α πομποί | 10^{-4} UCI/CM ² |
| Φυσικόν/εξασθενημένον ουράνιον/ φυσικόν θόριον | 10^{-3} UCI/CM ² |
| Άλλοι α πομποί | 10^{-5} UCI/CM ² |
- Για πλήρεις λεπτομέρειες, βλέπε περιθώριο
 365I της Προσθήκης Α.6.
- 6.- Ενδείξεις (μαρκάρισμα) κόλων
 Τα κόλα θα μαρκάρονται "ΡΑΔΙΕΝΕΡΓΟΝ LSA".
- 7.- Έγγραφα μεταφοράς
 Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφήν
 "Ραδιενεργείς ύλες (χαμηλής ειδικής ενεργείας LSA (II)), 7,

Πίνακας 2703
(Συνεχίζεται) (Συνεχίζεται)

Πίνακας 2703, ADR," με την ονομασία υπογραμμισμένη με κόκκινο, και τις λεπτομέρειες τις οριζόμενες στα περιθώρια 3680 και 3681 της Προσθήκης Α.6.

8.- Αποθήκευση και προώθηση

Μόνον υπό πλήρες φορτίον

9.- Μεταφορά κόλων με οχήματα και δοχεία

(α) Μεταφορά μόνον με πλήρες φορτίον

(β) Εάν η αποστολή περιλαμβάνει κόλα Διασπαστής Κλάσσεως II ή III, δεν θα υπερβαίνεται ο επιτρεπόμενος αριθμός (βλέπε Πίνακα II).

(γ) Ανώτατα επίπεδα ακτινοβολίας για οχήματα και μεγάλα δοχεία (CONTAINERS) -

200 MREM/H στην επιφάνεια

10 MREM/H σε 2 μέτρα από την επιφάνεια (βλέπε περιθώριο 3659(7) της Προσθήκης Α.6).

Επίσης, για οχήματα - 2 MREM/H για οποιαδήποτε κανονικώς καταληφθείσα θέση - (βλέπε περιθώριο 3659(8) της Προσθήκης Α.6)

(δ) Δεν θα υπερβαίνονται τα όρια του παρακάτω πίνακος:

| Φύσις Υλών | Όριο ενεργείας Οχήματος ή μεγάλου δοχείου |
|--|--|
| Στερεά | Ουδέν όριο |
| Οξείδιο του τριτίου σε υδατώδη διαλύματα | 50,000 CI |
| Άλλα υγρά και αέρια | 100 X A ₂ |

10.- Μεταφορά εις χύμα σε οχήματα και δοχεία
(CONTAINERS)

Πίνακας 2703
(Συνεχίζεται) (Συνεχίζεται)

Δεν επιτρέπεται.

II.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν επιτρέπεται.

I2.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS) (βλέπε Προσθήκες Α.9 και Β.4)

Δοχεία (CONTAINERS) - ετικέτες των 6Α, 6Β ή 6Γ και στις τέσσερες πλευρές.

Οχήματα και μεγάλα δοχεία (CONTAINERS) - επιγραφές σύμφωνα με το μοντέλο της Προσθήκης Β.4, περιθώριο 240.010 σε κάθε πλευρά και οπίσθιο τοίχωμα του οχήματος (βλέπε περιθώρια 3659(6) και 71 500).

I3.- Απαγορεύσεις επί μιντικής φορτώσεως

Βλέπε περιθώριο 2700(3).

I4.- Απολύμανση οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Βλέπε περιθώριο 3695(3) και (4) της Προσθήκης Α.6.

I5.- Άλλες διατάξεις

Διατάξεις περί ατυχημάτων - βλέπε περιθώριο 3695(I) της Προσθήκης Α.6.

I.- Υλεις

Πίνακας 2707

Χαμηλού επιπέδου στερεές ραδιενεργείς ύλεις LLS, ανήκουσες σε οποιαδήποτε των παρακάτω ομάδων ως ορίζονται πλήρως στο περιθώριο 2700(2):-

Ετικέτες κινδύνου επί των κόλων

Ουδεμία απαιτείται εκτός εάν υπάρχουν

Πίνακας 7

2703

(συνεχίζεται) (Συνεχίζεται)

(I) Ύλεις με ομοιόμορφη ενέργειαν όχι διασπαστές ύλεις.
 μεγαλύτερων των $2 \times 10^{-3} \text{ A}_2/\text{G}$. (Βλέπε πίνακα II)
 (εδάφιο (α) του ορισμού).

(II) μη-ραδιενεργά είδη μολυνθέντα σε επίπεδο μη υπερβαίνον τα $20 \text{ UCI}/\text{CM}^2$ για β και γ πομπούς και χαμηλής τοξικότητας α πομπούς ή τα $2 \text{ UCI}/\text{CM}^2$ για άλλους α πομπούς. (εδάφιο (β) του ορισμού).

Εάν υπάρχουν διασπαστές ύλεις οι όροι του πίνακος II θα τηρούνται επιπροσθέτως των όρων του παρόντος πίνακος.

2.- Συσκευασία/Κόλον

(α) Η συσκευασία θα είναι συμφώνως προς τους όρους των περιθωρίων 3600 και 3650 της Προσθήκης Α.6 και θα είναι σε θέση να αντέξει στους ελέγχους του περιθωρίου 3635(4) και (5) της Προσθήκης Α.6.

(β) Υπό τους όρους των εν (α) αναφερομένων ελέγχων δεν θα υπάρχει

(I) απώλεια ή διασπορά του ραδιενεργού περιεχομένου

(II) αύξηση του ανωτάτου επιπέδου ακτινοβολίας του καταχωρηθέντος ή υπολογισθέντος στην εξωτερική επιφάνεια για την προ του ελέγχου κατάσταση.

3.- Ανώτατον επίπεδον ακτινοβολίας Κόλου

Κλειστά οχήματα υπό τους όρους του περιθωρίου

3659(7)(α), της Προσθήκης Α.6 -

Πίνακας 7

2703

1000 MREM/H στην επιφάνεια του κόλου
και μπορεί να υπερβεί τα 10 MREM/H σε
ένα μέτρο από την επιφάνειαν αυτήν.

(Συνεχίζε-
ται)

(Συνεχί-
ζεται)

Όλα τα άλλα οχήματα που δεν υπόκεινται
στους όρους του περιθωρίου 3659(7)(α)
της Προσθήκης Α.6 - 200 MREM/H στην επι-
φάνεια του κόλου και 10 MREM/H σε ένα
μέτρο από την επιφάνεια αυτή.

4.- Μικτή συσκευασία

Βλέπε περιθώριο 3650 της Προσθήκης Α.6.

5.- Μόλυνση επί των κόλων

Ουδεμία διάταξη.

6.- Ενδείξεις (μαρκάρισμα) επί κόλων

Τα κόλα θα μαρκάρονται "ΡΑΔΙΕΝΕΡΓΟΝ ΙΙΙ".

7.- Έγγραφο μεταφοράς

Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφήν
"Ραδιενεργείς ύλες (Χαμηλού-επιπέδου στερεόν (LLS), 7,
πίναξ 7, ADR," με την ονομασίαν υπογραμμισμένην με
κόκκινο, και τις λεπτομέρειες τις οριζόμενες στα
περιθώρια 3680 και 3681 της Προσθήκης Α.6.

8.- Αποθήκευσις και προώθησις

Μόνον υπό πλήρες φορτίον.

9.- Μεταφορά κόλων σε οχήματα και δοχεία (CONTAINERS)

(α) Μεταφορά μόνον πλήρους φορτίου

(β) Εάν η αποστολή περιέχει κόλα Διασπαστής Κλάσεως ΙΙ
ή ΙΙΙ ο επιτρεπόμενος αριθμός δεν θα υπερβαίνεται
(βλέπε πίνακα ΙΙ).

Πίνακας 7

2703

(Συνεχίζεται) (Συνεχίζεται)

(γ) Ανώτατα επίπεδα ακτινοβολίας για οχήματα και μεγάλα δοχεία (CONTAINERS) -

200 MREM/H στην επιφάνεια

10 MREM/H σε 2 μέτρα από την επιφάνεια -

βλέπε περιθώριο 3659(7) της Προσθήκης Α.6.

Ι0.- Μεταφορά εἰς χύμα σε οχήματα και δοχεία (CONTAINERS)

Δεν επιτρέπεται.

ΙΙ.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν έχει εφαρμογή.

Ι2.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

(Βλέπε Προσθήκες Α.9 και Β.4)

Δοχεία (CONTAINERS) - ετικέτες σύμφωνες προς τα μοντέλα 6Α, 6Β ή 6Γ σε όλες και στις τέσσερες πλευρές.

Οχήματα και μεγάλα δοχεία - επιγραφές σύμφωνες προς το μοντέλο της Προσθήκης Β.4, περιθώριο 240 ΟΙΟ σε κάθε πλευρά και στο οπίσθιο τοίχωμα του οχήματος (βλέπε περιθώρια 3659(6) και 7Ι 500).

Ι3.- Απαγορεύσεις επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3).

Ι4.- Απολύμανση οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Μετά την εκφόρτωση, τα οχήματα θα απολυμαίνονται υπό του παραλήπτου στο επίπεδο το αναγραφόμενο στον Πίνακα ΧΙΧ της Προσθήκης Α.6 εκτός εάν χρησιμοποιηθούν για τη μεταφορά ιδίων υλών. Βλέπε επίσης περιθώριο

3695(3) και (4) της Προσθήκης Α.6.

15. Άλλες διατάξεις

Διατάξεις περί ατυχημάτων - βλέπε περιθώριο 3695(I) της Προσθήκης Α.6.

Πίνακας 7 2703
(Συνεχί- (Συνεχί-
ται) ζεται)

Πίνακας 8

Ετικέτες κινδύνου
επί των κόλων

(βλέπε Προσθήκη Α.9)

1.- Υλές

Ραδιενεργές ύλές σε κόλα Τύπου Α

ενεργείας ανά κόλον Α₂ ή Α_I εάν πρόκει-
ται περί ειδικής μορφής.

Εάν υπάρχουν διασπαστές ύλές οι όροι
του πίνακος II θα τηρούνται επιπροσθέ-
τως των όρων του παρόντος πίνακος.

Ετικέτες συμφώνως
προς τα μοντέλα 6Α,
6Β ή 6Γ θα τοποθε-
τούνται εξωτερικώς
σε δύο αντίθετες πλευ-
ρές, βλέπε περιθώρια
3653 έως 3655 της
Προσθήκης Α.6 για κα-
τηγορία κόλου.

2.- Συσκευασία/Κόλον

Τύπου Α, συμφώνως προς τους όρους του σχε-
δίου τους διδομένους στα περιθώρια 3600 και
360I της Προσθήκης Α.6.

3.- Ανώτατον επίπεδον ακτινοβολίας Κόλου

200 MREM/H στην επιφάνεια του κόλου και

10 MREM/H σε I μέτρο από την επιφάνεια αυτή

(βλέπε περιθώρια 3653 έως 3655 της Προσθήκης Α.6).

(οπότε)
εκτός της περιπτώσεως πλήρους φορτίου, όταν/το

όριον είναι 1000 MREM/H στην επιφάνεια του κόλου

και μπορεί να υπερβεί τα 10 MREM/H σε I μέτρο από

της επιφανείας αυτής (βλέπε περιθώριο 3659(7) της

Προσθήκης Α.6)).

4.- Μικτή συσκευασία

Πίνακας 8 2703

(Βλέπε περιθώριο 3650 της Προσθήκης Α.6. (Συνεχίζε- (συνεχί-
 5.- Μόλυνση επί των κόλων ται)) ζεται))

Μη-ωρισμένα δρια εξωτερικής μολύνσεως:-

β/γ/χαμηλής τοξικότητας α. πομποί 10^{-4} UCI/CM²

Φυσικόν/εξασθενημένον ουράνιον/

φυσικόν θόριον 10^{-3} UCI/CM²

Άλλοι α. πομποί 10^{-5} UCI/CM²

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο
 365I της Προσθήκης Α.6.

6.- Ενδεύξεις (μαρκάρισμα) κόλων

Τα κόλα θα είναι καθαρά και ανεξίτηλα μαρκάρι-
 σμένα εξωτερικώς με

(I) "Τύπος Α"

(II) το βάρος του κόλου, εάν άνω των 50 KG.

7.- Έγγραφα μεταφοράς

(α) Για ανακεφαλαίωση των δρων εγκρίσεως και κοι-
 νοποιήσεως - βλέπε περιθώριο 2704.

(β) Το έγγραφο μεταφοράς πρέπει να περιλαμβάνει
 την περιγραφή "Ραδιενεργείς ύλες κόλων Τύπου Α,
 πίνακος 8, ADR", με την ονομασίαν υπογραμμισμέ-
 νην με κόκκινο, και τις λεπτομέρειες τις οριζό-
 μενες στα περιθώρια 3680 και 368I της Προσθή-
 κης Α.6.

(γ) Οσάκις επωφελούμεθα της επιτρεπομένης ηυξημένης
 ενεργείας ανά κόλον εάν η ύλη είναι ειδικής μορ-
 φής, το πιστοποιητικόν της ετεροπλεύρου εγκρίσεως

τορ σχεδίου ειδικής μορφής θα είναι στη Πίνακας 2703
 κατοχή του αποστολέως προ της πρώτης φορ- (Συνεχίζε- (Συνεχί-
 τώσεως (βλέπε περιθώριο 367I της Προσθή- ται) ζεται)
 κης Α.6)).

8.- Αποθήκευσις και προώθησις

(α) Αποθήκευσις και διαχωρισμός από τα άλλα
 επικίνδυνα εμπορεύματα

- βλέπε περιθώριο 3658(I) της Προσθήκης Α.6.

(β) Αποθήκευσις και διαχωρισμός από κόλα φέροντα
 ετικέτες "FOTO"

- βλέπε περιθώριο 240 00I της Προσθήκης Β.4
 για τον πίνακα διαχωρισμού.

(γ) Όριο δείκτου ολικής μεταφοράς για αποθήκευση-
 50 ανά ομάδα με 6 μέτρα μεταξύ ομάδων- βλέπε
 περιθώριο 3658(2) έως (5) της Προσθήκης Α.6.

9.- Μεταφορά κόλων με οχήματα και δοχεία (CONTAINERS)

(α) Διαχωρισμός από κόλα φέροντα ετικέτα "FOTO" -
 βλέπε περιθώριο 240 00I της Προσθήκης Β.4 για
 πίνακες διαχωρισμού.

(β) Όριο δείκτου ολικής μεταφοράς - 50. Το όριο αυτό
 δεν ισχύει για πλήρες φορτίο, εφ' όσον εάν υπάρχουν
 κόλα Διασπαστής Κλάσεως II ή III δεν υπερβαίνεται
 ο επιτρεπόμενος αριθμός. Βλέπε περιθώριο 3659(5)
 της Προσθήκης Α.6.

(γ) Ανώτατον επίπεδον ακτινοβολίας για οχήματα και με-
 γάλα δοχεία προκειμένου περί πλήρους φορτίου

200 MREM/H στην επιφάνεια

10 MREM/H σε 2 μέτρα από την επιφάνεια

(βλέπε περιθώριο 3659(7) της Προσθήκης Πλ^ηκ⁸ 2703
 Α.6) (Συνεχίζε- (Συνεχί-
 ται) ζεται)

Επίσης, για οχήματα - 2 MREM/H σε οποια-
 δήποτε κανονικώς καταληφθείσα θέση - βλέ-
 πε περιθώριο 3659(8) της Προσθήκης Α.6.

Ι0.- Μεταφορά εις χύμα σε οχήματα και δοχεία

Δεν έχει εφαρμογήν.

ΙΙ.- Μεταφορά με βυτία και TANK CONTAINERS

Δεν έχει εφαρμογήν.

Ι2.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων,
 TANK CONTAINERS και δοχείων (CONTAINERS)

(βλέπε Προσθήκες Α.9 και Β.4)

Δοχεία - ετικέτες συμφώνως προς μοντέλα 6Α, 6Β ή
 6Γ και στις τέσσερες πλευρές.

Οχήματα και μεγάλα δοχεία - επιγραφές σύμφωνα με
 το μοντέλο της Προσθήκης Β.4, περιθώριο 240 ΙΟΙΟ,
 σε κάθε πλευρά και επί του οπισθίου τοιχώματος του
 οχήματος (βλέπε περιθώρια 3659(6) και 7Ι 500).

Ι3.- Απαγόρευσις επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3).

Ι4.- Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS
 και δοχείων (CONTAINERS)

Βλέπε περιθώριο 3695(3) της Προσθήκης Α.6.

Ι5.- Άλλες διατάξεις

(α) Διατάξεις περί ατυχημάτων - βλέπε περιθώριο
 3695(Ι) της Προσθήκης Α.6.

(β) Απολύμανσις εν αποθηκεύσει - βλέπε περιθώριο
 3695(2) της Προσθήκης Α.6.

I.- ΥΛΕΣ

Πίνακας 9

2703

(Συνεχίζεται)

Ραδιενεργείς ύλες σε κόλα Τύπου Β(Υ)

Ουδέν όριον επί της ποσότητας ανά

κόλον εκτός ως προβλέπεται υπό των

πιστοποιητικών εγκρίσεως. Εάν υπάρ-

χουν διασπασπές ύλες, οι όροι του

πίνακος II θα τηρούνται επιπροσθέ-

τως των όρων του παρόντος πίνακος.

Ετικέτες κινδύνουεπί των κόλων

(Βλέπε Προσθήκη Α.9)

Ετικέτες των μοντέλων

6Α, 6Β ή 6Γ θα τοποθε-

τούνται εξωτερικώς στις

αντίθετες πλευρές, βλέ-

πε περιθώρια 3653 έως

3655 της Προσθήκης Α.6

για κατηγορία κόλου.

2.- Συσκευασία/Κόλου

Τύπος Β(Υ), συμφώνως προς τους όρους

του σχεδίου τους διδομένους στα περι-

θώρια 3600 έως 3603 της Προσθήκης Α.6,

τους απαιτούντας την μονόπλευρον έγ-

κρισιν της αρμοδίας αρχής, βλέπε πε-

ριθώριο 3672 της Προσθήκης Α.6.

3.- Ανώτατον επίπεδον ακτινοβολίας Κόλου

200 MREM/H στην επιφάνεια του κόλου και

10 MREM/H σε 1 μέτρο από την επιφάνεια

αυτή. (βλέπε περιθώρια 3653 έως 3655 της

Προσθήκης Α.6).

εκτός της περιπτώσεως πλήρους φορτίου,

οπότε το όριον είναι 1000 MREM/H στην

επιφάνεια του κόλου και μπορεί να υπερβεί

τα 10 MREM/H σε 1 μέτρο από της επιφανείας

αυτής. (Βλέπε περιθώριο 3659(7) της Προσθή-

κης Α.6)

4.- Μικτή συσκευασία

Βλέπε περιθώριο 3650 της Προσθήκης Α.6.

5.- Μολυνσις επί κόλων Πίνακας 2703
(Συνεχίζεται) (Συνεχίζεται)

Μη-ωρισμένα δρια εξωτερικής μολύνσεως:

Β/γ/χαμηλής τοξικότητας α πομποί 10^{-4} UCI/CM²

Φυσικόν/εξασθενημένον ουράνιον/

φυσικόν θόριον

10^{-3} UCI/CM²

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο 365I της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) κόλων

Τα κόλα θα μαρκάρονται εξωτερικώς καθαρά και ανεξίτηλα μέ:-

(I) "ΤΥΠΟΣ Β(Υ)".

(II) ένδειξιν αναγνωρίσεως της αρμοδίας αρχής

(III) το βάρος εάν άνω των 50 KG.

(IV) το τρίφυλλο σύμβολο ενσωματωμένο ή σταμπαρισμένο επί του εξωτερικού του ανθεκτικού εις το πύρ και ύδωρ δοχείου.

7.- Έγγραφα Μεταφοράς

(α) Για ανακεφαλαίωση των δρων της εγκρίσεως και κοινοποιήσεως, βλέπε περιθώριο 2704.

(β) Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφήν "Ραδιενεργείς ύλες κόλων Τύπου Β(Υ), 7, πίνακος 9, ADR", με την ονομασίαν υπογραμμισμένην με κόκκινο, και τις λεπτομέρειες τις οριζόμενες στα περιθώρια 3680 και 368I της Προσθήκης Α.6.

(γ) Πιστοποιητικόν μονοπλεύρου εγκρίσεως του σχε-

δίνω του κόλου απαιτείται, βλέπε περι- Πίνακας 9 2703
 θώριο 3672 της Προσθήκης Α.6. (Συνεχίζεται) (Συνεχίζεται)

- (δ) Προ της φορτώσεως οποιουδήποτε κόλου ο αποστολεύς θα έχει στη κατοχή του όλα τα σχε-
 τικά πιστοποιητικά εγκρίσεως.
- (ε) Προ της πρώτης φορτώσεως συγκεκριμένου σχε-
 δίου κόλου, εάν η ενέργεια είναι μεγαλύτερη
 των $3 \times 10^3 A_2$ ή $3 \times 10^3 A_I$ ως ενδείκνυται, ή
 $3 \times 10^4 CI$, οποιουδήποτε τούτων όντος χαμηλω-
 τέρου, ο αποστολεύς θα εξασφαλίζει όπως αντι-
 γραφά των πιστοποιητικών εγκρίσεως της αρμο-
 δίας αρχής παρασχεθούν στις αρμόδιες αρχές
 τις θυγόμενες εκ της μετακινήσεως, βλέπε περι-
 θώριο 3682(I) της Προσθήκης Α.6.
- (στ) Προ κάθε φορτώσεως όταν η ενέργεια είναι μεγα-
 λύτερη των $3 \times 10^3 A_2$ ή $3 \times 10^3 A_I$ ως ενδείκνυται,
 ή $3 \times 10^4 CI$, οποιουδήποτε τούτων όντος χαμηλωτέ-
 ρου, ο αποστολεύς οφείλει να γνωστοποιήσει τούτο
 στις αρμόδιες αρχές όλων των χωρών των θυγομένων
 εκ της κινήσεως, κατά πρότλησιν προ δεκαπέντε
 ημερών ως λεπτομερώς αναφέρεται στο περιθώριο
 3682 της Προσθήκης Α.6.
- (ζ) Οσάντις επωφελούμεθα της επιτρεπομένης ηυξημένης
 ενεργείας ανά κόλον διότι η ύλη είναι ειδικής μορ-
 φής, βλέπε παραγράφους (α) και (στ) ανωτέρω, απαι-
 τείται μονόπλευρον πιστοποιητικόν εγκρίσεως σχε-
 δίου ειδικής μορφής (βλέπε περιθώριο 367I της
 Προσθήκης Α.6).

8 - ~~Αποθήκευση και προώθηση~~

Πίνακας 9

2703

(α) Οποιοσδήποτε οδηγίες του πιστοποιητι- (Συνεχίζεται) (Συνεχίζεται)
κού εγκρίσεως της αρμόδιας αρχής θα τη-
ρούνται.

(β) Αποθήκευση και διαχωρισμός από άλλα επι-
κίνδυνα εμπορεύματα - βλέπε περιθώριο
3658(I) της Προσθήκης Α.6.

(γ) Αποθήκευση και διαχωρισμός από κόλα φέροντα
τον τίτλον "FOTO" - βλέπε περιθώριο 240 ΟΟΙ
της Προσθήκης Β.4 για πίνακα διαχωρισμού.

(δ) Οριο δείκτου ολικής μεταφοράς για αποθήκευση-
50 ανά ομάδα με 6 μέτρα μεταξύ των ομάδων-
βλέπε περιθώριο 3658(2), έως (5), της Προσθή-
κης Α.6.

(ε) Ο αποστολεύς θα έχει τηρήσει τους προ της χρή-
σεως και προ της φορτώσεως όρους των περιθω-
ρίων 3643 και 3644 της Προσθήκης Α.6.

(στ) Η θερμοκρασία των προσιτών επιφανειών του κόλου
δεν θα υπερβαίνει τους 50°C υπό σκιάν εκτός εάν
η μεταφορά τελεί υπό συνθήκας (όρους) πλήρους
φορτίου, οπότε το όριο είναι 82°C (βλέπε περι-
θώρια 3602(3)(β) και 3603(8), της Προσθήκης Α.6).

(ζ) Εάν η μέση/ροή ^{επιφανειακή} θερμότητας από κόλον υπερβαίνει
τα 15 W/M², τότε το κόλον θα μεταφέρεται ως πλή-
ρες φορτίο.

9.- Μεταφορά κόλων με οχήματα και δοχεία (CONTAINERS)

(α) Διαχωρισμός από κόλα φέροντα τον τίτλον "FOTO"-

βλέπε περιθώριο 240 001 της Προσθήκης Πίνακας 2703

4 για πίνακα διαχωρισμού.

(Συνεχί- (Συνεχί-
ται) ζεται)

(β) Όριο δείκτη ολικής μεταφοράς - 50.

Το όριο αυτό δεν ισχύει για πλήρες φορτίο
εφ' όσον εάν υπάρχουν κλάδια Διασπαστής Κλάσεως
II ή III δεν υπερβαίνεται ο επιτρεπόμενος α-
ριθμός. Βλέπε περιθώριο 3659(5) της Προσθήκης
Α.6.

(γ) Ανώτατα επίπεδα ακτινοβολίας για οχήματα και
μεγάλα δοχεία προκειμένου περί πλήρους φορτίου
200 MREM/H στην επιφάνεια.

10 MREM/H σε 2 μέτρα από την επιφάνεια
Βλέπε περιθώριο 3659(7) της Προσθήκης Α.6.
Επίσης για οχήματα - 2 MREM/H σε οποιαδήποτε
κανονικώς καταληφθείσα θέση - βλέπε περιθώριο
3659(8) της Προσθήκης Α.6.

Ι0.- Μεταφορά εις χύμα με οχήματα και δοχεία (CONTAINERS)

Δεν έχει εφαρμογήν.

ΙΙ.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν έχει εφαρμογήν.

Ι2.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων,
TANK CONTAINERS και δοχείων (CONTAINERS)

(Βλέπε Προσθήκες Α.9 και Β.4).

Δοχεία - ετικέτες μοντέλων 6Α, 6Β ή 6Γ και στις τεσ-
σερες πλευρές.

Οχήματα και μεγάλα δοχεία - επιγραφές συμφώνως προς
το μοντέλο της Προσθήκης Β.4 περιθώριο 240 010 σε κάθε
πλευρά και στο οπίσθιο τοίχωμα του οχήματος (βλέπε

περιθώρια 3659(6) και 7I 500).

~~I3.- Απολύμανση επί μικτής φορτώσεως~~

Βλέπε περιθώριο 2700(3).

Πίνακας 9 2703
(Συνεχίζε- (Συνεχί-
ται) ζεται)

I4.- Απολύμανση οχημάτων, βυτιοφόρων, TANK CONTAINERS
και δοχείων (CONTAINERS).

Βλέπε περιθώριο 3695(3) της Προσθήκης Α.6.

I5.- Άλλες διατάξεις

(α) Διατάξεις περί Ατυχημάτων - βλέπε περιθώριο
3695(I) της Προσθήκης Α.6.

(β) Απολύμανση εν αποθηκεύσει - βλέπε περιθώριο
3695(2) της Προσθήκης Α.6.

I.- Υλεις

Ραδιενεργείς ύλεις Τύπου B(M) κδλων

ήτοι σχέδιον κδλου Τύπου B το οποίον δεν
πληροί έναν ή περισσοτέρους των ειδικών
προσθέτων όρων για κδλα Τύπου B(U),
(βλέπε περιθώριο 3603 της Προσθήκης Α.6).
Ουδέν όριον επί της ποσότητος ανά κδλον
εκτός ως προβλέπεται υπό του πιστοποιη-
τικού εγκρίσεως. Εάν υπάρχουν διασπα-
στές ύλεις οι όροι του πίνακος II θα τη-
ρούνται επιπροσθέτως των όρων του πα-
ρόντος πίνακος.

Πίναξ ΙΟ

Ετικέτες κινδύνου
επί των κδλων
(βλέπε Προσθή-
κην Α.9),

Ετικέτες των μοντέ-
λων 6Α, 6Β ή 6Γ θα
τοποθετούνται εξωτε-
ρικώς σε δύο αντίθε-
τες πλευρές, βλέπε
περιθώρια 3653 έως
3655 της Προσθήκης
Α.6 για κατηγορία
κδλου.

2.- Συσκευασία/Κδλον

Τύπος B(M), συμφώνως προς τους όρους σχε-
δίου τους διδομένους στο περιθώριο 3604 της
Προσθήκης Α.6 απαιτούντας πολύπλευρον έγ-

αρκούν αρμόδιας αρχής, βλέπε περιθώριο Πίνακας ΙΟ 2703
~~3673~~ της Προσθήκης Α.6. (Συνεχίζεται) (Συνεχίζεται)

- 3.- Ανώτατον επίπεδον ακτινοβολίας κόλου
 200 MREM/H στην επιφάνεια του κόλου και
 10 MREM/H σε 1 μέτρο από την επιφάνεια
 αυτή (βλέπε περιθώρια 3653 έως 3655 της
 Προσθήκης Α.6), εκτός της περιπτώσεως
 πλήρους φορτίου οπότε το όριο είναι
 1000 MREM/H στην επιφάνεια του κόλου και
 μπορεί να υπερβεί τα 10 MREM/H σε 1 μέτρο
 από την επιφάνειαν αυτήν (βλέπε περιθώριο
 3659(7) της Προσθήκης Α.6).

4.- Μικτή Συσκευασία

Βλέπε περιθώριο 3650 της Προσθήκης Α.6.

5.- Μόλυνσεις επί κόλων

Μη-ωρισμένα όρια εξωτερικής μόλυνσεως:-

β/γ/χαμηλής τοξικότητας α. πομποί 10^{-4} UCI/CM²

Φυσικόν/εξασθενημένον ουράνιον/

φυσικόν θόριο

10^{-3} UCI/CM²

Άλλοι α. πομποί

10^{-5} UCI/CM²

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο
 3651 της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) κόλων

Τα κόλα θα μαρκάρονται εξωτερικώς καθαρά και
 ανεξίτηλα με τον:-

(I) "Τύπον B(M)"

(II) την ένδειξιν αναγνωρίσεως της αρμόδιας αρχής

(III) Το βάρος του κόλου αν είναι πάνω από 50 χιλιόγραμμα.

~~αποστέλλεται~~ μονόπλευρον πιστοποιητικόν Πίνακας 2703
 εγκρίσεως σχεδίου ειδικής μορφής (Συνεχίζε- (Συνεχί-
 (βλέπε περιθώριο 367I της Προσθήκης Α.6.) ται). ζεται)

(στ). Προ κάθε φορτώσεως ο αποστολέας οφείλει να γνωρίζει στις αρμόδιες αρχές όλων των χωρών των διχομένων ελ της μεταφοράς κατά προτίμησιν προ δέκαπέντε ημερών ως λεπτομερώς αναφέρεται στο περιθώριο 3682(2) έως (4) της Προσθήκης Α.6.

(ζ). Προ της φορτώσεως οιοδήποτε κόλου, ο αποστολέας θα έχει στην κατοχή του όλα τα σχετικά πιστοποιητικά εγκρίσεως.

8.- Αποθήκευσιν και προώθησιν

- (α) Θα τηρούνται οιοσδήποτε οδηγίες των πιστοποιητικών εγκρίσεως της αρμόδιας αρχής.
- (β) Αποθήκευσιν και διαχωρισμός από άλλα επικίνδυνα εμπορεύματα - βλέπε περιθώριον 3658(I) της Προσθήκης Α.6.
- (γ) Αποθήκευσιν και διαχωρισμός από κόλα φέροντα ετικέτα "FOTO" - βλέπε περιθώριο 240 00I της Προσθήκης Β4 για πίνακα διαχωρισμού.
- (δ). Όριο δείκτου ολικής μεταφοράς για αποθήκευση- 50 ανά ομάδα με 6 μέτρα μεταξύ των ομάδων- βλέπε περιθώριο 3658(2) έως (5) της Προσθήκης Α.6.
- (ε). Ο αποστολέας θα έχει τηρήσει τους προ της χρήσεως και προ της φορτώσεως όρους των περιθωρίων 3643 και 3644 της Προσθήκης Α.6.

(στ) Εάν η θερμοκρασία επιφανείας του κόλου Πίνακας ΙΟ 2703 υπερβαίνει τους 50°C υπό σκιάν το (Συνεχίζεται) (Συνεχίζεται) κόλον θα μεταφέρεται ως πλήρες φορτίο - βλέπε περιθώριο 3602(4)(β) της Προσθήκης Α.6.

(ζ) Εάν η μέση ροή επιφανειακής θερμότητας από ένα κόλον υπερβαίνει τα 15 W/M^2 , τότε το κόλο ν θα μεταφέρεται ως πλήρες φορτίο.

(η) Κόλα ειδικώς προοριζόμενα να επιτρέπουν συνεχή εξαερισμόν - βλέπε περιθώριον 3604(2) της Προσθήκης Α.6 - θα μεταφέρονται μόνον υπό πλήρες φορτίο.

9.- Μεταφορά κόλων με οχήματα και δοχεία

(α) Διαχωρισμός από κόλα φέροντα ετικέτα "FOTO"- βλέπε περιθώριο 240 001 της Προσθήκης Β4 για των πλανάνα διαχωρισμού.

(β) Όριο δείκτη ολικής μεταφοράς - 50. Το όριο αυτό δεν ισχύει για πλήρες φορτίο, εφ' όσον εάν υπάρχουν κόλα Διασπαστής Κλάσεως II ή III δεν υπερβαίνεται ο επιτρεπόμενος αριθμός - βλέπε περιθώριον 3659(5) της Προσθήκης Α.6.

(γ) Ανώτατα επίπεδα ακτινοβολίας για οχήματα και μεγάλα δοχεία προκειμένου περί πλήρους φορτίου 200 MREM/H στην επιφάνεια

10 MREM/H σε 2 μέτρα από την επιφάνεια βλέπε περιθώριο 3659(7) της Προσθήκης Α.6.

Επίσης, για οχήματα 2 MREM/H σε οποιαδήποτε κανονικώς καταληφθείσα θέση - βλέπε περιθώριο

3659(8) της Προσθήκης Α.6.

Πίνακας ΙΟ 2703

ΙΟ.- Μεταφορά εις χώρα με οχήματα και δοχεία (Συνεχί- (Συνεχί-
Δεν έχει εφαρμογήν. ται)) ζεται)

ΙΙ.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν έχει εφαρμογήν.

Ι2.- Επιγραφές και ετικέτες επί οχημάτων, βυτιο-
φόρων, TANK CONTAINERS και δοχείων (CONTAINERS)
(βλέπε Προσθήκη Α9 και Β4)

Δοχεία - ετικέτες των μοντέλων 6Α, 6Β ή 6Γ
και στις τέσσερες πλευρές.

Οχήματα και μεγάλα δοχεία - επιγραφές συμφώνως
προς το μοντέλο της Προσθήκης Β4, περιθώριο
240 ΟΙΟ σε κάθε πλευρά και στο οπίσθιο τοίχωμα
του οχήματος (βλέπε περιθώρια 3659(6) και 7Ι 500).

Ι3.- Απαγόρευσις επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3).

Ι4.- Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS
και δοχείων (CONTAINERS)

Βλέπε περιθώριο 3695(3) της Προσθήκης Α.6.

Ι5.- Άλλες διατάξεις

(α) Διατάξεις περί ατυχημάτων - βλέπε περιθώριο
3695(Ι) της Προσθήκης Α.6.

(β) Απολύμανσις εν αποθηκεύσει - βλέπε περιθώριο
3695(2) της Προσθήκης Α.6.

I.- Ύλες

Διασπαστέες Ύλες ήτοι:-

ουράνιον - 233, ουράνιον - 235,
πλουτόνιον - 238, πλουτόνιον - 239,
πλουτόνιον - 241, ή ή οιαδήποτε ύλη
περιέχουσα οιαδήποτε των ανωτέρω,
εκτός από μη-ακτινοβόλον φυσικόν και
εξασθενημένον ουράνιον.

Οι διασπαστέες ύλες θα αποστέλλονται επί-
σης με πλήρη τήρησιν των όρων του ενός
εκ των άλλων πινάκων, ως ενδείκνυται
για την ραδιενέργειαν.

2.- Συσκευασία/Κόλον

(α) Οι κατωτέρω ύλες οι οριζόμενες πλή-
ρως στο περιθώριο 3610 της Προσθήκης
Α6 εξαίρούνται των όρων ειδικής συ-
σκευασίας του παρόντος πίνακος:-

(I) Διασπαστέες ύλες σε ποσότητα μη υπερ-
βαίνουσα τα 15 G.

(II) Φυσικόν ή εξασθενημένον ουράνιον
ακτινοβολούον (IRRADIATED) σε θερμικόν
αντιστάτην.

(III) Αραιωμένα διαλύματα υδρογόνου σε πε-
ριορισμένα συμπυκνώματα και ποσότητες.

(IV) Εμπλουτισμένον ουράνιον με όχι άνω του
1 τοις εκατόν ουρανίου-235, το οποίον
δεν πρέπει να σχηματίζει διάταξιν πλέγ-
ματος εάν μέταλλον ή οξείδιον.

Πίνακας II 2703

(Συνεχίζε-
Ετικέτες κινδύνου τα)
επί των κόλων

(Βλέπε Προσθήκη A9)

Διασπαστή Κλάσις I -
ετικέτες σύμφωνα προς
τα μοντέλα 6A, 6B ή
6Γ.

Διασπαστή Κλάσις II -
ετικέτες σύμφωνα προς
τα μοντέλα 6B ή 6Γ.

Διασπαστή Κλάσις III -
ετικέτες συμφώνως προς
το μοντέλο 6Γ μόνον.
Ετικέτες θα τοποθετούν-
ται εξωτερικώς σε δύο
αντίθετες πλευρές, βλέ-
πε περιθώρια 3653 έως
3655 της Προσθήκης Α6
για κατηγορία κόλου.

(V) Ύλεις διανεμημένες όχι άνω των 5 G (Γραμ- Πίνακας II 2703
μαρίων) ανά όγκον 10 λίτρων. (Συνεχί- (Συνεχί-
ζεται) ζεται)

(VI) Πλουτόνιον όταν είναι ολιγώτερο του 1 KG
ανά κδον και όταν όχι άνω του 20 τοις ε-
κατόν της μάζης περιλαμβάνει πλουτόνιον-
239 ή 241.

(VII) Εμπλουτισμένον διάλυμα νιτρικού ουρανυλίου
περιέχον ουράνιον με όχι άνω του 2 τοις ε-
κατόν ουράνιον-235.

(β), άλλως, τα κδλα θα είναι σύμφωνα με τους όρους
του σχεδίου της Διασπαστής Κλάσεως I, II ή III
τους διδομένους στα περιθώρια 3611 έως 3624 της
Προσθήκης Α6 και θα έχουν την έγκρισιν της αρμό-
διας αρχής, οσάνις απαιτείται, ως λεπτομερώς ανα-
φέρεται στο περιθώριο 3674 της Προσθήκης Α6.

3.- Ανώτατο επίπεδο ακτινοβολίας κδλου

Βλέπε κατάλληλον πίνακα.

4.- Μικτή συσκευασία

Βλέπε περιθώριο 3650 της Προσθήκης Α6.

5.- Μδλωνον, επί κδλων

Βλέπε κατάλληλον πίνακα.

6.- Ενδείξεις (μαρκάρισμα), κδλων

Βλέπε κατάλληλον πίνακα.

7.- Έγγραφα μεταφοράς

(α) Για άνακεφαλαίωση των όρων της έγκρίσεως και
κοινοποιήσεως - βλέπε περιθώριο 2704.

(β) Το έγγραφον μεταφοράς θα περιλαμβάνει τις λεπτο-

μέρειες τισοριζόμενες στον κατάλληλο πί- (Συνεχίζεται)
 νακ για τη φύση του περιεχομένου με την
 λέξιν "Διασπαστή" προτασσομένην της περι-
 γραφής και υπογραμμισμένην με κόκκινο.

(γ) Μπορούν να απαιτηθούν πιστοποιητικά μονο-
 πλεύρου ή πολυπλεύρου εγκρίσεως σχεδίου κό-
 λου, βλέπε περιθώριο 3674 της Προσθήκης Α6.

(δ) Τα σχέδια κόλων Διασπαστής Κλάσεως II συμμορ-
 φούμενα προς το περιθώριο 3620 της Προσθήκης
 Α6 θα έχουν πιστοποιητικά πολυπλεύρου εγκρί-
 σεως της φορτώσεως. Ένα τέτοιο σχέδιο κόλου
 δεν απαιτεί προηγούμενη γνωστοποίησιν εκτός
 εάν ειδικώς ορίζεται στην έγκριση φορτώσεως
 της αρμόδιας αρχής.

(ε) Τα σχέδια κόλων Διασπαστής Κλάσεως III θα έχουν
 πιστοποιητικά πολυπλεύρου εγκρίσεως της φορτώ-
 σεως εκτός εάν αρμόδια αρχή εξουσιοδοτεί την
 μεταφορά δι' ειδικής διατάξεως στο πιστοποιητικό
 της σχεδίου κόλου, βλέπε περιθώριο 3675 της Προ-
 σθήκης Α6.

(στ) Προ κάθε φορτώσεως κόλου Διασπαστής Κλάσεως III
 το οποίον απαιτεί πολύπλευρον έγκρισιν του σχε-
 δίου του κόλου, βλέπε περιθώριο 3674 της Προσθήκης
 Α6, ο αποστολέας οφείλει να ενημερώσει τις αρμόδιες
 αρχές όλων των χωρών των θιγομένων εκ της μετακι-
 νήσεως κατά προτίμησιν προ δέκαπέντε ημερών ως λε-
 πτομερώς αναφέρεται στο περιθώριο 3682(2), έως (4),
 της Προσθήκης Α6.

Π(ναβλ)Ι

2703

(2) ~~Η~~ φορτώσεως οποιδήποτε κόλου ο αποστολέας θα έχει στη κατοχή του οιαδήποτε σχετική πιστοποιητικά εγκρίσεως. (Συνεχίζεται) (Συνεχίζεται)

8.- Αποθήκευση και προώθηση

- (α) Πρέπει να τηρούνται οποιεσδήποτε οδηγίες των πιστοποιητικών εγκρίσεως της αρμόδιας αρχής.
- (β) Όριο δείκτη ολικής μεταφοράς για αποθήκευση - 50 ανά ομάδα με 6 μέτρα μεταξύ των ομάδων - βλέπε περιθώριο 3658(2) έως (5) της Προσθήκης Α6.
- (γ) Ο αποστολέας θα έχει συμμορφωθεί με τους προ της χρήσεως όρους του περιθωρίου 3643 της Προσθήκης Α6.

9.- Μεταφορά κόλων με οχήματα και δοχεία

- (α) Θα τηρούνται οποιεσδήποτε οδηγίες των πιστοποιητικών εγκρίσεως της αρμόδιας αρχής.
- (β) Όριο δείκτη ολικής μεταφοράς - 50.
- Το όριο αυτό δεν ισχύει για πλήρες φορτίο, εφ' όσον, εάν υπάρχουν κόλα Διασπαστής Κλάσεως II ή III, ο επιτρεπόμενος αριθμός δεν υπερβαίνεται.
- Βλέπε περιθώριον 3659(5) της Προσθήκης Α6.

10.- Μεταφορά εις χύμα με οχήματα και δοχεία

- (α) Ουδείς περιορισμός για διασπαστό υλικό μέχρι συνολικά 15G (γραμμάρια) ή για διαλύματα εντός των ορίων ωρισμένου συμπυκνώματος και ποσότητας, βλέπε παράγραφον 2(α)(I), (III) και (VII) και περιθώριο 3610 της Προσθήκης Α6.
- (β) Δεν έχει εφαρμογή για κόλα Διασπαστής Κλάσεως I ή II.

~~ΕΙ~~ ~~Προ~~βλέπεται κατά την Διασπαστήν Κλάσιν Πίναξ II 2703

III μόνον εάν καθορίζεται στο πιστοποιη-(Συνεχίζε- (Συνεχίζε-
ταί) ζεταί),
τικό της αρμόδιας αρχής.

II.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Βλέπε παράγραφον IO(α), (β) και (γ), ανωτέρω.

I2.- Επιγραφές και ετικέτες επί των οχημάτων, βυτιο-
φόρων, TANK CONTAINERS και δοχείων (CONTAINERS)
(βλέπε Προσθήκες A9 και B4)

Δοχεία - ετικέτες των μοντέλων 6A, 6B ή 6Γ και στις τέσσερες πλευρές.

Οχήματα και μεγάλα δοχεία - επιγραφές συμφώνως προς το μοντέλο της Προσθήκης B4, περιθώριο 240 ΟΙΟ, σε κάθε πλευρά και στο οπίσθιο τοίχωμα του οχήματος (βλέπε περιθώρια 3659(6), και 7I 500)).

I3.- Απαγορεύσεις επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3)

I4.- Απολύμανση οχημάτων, βυτιοφόρων, TANK CONTAINERS
και δοχείων

Βλέπε κατάλληλων πίνακα.

I5.- Άλλες διατάξεις

Διατάξεις περι ατυχημάτων - βλέπε περιθώριο 3695(I) της Προσθήκης A6.

I.- Υλεις

Πίναξ I2

Ραδιενεργείς ύλεις μεταφερόμενες υπό ει-
δικήν διευθέτησιν

Ετικέτες κινδύνου
επί κόλων

Εάν δεν είναι δυνατόν να τηρηθούν οι όροι του σχεδίου κόλου ή της φορτώσεως

(Βλέπε Προσθήκη A9)

Ετικέτες συμφώνως προς το μοντέλο 6Γ

~~Οι επιπλέον~~ θα μεταφέρονται υπό ειδικήν
~~αυθεντήσιν~~ η οποία θα εξασφαλίζει ότι το
 γενικόν επίπεδον ασφαλείας δεν θα είναι μι-
 κρότερον από ό,τι θα ήτο εάν ετηρούντο όλοι
 οι ισχύοντες όροι. Βλέπε περιθώριο 3676 της
 Προσθήκης Α6.

ΣΗΜΕΙΩΣΗ.— Για ανακεφαλαίωση των όρων της
 εγκρίσεως και γνωστοποιήσεως, βλέπε περι-
 θώριο 2704.

Πίνακας 12 2703
 (Συνεχίζεται) (Συνεχι-
 ζεται)
 θα τοποθετούνται
 εξωτερικώς σε δύο
 αντίθετες πλευρές
 εκτός εάν άλλως προ-
 βλέπεται υπό του πι-
 σταποιητικού της
 αρμόδιας αρχής.
 Βλέπε περιθώριο
 3655(I) της Προσθή-
 κης Α6.

Ανακεφαλαίωση όρων εγκρίσεως και προειδοποιήσεως

2704

(α) Έγκριση υλών ειδικής μορφής, και σχεδίων κόλων

Αντικείμενον εγκρίσεως

Αρμόδια Αρχή της οποίας
 απαιτείται η έγκρισιν

1 Ύλη ειδικής μορφής εκτός των
 ειδών εκείνων που ορίζονται
 στους Πίνακες 3 και 4.

Χώρα προελεύσεως

2 Τύπος Α, LSA και LLS.

Ουδεμία εκτός εάν το πε-
 ριεχόμενο είναι διασπαστό
 και δεν εξαιρείται των
 κατά το περιθώριο 3610
 της Προσθήκης Α6 όρων
 περί διασπαστού: Χώρα προε-
 λεύσεως

3 Τύπος Β (U)

Χώρα προελεύσεως

4 Τύπος Β (M)

Χώρα προελεύσεως και όλες
 οι καθ'οδόν χώρες

5 Διασπαστά κόλα

Σχέδια κόλου συμμορφούμενα
 προς το περιθώριο 3620, 3623
 ή 3624 της Προσθήκης Α6

Ουδεμία

Αντικείμενον Εγκρίσεως

Αρμόδια Αρχή της οποίας
απαιτείται η έγκρισις

(Σ υ ν ε χ ε ι α)

Σχέδια κώλου συμμορφούμενα προς
το περιθώριο 3616 ή 3622 της
Προσθήκης Α6

Χώρα προελεύσεως

Όλα τα άλλα σχέδια κώλων

Χώρα προελεύσεως και
όλες οι καθ' οδόν χώρες

Σημειώσεις:- "Χώρα προελεύσεως" αναφέρεται στη χώρα από την οποία
προήλθε το σχέδιο.

Κόλα των διασπαστών κλάσεων εμπίπτουν επίσης σε
μία ή άλλην των ανωτέρω κατηγοριών 2, 3 ή 4 σχε-
δίων κώλων και οι σχετικές διατάξεις ισχύουν επίσης
για αυτά.

(β) Έγκριση Φορτώσεων και Προειδοποίησης .--

Κόλον

Αρμόδια Αρχή της Προειδοποίησης κέθε φορ-
οποίας απαιτείται η τώσεως
έγκριση για κάθε
φορτωση

1.- Τύπος Α, LSA και Ουδεμία
LLS

Ουδεμία

2.- Τύπος Β(U) Ουδεμία

Χώρα προελεύσεως και όλες
οι καθ' οδόν χώρες όταν το
περιεχόμενον υπερβαίνει
τα $3 \times 10^3 A_I$ ή τα $3 \times$
 $10^3 A_2$, ως ενδείκνυται ή
τα $3 \times 10^4 CI$, οιοδήποτε
τούτων όντος χαμηλωτέρου.

2704

(Συνεχίζεται)

| | | |
|-------|--|-------------------------------|
| Κόλον | Αρμόδια Αρχής της οποίας απαιτείται η έγκρισή για κάθε φόρτωση | Προειδοποίησης κάθε φορτώσεως |
|-------|--|-------------------------------|

(Σ υ ν έ χ ε ι α)

3.- Τύπος Β(Μ) - Χώρα προελεύσεως και όλες οι καθ' οδόν χώρες. Χώρα προελεύσεως και όλες οι καθ' οδόν χώρες.

4.- Τύπος Β(Μ) - Χώρα προελεύσεως και Χώρα προελεύσεως και Μη-συνεχώς εξαε- όλες οι καθ' οδόν χώ- όλες οι καθ' οδόν χώρες. ριζόμενος ρες όταν το περιεχόμενον υπερβαίνει τα $3 \times 10^3 A_1$ ή $3 \times 10^3 A_2$, ως ενδείκνυται ή τα $3 \times 10^4 CI$, οιοδήποτε τούτων όντος χαμηλότερου.

5.- Διασπαστά Κόλα

| | | |
|--------------------|---------|---------|
| Διασπαστή Κλάσις I | Ουδεμία | Ουδεμία |
|--------------------|---------|---------|

| | | |
|---------------------|--|---|
| Διασπαστή Κλάσις II | Κόλα συμμορφούμενα προς περιθώριο 3620 της Προσθήκης Α6 μόνον: Χώρα προελεύσεως και όλες οι καθ' οδόν χώρες. | Ουδεμία εκτός εάν ορίζεται στην έγκριση φορτώσεως της αρμόδιας αρχής. |
|---------------------|--|---|

| | | |
|----------------------|---|---|
| Διασπαστή Κλάσις III | Χώρα προελεύσεως και όλες οι καθ' οδόν χώρες. | Χώρα προελεύσεως και όλες οι καθ' οδόν χώρες. |
|----------------------|---|---|

6.- Κόλα υπό την επιφύλαξη της μεταφοράς βάρους ειδικής διευθετήσεως. Χώρα προελεύσεως και όλες οι καθ' οδόν χώρες. Χώρα προελεύσεως και όλες οι καθ' οδόν χώρες.

Εξηγήσεις:- Προ της φορτώσεως κώλου Τύπου B(U) το πε- 2704
(Συνεχίζεται)
ριεχόμενο του οποίου υπερβαίνει τα
 $3 \times 10^3 A_1$ ή $3 \times 10^3 A_2$, ως ενδείκνυται, ή
τα $3 \times 10^4 CI$, οιοδήποτε τούτων όντος χα-
μηλωτέρου, για πρώτη φορά, ο αποστολέας
οφείλει να εξασφαλίζει ότι αντίγραφα κάθε
ισχύοντος πιστοποιητικού αρμόδιας αρχής
αφορώντος το σχέδιο έχουν υποβληθεί στην
αρμόδια αρχή των χωρών εκείνων εις την ε-
δαφικήν περιφέρειαν των οποίων πρόκειται
το κώλον να μεταφερθεί. Ως χώρα προελεύσε-
ως αναφέρεται η χώρα από την οποίαν προήλθε
η φόρτωση.

Κόλα των διασπαστών κλάσεων εμπίπτουν επίσης
εις την μίαν ή την άλλην επικεφαλίδα του πα-
ρόντος Πίνακος και οι σχετικές διατάξεις έ-
χουν επίσης εφαρμογήν εις αυτά.

ΚΛΑΣΗ 8.- ΔΙΑΒΡΩΤΙΚΕΣ ΥΛΕΣ

I.- Κατάλογος υλών

Μεταξύ των υλών και ειδών των καλυπτομένων υπό 2800 τον τίτλον της Κλάσεως 8 εκείνες και εκείνα που αναγράφονται στο περιθώριο 280I ή που καλύπτονται υπό συλλογικού τίτλου του περιθωρίου αυτού υπόκεινται στις διατάξεις του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές και τα είδη που γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

A.- ΟΞΙΝΕΣ ΥΛΕΣ

280I

(α) Ανόργανα οξέα

I^ο Θειϊκόν οξύ

(α) Θειϊκόν οξύ περιέχον άνω του 85 τοις εκατόν καθαρόν οξύ (H_2SO_4), και OLCUM (ατμίζον θειϊκόν οξύ).

(β) θειϊκόν οξύ περιέχον άνω του 75 τοις εκατόν αλλά όχι άνω του 85 τοις εκατόν καθαρόν οξύ (H_2SO_4).

(γ) θειϊκόν οξύ περιέχον όχι άνω του 75 τοις εκατόν καθαρόν οξύ (H_2SO_4).

(δ) θειϊκόν οξύ υπολειμμάτων, εξ ολοκλήρου απονιτρομένο.

Σημείωσις:- Ατελώς απονιτρομένο θειϊκόν οξύ υπολειμμάτων δεν γίνεται δεκτόν για μεταφορά.

(ε) Ιλύς μολύβδου περιέχουσα θειϊκόν οξύ.

Σημείωσις:- Ιλύς μολύβδου περιέχουσα κάτω του 3 τοις εκατόν ελεύθερον οξύ είναι ύλη της Κλάσεως 6.I (βλέπε περιθώριο 260I, 73^ο).

(στ) ~~συσσωρευτάς~~ γεμισμένοι με θειϊκόν οξύ.

280Ι

Για (α) έως (δ), βλέπε επίσης περιθώριο

(Συνεχίζεται)

280Ια, υπό στοιχείον (α).

2° Νιτρικών οξέων:

(α) νιτρικών οξέων περιέχον όχι άνω του 70 τοις εκατόν καθαρών οξέων (HNO_3).

(β) νιτρικών οξέων περιέχον άνω του 55 τοις εκατόν αλλά όχι άνω του 70 τοις εκατόν καθαρών οξέων (HNO_3).

(γ) νιτρικών οξέων περιέχον όχι άνω του 55 τοις εκατόν καθαρών οξέων (HNO_3).

Για (α) έως (γ), βλέπε επίσης περιθώριον 250Ια, υπό στοιχείον (α) και (β).

3° Μικτά οξέα νιτρώσεως (θειϊκόν και νιτρικών οξέων):-

(α) μικτά οξέα νιτρώσεως περιέχοντα άνω του 30 τοις εκατόν καθαρών νιτρικών οξέων (HNO_3).

(β) μικτά οξέα νιτρώσεως περιέχοντα όχι άνω του 30 τοις εκατόν καθαρών νιτρικών οξέων (HNO_3).

Σημείωση:- Για μικτά οξέα νιτρώσεως υπολειμμάτων, βλέπε I°(δ).

Για (α) και (β), βλέπε επίσης περιθώριο 280Ια, υπό στοιχείον (α) και (β).

4° Υπερχλωρικών οξέων σε υδατοειδή διαλύματα περιέχοντα όχι άνω του 50 τοις εκατόν καθαρών οξέων (HClO_4). Βλέπε επίσης περιθώριο 280Ια υπό στοιχείον (α).

Σημείωση:- Υδατοειδή διαλύματα υπερχλωρικού οξέος περιέχοντα άνω του 50 τοις εκατόν αλλά όχι άνω του 72.5 τοις εκατόν καθαρών οξέων (HClO_4), είναι ύλες της Κλάσεως

5.Ι. (βλέπε περιθώριο 250Ι, 3^ο). Διαλύματα περιέ- 280Ι
χοντα άνω του 72,5 ποις εκατόν καθαρού οξέος δεν (Συνεχίζεται)
γίνονται δεκτά για μεταφορά· το αυτό ισχύει για
μίγματα υπερχλωρικού οξέος με οποιοδήποτε υγρό πλύν
του ύδατος.

5^ο Διαλύματα υδροχλωρικού οξέος, διαλύματα υδροβρωμικού
οξέος, διαλύματα υδροϊωδίου, και μίγματα θειϊκού οξέος
και υδροχλωρικού οξέος. Βλέπε επίσης περιθώριο 280Ια,
υπό στοιχείον (α).

Σημειώσεις:- Ι.- Μίγματα νιτρικού οξέος με υδροχλωρικό
οξύ δεν γίνονται δεκτά για μεταφορά.

2.- Υγροποιημένον άνυδρο υδροβρωμικό οξύ
και υγροποιημένον υδροχλωρικό οξύ είναι ύλες της Κλάσε-
ως 2 (βλέπε περιθώριο 220Ι, 5^ο και Ι0^ο).

6^ο Υδροφθορικό οξύ (άνυδρο υδροφθορικό οξύ) και υδατοειδή διαλύ-
ματα υδροφθορικού οξέως:

α) Υδροφθορικό οξύ (άνυδρο υδροφθορικό οξύ).

β) Υδατοειδή διαλύματα υδροφθορικού οξέως περιέχοντα άνω του 85 στα
εκατό καθαρό οξύ.

γ) Υδατοειδή διαλύματα υδροφθορικού οξέως περιέχοντα άνω του 60 στα
εκατό αλλά όχι περισσότερο από 85 στα εκατό καθαρό οξύ.

δ) Υδατοειδή διαλύματα υδροφθορικού οξέως περιέχοντα όχι περισσότερο
από 60 στα εκατό καθαρό οξύ.

Για (γ) και (δ), βλέπε επίσης περιθώριον 280Ια, υπό στοιχείον (α).

- 7^ο Υδροβοριοφθορικό οξύ (υδατοειδή διαλύματα περιέχον- 280I
τα όχι άνω του 78 τοις εκατόν καθαρών οξέος (HBF)). (Συνεχίζε-
ται)

Βλέπε επίσης περιθώριον 280Iα υπό στοιχείον (α).

Σημείωσις:- Διαλύματα υδροβοριοφθορικού οξέος περιέ-
χοντα άνω του 78 τοις εκατόν καθαρών οξέος (HBF) δεν
γίνονται δεκτά για μεταφοράν.

- 8^ο Φθοριοπυριτικόν οξύ (υδροφθοριοπυριτικόν οξύ (H_2SiF_6)).

Βλέπε επίσης περιθώριον 280Iα, υπό στοιχείον (α).

- 9^ο Σταθεροποιημένο τριοξείδιο του θείου. Βλέπε επίσης πε-
ριθώριον 280Iα, υπό στοιχείον (α) και (γ).

Σημείωσις:- Μη σταθεροποιημένο τριοξείδιον του θείου
δεν γίνεται δεκτόν για μεταφορά.

- (β) Ανδράνα αλογονίδια, δεινα άλατα και παρεμφερείς αλογο-

ποιημένες ύλες.

- II^ο Υγρά αλογονίδια και παρεμφερείς αλογοποιημένες ύλες
(εκτός των ενώσεων FLOURINE) οι οποίες, σε επαφή με
υγρασία, αέρα ή ύδωρ, αναδύουν αναθυμιάσεις οξέων, όπως:-

((α) Πενταχλωριούχον αντιμόνιον ($SbCl_5$), χλωροσουλφονικό οξύ ($SO_2(OH)Cl$), διχλωριούχον διθείον (σταθεροποιη-
μένο) (S_2Cl_2), χλωριούχον χρομύλιον (οξυχλωριούχον
χρομύλιον) (CrO_2Cl_2), χλωριούχον φωσφορύλιον (οξυχλωρι-
ούχος φωσφόρος) ($POCl_3$), τριχλωριούχος φωσφόρος (PCl_3),
τετραχλωροπυρίτιο ($SiCl_4$), χλωριούχον SULPHURYL (SO_2Cl_2),
χλωριούχον θειονύλιον ($SOCl_2$), τετραχλωριούχον τιτάνιον
($TiCl_4$) και υπερχλωριούχος κασσίτερος ($SnCl_4$)).

Σημείωσις:- Μη σταθεροποιημένον διχλωριούχον διθείον (DI-
SULPHUR DICHLORIDE) δεν γίνεται δεκτόν για μεταφορά.

~~(β) Βρωμιούχος φωσφόρος (PBR₃), χλωριούχον PYRO-~~ 280I
SULPHURYL (S₂O₅CL₂), και χλωριούχον THIOPHOSHORYL (Συνεχίζεται)
(PSCL₃).

Για (α) και (β), βλέπε επίσης περιθώριο 280Iα, υπό στοιχείον (α).

I2^ο Στερεά αλογονίδια και παρεμφερείς αλογοποιημένες ύλες (εκτός των ενώσεων FLUORINE) που, σε επαφή με υγρόν αέρα ή ύδωρ, αναδύουν δεινούς αναθυμιάσεις, όπως:-

χλωριούχον αργέλλιον (άνυδρον) (ALCL₃), τριχλωριούχον αντιμόνιον (τεχνικό) (SbCL₃), πενταχλωριούχος φωσφόρος (PCl₅), και χλωριούχος ψευδάργυρος (ZNCL₂).

Βλέπε επίσης περιθώριο 280Iα, υπό στοιχεία (α) και (δ).

Σημείωση:- Μη-άνυδρον χλωριούχον αργέλλιον δεν γίνεται δεκτόν για μεταφορά.

I3^ο Διθειϊκά. Βλέπε επίσης περιθώριο 280Iα, υπό στοιχείον (α).

Σημείωση:- Τα διθειϊκά δεν υπόκεινται στις διατάξεις της ADR εάν ο αποστολέας πιστοποιεί στο έγγραφο μεταφοράς ότι τα προϊόντα είναι απηλλαγμένα από ελεύθερο θειϊκό οξύ και είναι ξηρά.

I4^ο Βρώμιον. Βλέπε επίσης περιθώριο 280Iα, υπό στοιχείον (α).

I5^ο Οι παρακάτω ενώσεις φθορίου:-

(α) Άλατα δι-υδροφθορικού οξέος

(β) Φθοριούχον αμμώνιον, φθοριούχον χρώμιον, πενταφθοριούχον αντιμόνιον.

(γ) Σύνθετον τριφθοριούχον βόριον-οξικό οξύ, σύνθετον τριφθοριούχον βόριον-προπιονικό οξύ.

(δ) τριφθοριούχον βρώμιον (BRF₃), πενταφθοριούχον βρώμιον (BRF₅).

Για (α) έως (δ), βλέπε επίσης περιθώριο 280Iα υπό
στοιχείον (α).

280I
(Συνεχίζεται)

(γ) Οργανικές ύλες·

21^ο Τα παρακάτω οξέα:-

(α) χλωροακετινικά(οξικά) οξέα:-

1.- μονοχλωριούχα και τριχλωριούχα οξύλια (στερεά)·

2.- διχλωριούχο οξύλιο (υγρό) και μίγματα χλωριούχων
οξυλίων·

(β) μυρμηκικών οξύ περιέχον όχι κάτω του 70 τοις εκατόν
καθαρόν οξύ·

(γ) καθαρόν οξείκων οξύ και τα υδατοειδή της διαλύματα
περιέχοντα άνω του 80 τοις εκατόν καθαρόν οξύ·

(δ) προπιονικό οξύ περιέχον άνω του 80 τοις εκατόν καθα-
ρό οξύ·

(ε) Για (α), έως (ε), βλέπε επίσης περιθώριον 280Iα, υπό
στοιχείον (α).

22^ο Αλογονίδια υγρού οξέος, όπως:-

ακετυλδωχλωρίδιο και χλωριούχο βενζούλιο. Βλέπε επίσης
περιθώριο 280Iα, υπό στοιχείον (α).

23^ο Χλωροσιλάνια αλκυλίου και αρυλίου

(α) Χλωροσιλάνια αλκυλίου και χλωροσιλάνια αρυλίου έχον-
τα σημείον αναφλέξεως κάτω των 21^οC·

(β) Χλωροσιλάνια αλκυλίου και χλωροσιλάνια αρυλίου έχον-
τα σημείον αναφλέξεως 21^οC και άνω·

Σημείωση:- Ύλες του του παρόντος αριθμού είδους οι ο-
ποίες βγάζουν εύφλεκτα αέρια σε επαφή με το ύδωρ δεν γί-
νονται δεκτές για μεταφορά.

~~α~~ (α) και (β), βλέπε επίσης περιθώριον 280Iα, 280I
 υπό στοιχείον (α). (Συνεχίζεται)

B.- Υλεις βασικού χαρακτήρος

31^ο (α) Υδροξείδιον νατρίου και υδροξείδιον καλίου
(καυστική σόδα, καυστική ποτάσα), σε σβώλους,
 νιφάδες ή υπό μορφήν κόνωσης.

Βλέπε επίσης περιθώριον 280Iα, υπό στοιχείον (α)).

(β) Υδροξείδιο νατρίου που γεμίσθηκε σε κατάσταση
αργή (MOLTEN STATE).

32^ο Υδροξείδιο νατρίου και υδροξείδιο καλίου σε διαλύ-
ματα (διάλυμα καυστικής σόδας, διάλυμα καυστικής πο-
τάσας), επίσης σε μίγματα (καυστικά διαλύματα), αλκα-
λικά διαλύματα φαινόλης, κρεζόλαι και ξυλόλια, αλκα-
λικά ιζήματα από διύλιστήρια πετρελαίου.

Βλέπε επίσης περιθώριο 280Iα, υπό στοιχείον (α).

33^ο Συσσωρευταί γεμιζόμενοι με αλκαλικά διαλύματα. Βλέπε
 επίσης περιθώριον 280Iα, υπό στοιχείον (ε).

34^ο Υδραζίνη σε υδατοειδή διαλύματα περιέχοντα όχι άνω
 του 72 τοις εκατόν υδραζίνην (N_2H_4). Βλέπε επίσης
 περιθώριο 280Iα, υπό στοιχείον (α).

Σημείωση:- Υδατοειδή διαλύματα περιέχοντα όχι άνω
 του 72 τοις εκατόν υδραζίνην (N_2H_4) δεν γίνονται δε-
 κτά για μεταφορά.

35^ο Αμίναι και πολυαμίναι αλκυλίου και αρυλίου, όπως
1,2 -DIAMINOETHANE (ETHYLENEDIAMINE), HEXAMETHYLENE-
DIAMINE, TRIETHYLENETETRAMINE.

Βλέπε επίσης περιθώριο 280Iα, υπό στοιχείον (α).

36° Πρωτοθειούχο νάτριο περιέχον όχι περισσότερο από
— από 70 τοις εκατόν Na_2S .

280I

(Συνεχίζεται)

Σημείωση:- Πρωτοθειούχο νάτριο περιέχον άνω του
70 τοις εκατόν Na_2S δεν γίνεται δεκτό για μεταφορά.

37° Διαλύματα υποχλωριώδους οξέος:-

(α) διαλύματα υποχλωριώδους οξέος περιέχοντα άνω
των 50 G (γραμμ.) διαθεσίμου χλωρίου ανά λίτρο·

(β) διαλύματα υποχλωριώδους οξέος περιέχοντα όχι άνω
των 50 G (γραμμ.) διαθεσίμου χλωρίου ανά λίτρο.

Για (α) και (β), βλέπε επίσης περιθώριο 280Iα, υπό
στοιχείον (α).

Γ.- Άλλες διαβρωτικές ύλες

4I° Διαλύματα υπεροξειδίου του υδρογόνου:-

(α) υδατοειδή διαλύματα υπεροξειδίου του υδρογόνου πε-
ριέχοντα άνω των 40 τοις εκατόν αλλά όχι άνω των
60 τοις εκατόν υπεροξειδίου του υδρογόνου·

(β) υδατοειδή διαλύματα υπεροξειδίου του υδρογόνου πε-
ριέχοντα άνω του 6 τοις εκατόν αλλά όχι άνω του
40 τοις εκατόν υπεροξειδίου του υδρογόνου.

Για (α) και (β), βλέπε επίσης περιθώριο 280Iα, υπό στοι-
χείον (α).

Σημείωση:- Υπεροξείδιο του υδρογόνου και τα υδατοειδή
αυτού διαλύματα περιέχοντα άνω του 60 τοις εκατόν υπερο-
ξειδίου του υδρογόνου είναι ύλες της Κλάσεως 5.I (βλέπε
περιθώριο 250I, I°).

Δ.- Κενά δοχεία και κενές δεξαμενές

5I° Κενές συσκευασίες, ακαθάριστες, και κενές δεξαμενές, ακα-

~~θέρμους~~, εκτός εκείνων που περιείχαν ύλες των

280Ι

~~15°~~ και 36°.

(Συνεχίζεται)

Υλες παραδοθείσες για μεταφορά σύμφωνα με 280Ια τις παρακάτω διατάξεις δεν υπόκεινται στους όρους της παρούσης Κλάσεως τους περιεχομένους εις το παρόν Παράρτημα ή Παράρτημα Β·

- (α) ύλες των Ι°(α), έως (δ), 2°(β) και (γ), 3°(β), 4° έως 9°, ΙΙ° έως Ι5°, 2Ι° έως 23°, 3Ι°(α), 32°, 34°, 35°, 37° και 4Ι° σε ποσότητες μη υπερβαίνουσες το Ι ΚG για κάθε ύλη, υπό τον όρον ότι έχουν συσκευασθεί σε στεγανά δοχεία ανίκανα να προσβληθούν από το περιεχόμενο και ότι τα δοχεία αυτά έχουν συσκευασθεί επιμελώς μέσα σε γερές, στεγανές ξύλινες συσκευασίες με στεγανά κλεισίματα·
- (β) ύλες των 2°(α) και 3°(α), σε ποσότητες μη υπερβαίνουσες τα 200 G (γραμμ.) για κάθε ύλη, υπό τον όρον ότι έχουν συσκευασθεί σε στεγανά δοχεία ανίκανα να προσβληθούν από το περιεχόμενο και ότι τα δοχεία αυτά έχουν στερεωθεί, όχι περισσότερα των Ι0 ανά κιβώτιο, σε ξύλινα κιβώτια με αδρανές απορροφητικό αποσβεστικό υλικό·
- (γ) τριξείδιο του θείου (9°), μεμιγμένο ή μη με μικρή ποσότητα φωσφορικού οξέος, υπό τον όρον ότι είναι συσκευασμένον σε γερά μεταλλικά κυτία ζυγίζοντα όχι άνω των Ι5 ΚG, ερμητικώς κλεισμένα και εφοδιασμένα με χειρολαβές·
- (δ) πενταχλωριούχος φωσφόρος (Ι2°), συμπιεσμένος σε μπλόκ ζυγίζοντα όχι άνω των Ι0 ΚG το καθένα, υπό τον όρον

Ότι τα μπλόκ αυτά έχουν συσκευασθεί σε συγκολλημένα και αερο-στεγανά μεταλλικά κυτία τοποθετημένα, είτε ένα-ένα είτε ομαδικά, σε σκελετοκιβώτιο, κιβώτιο ή δοχείο (CONTAINER). 2801α (Συνεχίζεται)

(ε) συσσωρευτεί σε μεταλλική θήκη γεμισμένοι με αλκαλικό διάλυμα (33°), υπό τον όρον ότι έχουν έτσι κλεισθεί ώστε να αποφεύγεται η διαρροή του διαλύματος και να προστατεύονται κατά των βραχυκυκλωμάτων.

2.- Διατάξεις

A.- Κόλα

I.- Γενικοί όροι συσκευασίας

(1) Οι συσκευασίες θα έχουν έτσι κλεισθεί και διευθετη-2802 θεί ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου. Για την ειδική διάταξη την αφορώσα τους συσσωρευτές (I° (στ) και 33°), βλέπε περιθώρια 2804 και 2816* για διαλύματα υποχλωριώδους οξέος της 37° και υπεροξειδίου του υδρογόνου της 4I°, βλέπε περιθώρια 2820 και 2821 αντιστοίχως.

(2) Το υλικό από το οποίο κατασκευάζονται οι συσκευασίες και τα κλεισίματά τους δεν πρέπει να κινδυνεύει να προσβληθεί από το περιεχόμενο, ή να προκαλεί την αποσύνθεση του περιεχομένου, ή να σχηματίζει επιβλαβείς ή επικινδύνους με αυτό ενώσεις.

(3) Οι συσκευασίες, συμπεριλαμβανομένων των κλεισιμάτων αυτών, πρέπει να είναι επαρκώς άκαμπτες και στερεές σε όλα τα μέρη τους προς αποφυγήν οποιασδήποτε χαλαρώσεως κατά την μεταφορά και να πληρούν τους συνήθεις όρους μεταφοράς. Ειδικότερα, οσάκις οι ύλες είναι σε υγρή κατάσταση ή σε δια-

2802
(Συνεχίζεται)

αυτά, τα δοχεία και τα κλεισίματά τους πρέπει, εκτός
από το άρθρον το τιτλοφορούμενον "Συσκευασία μιάς ύ-
λης ή εμπορευμάτων του αυτού είδους" προβλέπει άλλως,
να είναι σε θέση να αντέχουν σε οποιαδήποτε πίεση η ο-
ποία, λαμβανομένης υπόφει της παρουσίας του αέρος,
μπορεί να να εγερθεί εσωτερικώς των δοχείων κατά τη
συνήθη μεταφορά. Για τον σκοπόν αυτόν ελεύθερος χώρος
πρέπει να αφήνεται, λαμβανομένης υπ' όφει της διαφοράς
μεταξύ της θερμοκρασίας των υλών κατά τον χρόνον της
πληρώσεως (γεμίσματος) και της ανωτάτης μέσης θερμοκρα-
σίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της με-
ταφοράς. Εσωτερικές συσκευασίες θα ασφαλίζονται σταθερά
σε εξωτερικές συσκευασίες. Εκτός εάν άλλως ορίζεται στο
άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης ή εμπορευ-
μάτων του αυτού είδους", οι εσωτερικές συσκευασίες μπο-
ρούν να εγκλείονται σε εξωτερικές συσκευασίες, είτε μί-
α είτε κατά ομάδες.

(4) Φιάλες και άλλα γυάλινα δοχεία πρέπει να είναι
απαλλαγμένα από βλάβες που θα μπορούσαν να εξασθενήσουν την
αντοχήν τους· ειδικώτερα, πρέπει να απαλλαγούν κατάλληλα
από τις εσωτερικές τάσεις. Τα τοιχώματα δεν πρέπει να είναι
πάχους μικροτέρου των 3 MM (χιλ.) στη περίπτωση δοχείων που
ζυγίζουν, μαζί με το περιεχόμενό τους, άνω των 35 KG, και
όχι άνω των 2 MM (χιλ.) στη περίπτωση άλλων δοχείων.

Η στεγανότητα του συστήματος κλεισίματος πρέ-
πει να εξασφαλίζεται με πρόσθετον μηχανισμόν (κυάθιο, κορώ-
να, σφραγίδα, συναρμογή, κλπ.) ικανόν να εμποδίζει οποιαδή-
ποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της

μεταφοράς.

2802

(Συνεχίζεται)

(5) Οσάκις προβλέπονται ή επιτρέπονται δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερή υλικά ή από κατάλληλο πλαστικό υλικό, πρέπει, ελλείψει οιασδήποτε περί του αντιθέτου διατάξεως, να εφοδιάζονται με προστατευτικές συσκευασίες. Δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερή υλικά θα ασφαλίζονται προσεκτικά με αποσβεστικό υλικό. Το αποσβεστικό υλικό θα ταιριάζει με τη φύση του περιεχομένου.

2.- Συσκευασία μιάς ύλης ή εμπορευμάτων του αυτού είδους

2803

(I) Οι ύλες των I^ο (α), έως (ε) και 2^ο έως 5^ο θα συσκευάζονται:-

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαινούσης τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 956 του εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζονται πάνω από 30 KG, πλην των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβές ή

(β) σε ερμητικώς κλεισμένα κυλινδρικά δοχεία κατασκευα-

2803
(Συνεχίζεται)

από υαλο, πορσελάνη, είδη κεραμεικής ή πα-
ρομοιόζον υλικό. Τα δοχεία αυτά θα ασφαρίζονται με

απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο

ή άλλη εξωτερική συσκευασία καταλλήλου αντοχής.

Τα δοχεία δεν θα γεμίζονται πέραν του 95% εκα-

τόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν

πρέπει να ζυγίζει περισσότερο από 75 KG. ή

(γ) σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, οι
οποίες θα ασφαρίζονται με απορροφητικό αποσβεστικό
υλικό σε ξύλινο κιβώτιο ή άλλη εξωτερική συσκευασία
καταλλήλου αντοχής, ή σταθερά τοποθετημένες σε σι-
δηρούς ή ψαθωτούς καλάθους. Οι νταμιζάνες δεν θα
γεμίζονται πέραν του 95% εκατόν της χωρητικότη-
τάς τους. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει
πάνω από 75 KG.

(2) Οι ύλες των I^ο (α) έως (ε), 2^ο και 3^ο μπορούν
επίσης να συσκευάζονται σε ερμητικώς κλεισμένα μεταλλι-
κά βαρέλια έχοντα κατάλληλον επένδυσιν προκειμένου περί
των υλών της I^ο (β), (γ), (δ) και (ε) και επένδυσιν μόνον
εάν χρειασθεί προκειμένου για τις ύλες των 2^ο και 3^ο.
Τα βαρέλια δεν θα γεμίζονται πέραν του 95% εκατόν
της χωρητικότητάς των. Εάν, μαζί με το περιεχόμενόν τους,
ζυγίζουν περισσότερο από 275 KG θα είναι εφοδιασμένα με
κυλινδρικές στεφάνες (ROLLING HOOPS).

(3) Οι ύλες των I^ο (α) έως (ε), 2^ο και 5^ο μπορούν
επίσης να συσκευάζονται σε ερμητικώς κλεισμένα δοχεία,
κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας

μη ~~υπερβαίνουσας~~ τα 60 λίτρα. Τα δοχεία αυτά θα τοπο- 2803.
θετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευή (Συνεχίζεται)
σία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα
ή από κάποια ύλη καταλλήλου αντοχής. Ένα τέτοιο κδλον
δεν πρέπει να ζυγίζει περισσότερο από 100 KG. Τα δοχεία
δεν θα γεμίζονται πέραν του 95 τους εκατόν της χωρητικότη-
τός τους.

(4) Οι ύλες της 5^ο μπορούν επίσης να συσκευάζονται
ερμητικώς σε δοχεία, κατασκευασμένα από κατάλληλη
πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα,
με τοιχώματα καταλλήλου πάχους, το οποίο δεν θα είναι μι-
κρότερο των 4 MM (χιλ.), προκειμένου περί δοχείων των 50
λιτρών και άνω· τα ανοίγματα θα κλείνονται με δύο πώματα,
τοποθετημένα το ένα πάνω στο άλλο, το ένα δε από αυτά θα
είναι κοχλιωτό. Τα δοχεία αυτά δεν είναι ανάγκη να έχουν
προστατευτική συσκευασία εάν επιτρέπει τούτο η αρμόδια
αρχή της χώρας της αναχωρήσεως. Τα δοχεία δεν θα γεμίζονται
πέραν του 95 του εκατόν της χωρητικότητάς τους. Ένα
τέτοιο κδλον δεν πρέπει να ζυγίζει πάνω από 100 KG.

(5) Προκειμένου περί των υλών 2^ο(α), 3^ο(α) και 4^ο, το απορροφητικό αποσβεστικό υλικό πρέπει να είναι ά-
καυστον· προκειμένου περί των υλών της 2^ο(β), θα είναι
ανθεκτικόν στο πύρ.

Συσσωρευτές γεμισμένοι με θειϊκό οξύ (I^ο(στ))
θα ασφαλίζονται σε θήκες συσσωρευτών. Οι συσσωρευτές θα
προστατεύονται κατά των βραχυκυκλωμάτων και θα ασφαλίζονται
με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο συ-

~~συσκευασίας~~. Τα κιβώτια συσκευασίας θα είναι εφοδιασμένα με χειρολαβές.

2804
(Συνεχίζεται)

Εν τούτοις, εάν οι συσσωρευτές είναι κατασκευασμένοι από ανθεκτικό στις κρούσεις υλικό και το άνω μέρος αυτών είναι έτσι σχεδιασμένο ώστε το οξύ να μη μπορεί να τιναχθεί σε επικινδύνους ποσότητες, οι συσσωρευτές δεν χρειάζεται να συσκευασθούν, αλλά πρέπει να προστατεύονται κατά οποιασδήποτε ολίσθησης, πτώσεως ή βλάβης βραχυκυκλωμάτων και να είναι εφοδιασμένοι με χειρολαβές. Ουδεμία επικίνδυνος ποσότητα οξέος πρέπει να εμφανίζεται στο εξωτερικό των κελών.

Ομοίως, οι συσσωρευτές οι αποτελούντες τμήμα του εξοπλισμού των οχημάτων δεν χρειάζεται να έχουν ειδική συσκευασία εάν τα οχήματα φορτώνονται όρθια στους τροχούς των και στερεώνονται κατά της πτώσεως.

- (1) Οι ύλες των 6^ο, 7^ο και 8^ο θα συσκευάζονται:— 2805
- (α) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλον επένδυσιν εάν χρειασθεί, χωρητικότητος μη υπερβαινούσης τα 15 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 90^{ου} εκατόν της χωρητικότητός των. Ένα τέτοιο κέλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή
- (β) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλον επένδυσιν εάν χρειασθεί. Τα βαρέλια δεν θα γεμίζονται πέραν του 90^{ου} εκατόν της χωρητικότητάς

2805

(Συνεχίζεται)

των. Εάν, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275 KG θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS) ή (γ) Σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή κάποια άλλη ύλη καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 90 στα εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG.

(2) Οι ύλες των 6^ο, (α) και (β) θα συσκευάζονται σε δοχεία κατασκευασμένα από ανθρακούχο χάλυβα από κατάλληλο κράμα χάλυβος. Τα δοχεία πρέπει να μπορούν ν'αντέχουν σε μία δοκιμή πίεσεως των 10 KG/CM². Θα είναι αποδεκτά τ'ακόλουθα είδη δοχείου.

(α) Κύλινδροι χωρητικότητας μη υπερβαίνουσας τα 150 λίτρα.

(β) Κυλινδρικά δοχεία εξοπλισμένα με κυλιόμενες στεφάνες και χωρητικότητας όχι μικρότερης από 100 λίτρα και όχι περισσότερης από 1000 λίτρα.

Κατά τη δοκιμή πίεσεως, η δύναμη στο μέταλλο στο πιο σοβαρά πιεζόμενο σημείο του δοχείου δεν θα υπερβαίνει τα τρία τέταρτα της δυνάμεως αποδόσεως. Υπό τον όρο "δύναμη αποδόσεως" νοείται η δύναμη με την οποία έχει παραχθεί μία μόνιμη επιμήκυνση των 2% (π.χ. 0.2 τοις εκατό) του μήκους μετρήσεως στο δοκιμαζόμενο κομμάτι. Επιπρόσθετα, το υλικό που χρησιμοποιείται για τα δοχεία πρέπει να έχει επαρκή αντοχή σε κρούση κάτω από μία θερμοκρασία των -20^ο C.

Τα δοχεία πρέπει να μην έχουν ραφή ή συγκόλληση. Για δοχεία με συγκόλληση πρέπει να χρησιμοποιείται χάλυβας ικανοποιητικής συγκολλητικότητας. Δοχεία με συγκόλληση μπορούν να γίνονται αποδεκτά μόνο με την προϋπόθεση ότι ο κατασκευαστής εγγυάται για την επεξεργασία της συγκόλλησης και ότι η αρμόδια αρχή της χώρας προελεύσεως έχει δώσει την έγκρισή της.

Το πάχος του τοιχώματος των δοχείων δεν πρέπει να είναι λιγότερο από 3 ΜΜ.

Τα ανοίγματα για την πλήρωση και την εκκένωση των δοχείων πρέπει να είναι εφοδιασμένα με αρθρωτές βαλβίδες ή βελονοειδείς βαλβίδες. Οσάοο μπορούν να γίνουν αποδεκτές βαλβίδες (στρόφιγγες) άλλων τύπων αν παρουσιάζουν ισότιμες εγγυήσεις ασφαλείας και έχουν εγκριθεί στη χώρα προελεύσεως. Παρά ταύτα, οποιοσδήποτε τύπος βαλβίδας υιοθετηθεί, το σύστημα προσαρμογής του θα πρέπει να είναι δυνατό και τέτοιο ώστε η ικανοποιητική κατάστασή του να μπορεί να επιβεβαιώνεται εύκολα πριν από κάθε πλήρωση.

Εκτός από μία τρύπα, η οποία αν προβλέπεται θα είναι κλειστή με ένα πραγματικό κλείσιμο, τα δοχεία δεν θα είναι εφοδιασμένα με περισσότερο από δύο ανοίγματα για πλήρωση και εκκένωση.

Οι βαλβίδες (στρόφιγγες) θα προστατεύονται από πώματα που θα έχουν οπές αερισμού. Οι βαλβίδες που τοποθετούνται μέσα στο λαιμό των δοχείων και προστατεύονται από σπειρωματοειδές πώμα και τα δοχεία που μεταφέρονται συσκευασμένα σε προστατευτικά κιβώτια, δεν χρειάζονται πώμα.

Τα δοχεία θα υποβάλλονται υπό την επίβλεψη ενός εμπειρογνώμονα που έχει εξουσιοδοτηθεί από την αρμόδια αρχή, σε μία δοκιμή υδραυλικής πίεσεως σε μία εσωτερική πίεση όχι μικρότερη από 10 KG/CM² πριν τεθούν σε λειτουργία και στη συνέχεια στις ακόλουθες περιοδικές δοκιμές.

Η δοκιμή πίεσεως θα επαναλαμβάνεται κάθε οκτώ χρόνια και θα συνοδεύεται από μία εσωτερική επιθεώρηση των δοχείων και έναν έλεγχο του εξοπλισμού τους. Επίσης η αντίσταση των δοχείων στην οξειδωση θα ελέγχεται με κατάλληλα όργανα (π.χ. με υπέρηχα), και η κατάσταση του εξοπλισμού θα επιβεβαιώνεται κάθε δύο χρόνια.

Τα δοχεία θα φέρουν με καθαρά ευανάγνωστους και ανθεκτικούς χαρακτήρες:

(α) το όνομα της ύλης πλήρως, το όνομα ή την ένδειξη του κατασκευαστού και τον αριθμό ταυτότητας του κατασκευαστού του δοχείου.

(β) Το καθαρό βάρος του δοχείου, συμπεριλαμβανομένων και εξαρτημάτων διαφορετικών από το προστατευτικό πώμα.

(γ) Τη δοκιμή πιέσεως, την ημερομηνία (μήνας, έτος) της πιο πρόσφατης δοκιμής που έγινε και τη σφραγίδα του εμπειρογνώμονα ο οποίος πραγματοποίησε τον έλεγχο και τις επιθεωρήσεις.

(δ) Τη χωρητικότητα και το μέγιστο επιτρεπόμενο φορτίο του δοχείου. Το μέγιστο επιτρεπόμενο βάρος θα είναι 0.84 KG ανά λίτρο χωρητικότητας.

(1) Το τριοξείδιο του θείου (9^0) θα συσκευάζεται:

2806

(α) σε συγκολλημένα δοχεία κατασκευασμένα από μαύρο φύλλο-σιδήρου ή πλάκα-κασσιτέρου, ή σε ερμητικώς κλεισμένες φιάλες κατασκευασμένες από μαύρο φύλλο-σιδήρου, πλάκα-κασσιτέρου ή χαλκό· ή

(β) σε φλογο-στεγανά γυάλινα δοχεία, ή σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από πορσελάνη, είδη κεραμεικής ή παρεμφερή υλικά· ή

(γ) σε χαλύβδινα βαρέλια τα οποία έχουν υποστεί δοκιμήν-πιέσεως σε 1.5 KG/CM^2 .

(2) Τα δοχεία τα αναφερόμενα στα (α) και (β) ανωτέρω θα ασφαλίζονται με άκαυστο και απορροφητικό αποσβεστικό υλικό σε συσκευασίες κατασκευασμένες από ξύλο, μαύρο φύλλο-σιδήρου ή πλάκα-κασσιτέρου.

Οι ύλες της II^0 θα συσκευάζονται:

2807

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο,

- πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από 2807
κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας (Συνεχίζεται))
τα 5 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται με
απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε
κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής.
Τα δοχεία δεν θα γεμίζονται πέραν του 95% του
της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να
ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα πάνω από 30 KG,
πλην των αποστελλομένων ως πλήρες φορτίον, θα εφοδιά-
ζονται με χειρολαβές ή
- (β) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη
επένδυση εάν χρειασθεί. Τα βαρέλια δεν πρέπει να γεμίζ-
ονται πέραν του 95% του της χωρητικότητάς των.
Εάν, μαζί με το περιεχόμενόν των, ζυγίζουν πάνω από
275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING
HOOPS) ή
- (γ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλ-
ληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 60
λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφικτά
σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευα-
σμένα από χαρτοσανίδα ή από κάποια άλλη ύλη καταλλήλου
αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95% του
καπνόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει
να ζυγίζει πάνω από 100 KG ή
- (δ) σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, οι οποίες θα
ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο
κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου

~~αντοχής~~ Οι νταμιζάνες δεν θα πρέπει να γεμίζονται

2807

~~πάνω~~ του 956 τοις εκατόν της χωρητικότητος των. Ένα

(Συνεχίζεται)

τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από

75 KG.

Οι ύλες της I2^ο θα συσκευάζονται:-

2808

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν άνω των 5 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή
- (β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλη επένδυση εάν χρειασθεί, τα οποία δεν πρέπει να περιέχουν άνω των 15 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή
- (γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή
- (δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαίνουσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένα από χαρτοσανίδα ή από κάποια άλλη ύλη καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω

από 100 KG· ή

2808

(Συνεχίζεται)

(ε) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία) καταλλήλου αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κδον δεν πρέπει να ζυγίζει πάνω από 250 KG·

(στ) χλωριούχος ψευδαργυρος μπορεί επίσης να συσκευάζεται σε ερμητικώς κλεισμένους σάκκους, κατασκευασμένους από κατάλληλο πλαστικό υλικό, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κδον δεν πρέπει να ζυγίζει πάνω από 75 KG.

Οι ύλες των 13^ο και 15^ο θα συσκευάζονται:-

2809

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν πάνω από 5 KG ύλης το καθένα. Έν τούτοις, γυάλινα δοχεία δεν γίνονται δεκτά για FLOURIDES της 15^ο. Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κδον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με επένδυσιν μολύβδου εάν χρειασθεί, τα οποία δεν πρέπει να περιέχουν πάνω από 15 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κδον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με επένδυσιν

κυλίνδρου, εάν χρεασθεί. Εάν τα βαρέλια, μαζί με το 2809 περιεχόμενό τους, ζυγίζουν άνω των 275 KG, πρέπει να (Συνεχίζεται)
εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλο πλαστικό υλικό, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφικτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλο υλικό επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(ε) σε ερμητικώς κλεισμένους σάκκους, κατασκευασμένους από κατάλληλη πλαστική ύλη, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία κατάλληλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(στ) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια), κατάλληλου αντοχής με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 250 KG· ή

(ζ) σε γερούς χάρτινους τετράφυλλους σάκκους, επενδεδυμένους με ερμητικά κλειόμενον σάκκον κατασκευασμένον από κατάλληλο πλαστικό υλικό. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 55 KG.

(1) Το βρώμιον (14°), θα συσκευάζεται σε κατάλληλα 2810 δοχεία περιέχοντα όχι άνω των 7.5 KG ύλης ανά δοχείον.

(2) Βρώμιον περιέχον ολιγώτερο των 0.005 τοις εκατόν ύδωρ, ή μεταξύ 0.005 τοις εκατόν και 0.2 τοις εκατόν ύδωρ υπό τον όρον ότι στη δεύτερη περίπτωση λαμβάνονται μέτρα

προς αποφυγήν της διαβρώσεως της επενδύσεως των δοχείων, 2810
 πρέπει επίσης να μεταφερθεί σε δοχεία πληρούντα τους παρα- (Συνεχίζεται)
 κάτω δρους:-

- (α) τα δοχεία θα είναι κατασκευασμένα από χάλυβα και εφοδιασμένα με στεγανήν επένδυση κατασκευασμένην από μολυβδο ή κάποιο άλλο υλικό παρέχον ισοδύναμον προστασίαν, και με ερμητικά κλεισίματα· δοχεία κατασκευασμένα από μέταλλο μονέλ ((κράμα νικελίου (68,41) χαλκού (29,14)), ή νικέλιο, ή εφοδιασμένα με επένδυση νικελίου θα επιτρέπονται επίσης·
- (β) η χωρητικότητά τους δεν πρέπει να υπερβαίνει τις 1250 λίτρες·
- (γ) τα δοχεία δεν θα γεμίζονται πέραν του 92 τοις εκατόν της χωρητικότητάς των ή πέραν των 2.86 KG ανά λίτρον χωρητικότητας·
- (δ) τα δοχεία θα είναι συγκολλημένα και σχεδιασμένα για πίεση όχι μικρότερη των 21 KG/CM².

Τα υλικά και η εργασία πρέπει από άλλες απόψεις να πληρούν τους δρους των περιθωρίων 2211 (1) και (2) (β). Ο αρχικός έλεγχος των μη επενδεδυμένων χαλυβδίνων δοχείων θα υπόκειται στις διατάξεις 2215 (1) και 2216 (1), Α και Β.

- (ε) οι μηχανισμοί κλεισίματος πρέπει να προεξέχουν όσο το δυνατόν λιγώτερο από το δοχείο και να είναι εφοδιασμένοι με προστατευτικό κάλυμμα. Οι μηχανισμοί κλεισίματος και το κάλυμμα θα φέρουν παρεμβύσματα από υλικό μη δυνάμενο να προσβληθεί από το βρώμιο. Οι μηχανισμοί κλεισίματος

πρέπει να ευρίσκονται στο άνω μέρος των δοχείων,
~~πρέπει~~ σε καμιά περίπτωση να μπορούν να είναι σε
μόνιμη επαφή με το υγρό.

2810
(Συνεχίζεται)

(στ) η επένδυση μολύβδου πρέπει να είναι στεγανή και πά-
χους όχι μικρότερου των 3 MM (χιλ.). Εάν κάποιο άλλο
υλικό χρησιμοποιηθεί, πρέπει να παρέχει προστασίαν
ισοδύναμον με την παρεχομένην υπό του μολύβδου.

(ζ) τα δοχεία πρέπει να είναι εφοδιασμένα με εξαρτήματα
παρέχοντα σάυτ'α τη δυνατότητα να στέκονται σταθερά
όρθια, και με εξαρτήματα ανυψώσεως (ελατήρια, φλάν-
τζες, κλπ.), στο άνω μέρος, τα οποία θα δοκιμάζονται
με το διπλάσιο του ωφελίμου φορτίου.

(3) Δοχεία συμφώνως προς την (2) ανωτέρω, προτού
τεθούν εν λειτουργία, θα υπόκεινται (υποβάλλονται), σε έ-
λεγχο στεγανότητας σε πίεση 2 KG/CM^2 . Ο έλεγχος στεγανό-
τητος θα επαναλαμβάνεται κάθε δύο χρόνια και θα συνοδεύε-
ται από εσωτερική επιθεώρηση του δοχείου και έλεγχο του
απόβαρου αυτού. Ο έλεγχος αυτός και η επιθεώρηση θα επο-
πτεύονται από εμπειρογνώμονα εγκεκριμένον από την αρμόδια
αρχή.

(4) Τα δοχεία πρέπει να φέρουν, με ευανάγνωστα και
ανεξίτηλα γράμματα:

- (α) το όνομα ή ένδειξη του κατασκευαστού και τον αριθμόν
του δοχείου.
- (β) την λέξιν "Βρώμιον"
- (γ) το απόβαρο του δοχείου και το ανώτατο βάρος του όταν
γεμισθεί.

(δ) την ημερομηνία (μήνα και έτος) του τελευταίου ε-
λέγχου εις τον οποίον υποβλήθηκαν.

28ΙΟ

(Συνεχίζε-
ται).

(ε) την σφρα-γίδα του εμπειρογνώμονος που διεξήγαγε
τον έλεγχο και τις επιθεωρήσεις.

(Ι) Οι ύλες της 2Ι^ο(α) Ι θα συσκευάζονται:

28ΙΙ

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από
ύαλο, πορσελάνη, είδη κεραμεικής, ή παρεμφερές υλι-
κό, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέ-
πει να περιέχουν πάνω από 5 KG ύλης το καθένα. Τα
δοχεία αυτά θα ασφαρίζονται με αποσβεστικό υλικό
σε ξύλινο κιβώτιο ή κάποια άλλη εξωτερική συσκευασία
καταλλήλου αντοχής. Ένα τέτοιο κέλον δεν πρέπει να
ζυγίζει πάνω από 75 KG. ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλον
επένδυσιν εάν χρειασθεί, τα οποία δεν πρέπει να πε-
ριέχουν πάνω από 15 KG ύλης το καθένα. Τα δοχεία αυτά
θα ασφαρίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο
ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντο-
χής. Ένα τέτοιο κέλον δεν πρέπει να ζυγίζει πάνω από
100 KG. ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη
επένδυση, εάν χρειασθεί. Εάν τα βαρέλια, μαζί με το πε-
ριεχόμενό τους, ζυγίζουν πάνω από 275 KG, πρέπει να εί-
ναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(δ) σε ερμητικώς κλεισμένους σάκκους, κατασκευασμένους από
κατάλληλο πλαστικό υλικό, οι οποίοι θα τοποθετούνται
σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία
καταλλήλου αντοχής. Ένα τέτοιο κέλον δεν πρέπει να ζυ-

ζυγίζει πάνω από 100 KG. ή
 (στ) ~~σε~~ ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, (Συνεχίζεται)
 βαρέλια) καταλλήλου αντοχής, με κατάλληλη επέν-
 δυση. Ένα τέτοιο κάδον δεν πρέπει να ζυγίζει
 πάνω από 250 KG. ή

- (ζ) σε γερούς χάρτινους τετράφυλλους σάκκους, επενδε-
 δυμένους με ερμητικώς κλειδόμενον σάκκον από κατάλ-
 ληλη πλαστική ύλη. Ένα τέτοιο κάδον δεν πρέπει να
 ζυγίζει πάνω από 55 KG. ή
- (η) σε σάκκους γιούτας που θα γίνονται υγρο-στεγανοί με
 επένδυση από κατάλληλο υλικό, θα επιχρύνονται με βι-
 τούμιον, ή σε σάκκους γιούτας επενδεδυμένους με ερ-
 μητικά κλειδόμενο σάκκον από κατάλληλη πλαστική ύλη.
 Ένα τέτοιο κάδον δεν πρέπει να ζυγίζει πάνω από 55KG.

(2) Οι ύλες της 21^ο (α), 2., (β), (γ), (δ) και

(ε) θα συσκευάζονται:-

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύα-
 λο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό,
 ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερ-
 βαίνουσας τα 5 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται
 από απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο
 ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αν-
 τοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις
 εκατόν της χωρητικότητός των. Ένα τέτοιο κάδον δεν
 πρέπει να ζυγίζει πάνω από 75 KG. Κάδα ζυγίζοντα πάνω
 από 30 KG, πλην των αποστελλομένων ως πλήρες φορτίο,
 θα εφοδιάζονται με χειρολαβές. ή

- (β) ~~σε~~ ερμητικώς κλεισμένες γυάλινες νταμιζάνες, οι ο- 28II
~~ποίες~~ θα ασφαρίζονται με απορροφητικό αποσβεστικό (Συνεχίζε-
ταί).
υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική
συσκευασία καταλλήλου αντοχής. Οι νταμιζάνες δεν θα
γεμίζονται πέραν του 95~~6~~το~~α~~ εκατόν της χωρητικότη-
τάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει
πάνω από 75 KG· ή
- (γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλη
επένδυση εάν χρειασθεί, χωρητικότητάς μη υπερβαίνού-
σας τα 15 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται με
απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή
σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντο-
χής. Τα δοχεία/θα γεμίζονται πέραν του 95~~6~~το~~α~~ εκατόν
της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει
να ζυγίζει πάνω από 100 KG· ή
- (δ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από
κατάλληλο μέταλλο, με μαλακή ή σκληρή συγκόλληση, χω-
ρητικότητας μη υπερβαίνουσας τα 60 λίτρα, και εφοδια-
σμένα με χειρολαβήν. Τα κάνιστρα δεν θα γεμίζονται πέ-
ραν του 95~~6~~το~~α~~ εκατόν της χωρητικότητός των. Ένα τέ-
τοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή
- (ε) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλλη-
λη επένδυση εάν χρειασθεί. Τα βαρέλια δεν θα γεμίζον-
ται πέραν του 95~~6~~το~~α~~ εκατόν της χωρητικότητάς των.
Εάν, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από
275 KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες· ή
- (στ) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από κατάλ-

Λύπη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας 28II
 τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα- (Συνεχίζεται)
 ένα και σφικτά σε προστατευτική συσκευασία με πλή-
 ρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από
 κάποια άλλη ύλη καταλλήλου αντοχής. Τα δοχεία δεν
 θα γεμίζονται πέραν του 95% του εκατόν της χωρητι-
 κότητάς των. Ένα τέτοιο κόνον δεν πρέπει να ζυγίζει
 πάνω από 100 KG. ή

- (ζ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από
 κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνου-
 σας τα 60 λίτρα, με τοιχώματα καταλλήλου πάχους, τα
 οποία δεν θα είναι μικρότερο των 4 MM (χιλ.) προκει-
 μένου περί δοχείων των 50 λιτρών και άνω· τα ανοίγ-
 ματα θα κλείνονται με δύο πώματα, το ένα επάνω στο
 άλλο, και ένα από αυτά θα είναι κοχλιωτό. Τα δοχεία
 αυτά δεν χρειάζεται να έχουν προστατευτικές συσκευα-
 σίες εάν η αρμόδια αρχή της χώρας αναχωρήσεως το επι-
 τρέπει. Τα δοχεία δεν θα γεμίζονται πέραν του 95% του
 εκατόν της χωρητικότητάς τους. Ένα τέτοιο κόνον δεν
 πρέπει να ζυγίζει πάνω από 100 KG.

Οι ύλες της 22^ο θα συσκευάζονται:

28I2

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο,
 πορσελάνη, είδη κεραμικής ή παρεμφερές υλικό, ή από
 κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνου-
 σας τα 5 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται με απορ-
 ροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια
 άλλη εξωτερική συσκευασία κατάλληλης αντοχής. Τα δοχεία

~~αυτά~~ δεν θα γεμίζονται πέραν του 95 ~~βτα~~ εκατόν 2812
της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέ- (Συνεχίζεται)
πει να ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα πάνω
από 30 KG, πλή εκείνων που αποστέλονται ως πλήρες
φορτίον, θα είναι εφοδιασμένα με χειρολαβές· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλ-
ληλη επένδυση εάν χρειασθεί. Τα βαρέλια δεν θα γε-
μίζονται πέραν του 95 ~~βτα~~ εκατόν της χωρητικότητάς
των. Εάν, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω
από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες
(ROLLING HOOPS)· ή

(γ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από
κατάλληλη πλαστική ύλη· χωρητικότητας μη υπερβαίνου-
σης τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται
ένα-ένα και σφιχτά σε προστατευτική συσκευασία με
πλήρεις πλευρές, κατασκευασμένα από χαρτοσανίδα ή
από κάποια άλλη ύλη καταλλήλου αντοχής. Τα δοχεία
δεν θα γεμίζονται πέραν του 95 ~~βτα~~ εκατόν της χωρη-
τικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυ-
γίζει πάνω από 100 KG· ή

(δ) σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, οι ο-
ποίες θα ασφαρίζονται με απορροφητικό αποσβεστικό
υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική
συσκευασία καταλλήλου αντοχής. Οι νταμιζάνες δεν θα
γεμίζονται πέραν του 95 ~~βτα~~ εκατόν της χωρητικότη-
τάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει
πάνω από 75 KG.

(I) Οι ύλες της 23^ο θα συσκευάζονται:-

2813

- (α) ~~σε~~ ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 5 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 956τα εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα πάνω από 30 KG, εκτός εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές, ή
- (β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλη επένδυση εάν χρειασθεί, χωρητικότητας μη υπερβαίνουσας τα 15 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 956τα εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή
- (γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Βαρέλια προοριζόμενα για ύλες της 23^ο(α) πρέπει να πληρούν τους όρους της Προσθήκης Α.5. Τα βαρέλια δεν θα γεμίζονται πέραν του 956τα εκατόν της χωρητικότητάς των. Εάν, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275 KG, θα εφοδιάζονται με κυλινδρικές στεφάνες (ROLLING HOOPS).

(2), Οι ύλες της 23^ο (β) μπορούν επίσης να συ-
σκευάζονται:-

2813
(Συνεχίζε-
ται)

- (α) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από κατάλληλο μέταλλο, με μαλακή ή σκληρή συγκόλληση, χωρητικότητας μη υπερβαινούσης ~~πυκνωτική~~ τα 60 λίτρα και εφοδιασμένα με χειρολαβές. Τα κάνιστρα δεν θα γεμίζονται πέραν του 95~~6~~ τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. ή
- (β) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα, με τοιχώματα καταλλήλου πάχους, το οποίο δεν θα είναι λιγώτερο από 4 MM (χιλ.) προκειμένου περί δοχείων των 50 λιτρών και άνω· τα ανοίγματα θα κλείνονται με δύο πώματα, το ένα τοποθετημένο επάνω στο άλλο, και το ένα από αυτά κοχλιωτό. Τα δοχεία αυτά δεν χρειάζεται να έχουν προστατευτική συσκευασία εάν η αρμόδια αρχή της χώρας της αναχωρήσεως το επιτρέπει. Τα δοχεία δεν θα γεμίζονται πέραν του 95~~6~~ τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν θα ζυγίζει περισσότερο από 100 KG.

(I) Οι ύλες της 31^ο (α) θα συσκευάζονται:-

2814

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, και δεν θα περιέχουν πάνω από 5 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφα-λίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή

35) κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

2814
(Συνεχίζεται)

β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλο επένδυση εάν χρειασθεί, τα οποία δεν πρέπει να περιέχουν πάνω από 15 KG ύλης το καθένα.

Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφίχτὰ σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποιο άλλο υλικό καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

ε) σε ερμητικώς κλεισμένους σάκους, κατασκευασμένους από κατάλληλη πλαστική ύλη, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(στ) σε σάκκους από γιούτα καθισταμένους υγροστεγανούς 28Ι4 με επένδυση κατασκευασμένη από κατάλληλο υλικό, (Συνεχίζεται) επιχρισμένους με βιτούμιον, ή σε σάκκους από γιούτα επενδεδυμένους με ερμητικώς κλειόμενον σάκκον κατασκευασμένον από κατάλληλη πλαστική ύλη. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 55 KG.

(2) Οι ύλες της 3Ι^ο(α) σε νιφάδες ή υπό μορφήν κόνωσης μπορούν επίσης να συσκευάζονται σε γερούς χάρτινους τετράφυλλους σάκκους, επενδεδυμένους με ερμητικώς κλειόμενον σάκκον κατασκευασμένον από/κατάλληλη πλαστική ύλην. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 55 KG.

(3) Υδροξείδιο νατρίου της 3Ι^ο(β) γεμισθέν στην αργή κατάσταση (MOLTEN STATE) θα περιέχεται σε χαλύβδινα βαρέλια με τοιχώματα πάχους όχι μικρότερου των 0.5 MM (χιλ.). Τα βαρέλια, μαζί με το περιεχόμενό τους, δεν πρέπει να ζυγίζουν πάνω από 450 KG.

Οι ύλες της 32^ο θα συσκευάζονται:-

28Ι5

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95^{ου} τοις εκατόν της χωρητικότητάς των, Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλην των αποστελλομένων ως πλήρες

- φορτίο, θα είναι εφοδιασμένα με χειρολαβές· ή 2815
 (δ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλη επένδυση εάν χρειασθεί, χωρητικότητας μη υπερβαίνουσας τα 15 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία κατάλληλης αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 956τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κδλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή (Συνεχίζεται)
- (γ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από καταλληλο μέταλλο, με μαλακή ή σκληρή συγκόλληση, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα, και εφοδιασμένα με χειρολαβές. Τα κάνιστρα δεν θα γεμίζονται πέραν του 956τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κδλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή
- (δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Τα βαρέλια δεν θα γεμίζονται πέραν του 956τοις εκατόν της χωρητικότητάς των. Εάν, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες· ή
- (ε) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 956τοις εκατόν της χωρητικότητός των.

2815

(Συνεχίζεται)

Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(στ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από καταλληλή πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα και με τοιχώματα επαρκούς πάχους, το οποίο δεν θα είναι μικρότερο των 4 MM (χιλ.) προκειμένου περί δοχείων των 50 λιτρών και άνω· τα ανοίγματα θα κλείνονται με δύο πώματα, το ένα τοποθετημένο επάνω στο άλλο, και το ένα από αυτά κοχλιωτό. Τα δοχεία αυτά δεν χρειάζεται να έχουν προστατευτικήν συσκευασία εάν η αρμόδια αρχή της χώρας της αναχωρήσεως το επιτρέπει. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(ζ) σε ερμητικώς κλεισμένα κυλινδρικά δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμικής ή παρεμφερές υλικό, χωρητικότητος μη υπερβαίνουσας τα 20 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(η) σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, οι οποίες θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία

~~αλκαλική~~ αντοχής, ή θα τοποθετούνται σταθερά σε 28I5
~~σιδηρούς~~ ή φαθτούς καλάρους. Οι νταμιζάνες δεν (Συνεχίζεται)
 θα γεμίζονται πέραν του 95 ~~εκατόν~~ της χωρη-
 τικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυ-
 γίζει πάνω από 75 KG.

Συσσωρευτές που γεμίζονται με αλκαλικά δια- 28I6
 λύματα (33°) θα είναι κατασκευασμένοι από μέταλλο και το
 άνω τμήμα θα είναι έτσι σχεδιασμένο ώστε το αλκαλικό διά-
 λυμα να μη μπορεί να τινάχθει σε επικίνδυνες ποσότητες.
 Οι συσσωρευτές θα προστατεύονται κατά των βραχυκυκλωμάτων
 και θα συσκευάζονται σε ξύλινο κιβώτιο συσκευασίας.

(I) Η υδραζίνη (34°) θα συσκευάζεται: 28I7

- (α) σε ερμητικώς κλεισμένα γυάλινα δοχεία, χωρητικότητας
 μη υπερβαίνουσας τα 5 λίτρα, τα οποία θα ασφαλίζονται
 με κατάλληλο αποσβεστικό υλικό σε κυτία τοποθετημένα
 σε ξύλινο κιβώτιο ή
- (β) σε δοχεία κατασκευασμένα από αργίλλιο (αλουμίνιο) όχι
 κάτω του 99.5 τοις εκατόν καθαρόν ή από ανοξείδωτο χάλυβα ή επενδεδυμένον με μόλυβδον σίδηρον ή
- (γ) σε δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη,
 εφοδιασμένα με κοχλιωτό κλείσιμο και έχοντα χωρητικό-
 τητα μη υπερβαίνουσα τα 65 λίτρα, τοποθετημένα ένα-
 ένα σε κατάλληλες προστατευτικές συσκευασίες ή ασφα-
 λισμένα κατά ομάδες με κατάλληλο αποσβεστικό υλικό
 σε κατάλληλες προστατευτικές συσκευασίες· το κόλον
 δεν πρέπει να ζυγίζει πάνω από 100 KG, ή πάνω από
 50 KG εάν η προστατευτική συσκευασία αποτελείται από
 κιβώτιο από ινোসανίδα ή

- (δ) ~~σε βάρβελια~~, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 220 λίτρα και με τοιχώματα πάχους όχι μικρότερου των 1.5 MM (χιλ.), τοποθετημένα ένα-ένα σε βάρβελια εφοδιασμένα με κυλιόμενες στεφάνες. 2817 (Συνεχίζεται))

(2) Κανένα δοχείο θα γεμίζεται πέραν του 93% εκατόν της χωρητικότητός του. Τα δοχεία υπό στοιχεία (β) (γ) και (δ) θα υποβάλλονται σε έλεγχο της πίεσεως σε 1 KG/CM².

Οι ύλες της 35^ο θα συσκευάζονται:-

2818

- (α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαίνουσας τα 5 λίτρα. Τα δοχεία θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία κατάλληλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95% εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα πάνω από 30KG, πλην εκείνων που αποστέλλονται ως πλήρες φορτίο, θα είναι εφοδιασμένα με χειρολαβές ή
- (β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλη επένδυση εάν χρειασθεί, χωρητικότητας μη υπερβαίνουσας τα 15 λίτρα. Τα δοχεία αυτά θα ασφαρίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία κατάλληλης αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95% ε-

~~πρόκειται~~ χωρητικότητάς των. Ένα τέτοιο κόλον δεν 2818

~~πρόκειται~~ να ζυγίζει πάνω από 100 KG· ή

- (γ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από μέταλλο, με μαλακή ή σκληρή συγκόλληση, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα, και εφοδιασμένα με χειρολαβές. Τα κάνιστρα δεν θα γεμίζονται πέραν του 95^{ου} εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή
- (δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Τα βαρέλια δεν θα γεμίζονται πέραν του 95^{ου} εκατόν της χωρητικότητάς των. Εάν μαζί με τό περιεχόμενό τους, ζυγίζουν πάνω από 275 KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

- (ε) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητάς μη υπερβαίνουσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφικτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95^{ου} εκατόν της χωρητικότητάς των.

Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100KG· ή

- (στ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από/πλαστική ^{κατάλληλη} ύλη, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα, με τοιχώματα καταλλήλου πάχους, το οποίο δεν θα είναι μικρότερο των 4 MM (χιλ.) προκειμένου περί δοχείων των 50 λιτρών και άνω· τα ανώλγματα θα κλείνονται με δύο

~~πρόστατα~~, ~~ή~~ ένα τοποθετημένο επάνω στο άλλο, και το 2818
~~ένα από~~ αυτά κοχλιωτό. Τα δοχεία αυτά δεν χρειάζε- (Συνεχίζεται)
 ται να έχουν προστατευτική συσκευασία εάν η αρμό-
 δια αρχή της χώρας της αναχωρήσεως το επιτρέπει. Τα
 δοχεία δεν θα γεμίζονται πέραν του 95% του εμβαδόν
 της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει
 να ζυγίζει πάνω από 100 KG.

(I) Το πρωτοθελούχο νάτριο (36°) θα συσκευά- 2819

ζεπαι:-

- (α) σε στεγανά σιδηρά δοχεία· ή
- (β) σε ποσότητες μη υπερβαίνουσες τα 5 KG, επίσης σε δο-
 χεία, κατασκευασμένα από ύαλο ή από κατάλληλη πλαστική
 ύλη, τα οποία θα ασφαρίζονται σε γερά ξύλινα δοχεία, τα
 γυάλινα δοχεία θα ασφαρίζονται εκεί με απορροστικό υλικό.

(2) Το πρωτοθελούχο νάτριο υπό στερεά μορφή
 μπορεί επίσης να εγκλεισθεί σε άλλα στεγανά δοχεία. Εάν μετα-
 φερθεί ως πλήρες φορτίο, μπορεί επίσης να συσκευασθεί:-

- (α) σε γερούς χάρτινους σάκκους πεντάφυλλους, έτσι κλεισμέ-
 νους ώστε να είναι στεγανοί, και επενδεδυμένους με σάκ-
 κιο κατασκευασμένον από κατάλληλη πλαστική ύλη· ή
- (β) σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη
 ίση σε αντοχή με τους χάρτινους σάκκους.

Κόλα από σάκκους δεν πρέπει να ζυγίζουν περισσότερο
 από 55 KG.

(I) Διαλύματα υποχλωριώδους οξέος (37°) θα συσκευά- 2820

ζονται:-

- (α) σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κε-

ραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, ασφαλιζόμενα σε προστατευτικές συσκευασίες. (Συνεχίζεται)
~~Εξοπλιστά~~ δοχεία θα ασφαλίζονται εκεί με αποσβεστικό υλικό. ή

(β) σε μεταλλικά βαρέλια, καταλλήλως επενδεδυμένα.

(2) Προκειμένου περί διαλυμάτων υποχλωριώδους οξέος της 37°(α), τα δοχεία ή βαρέλια θα είναι σχεδιασμένα εις τρόπον ώστε να επιτρέπεται στα αέρια να διαφεύγουν, ή θα είναι εφοδιασμένα με ρυθμιστικές της πίεσεως βαλβίδες.

(I) Ύδατοειδή διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα πάνω από 40 τοις εκατόν αλλά όχι πάνω από 60 τοις εκατόν υπεροξειδίου του υδρογόνου (4H°(α)) θα περιέχονται:— 282I.

(α) σε δοχεία τα οποία πρέπει να είναι ικανά να στέκονται σταθερά όρθια, κατασκευασμένα από αργίλλιο (αλουμίνιο) όχι κάτω του 99.5 τοις εκατόν καθαρόν ή από ειδικό χάλυβα μη δυνάμενο να προκαλέσει την αποσύνθεση του υπεροξειδίου του υδρογόνου. Η χωρητικότητα των δοχείων αυτών δεν πρέπει να υπερβαίνει τα 200 λίτρα. ή

(β) σε δοχεία, κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαινούσης τα 20 λίτρα. Κάθε δοχείο θα ασφαρίζεται με απορροφητικό, άκαυστο και αδρανές αποσβεστικό υλικό σε συσκευασία από φύλλο-μετάλλου με πλήρεις πλευρές, επενδεδυμένη με κατάλληλα υλικά. Η συσκευασία αυτή θα τοποθετείται σε ξύλινο κιβώτιο συσκευασίας με κενλιμένο προστατευτικό κάλυμμα.

η κλεισιμο και βαθμόν πληρώσεως (γεμίσματος) 282I
θα είναι υπό στοιχείον (3). (Συνεχίζεται)

(2) Υδατοειδή διαλύματα του υπεροξειδίου του υδρογόνου περιέχοντα άνω του 66τμ εκατόν αλλά όχι άνω του 40τμ εκατόν υπεροξειδίου του υδρογόνου (4I^ο(β)) θα περιέχονται σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής, αργίλλιο (αλουμίνιο) όχι κάτω του 99.56τμ εκατόν καθαρών, ειδικών χάλυβα μη δυνάμενον να προκαλέσει αποσύνθεση του υπεροξειδίου του υδρογόνου, ή από κατάλληλη πλαστική ύλη.

Δοχεία χωρητικότητας, μη υπερβαίνουσας τα 3 λίτρα θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινα κιβώτια· εάν τα δοχεία περιέχουν υδατοειδή διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω του 356τμ εκατόν υπεροξειδίου του υδρογόνου, το αποσβεστικό υλικό πρέπει να είναι κατάλληλα πυρο-στεγανόν. Το κδλον δεν πρέπει να ζυγίζει πάνω από 35 KG.

Εάν τα δοχεία έχουν χωρητικότητα άνω των 3 λίτρων, πρέπει να πληρούν τους παρακάτω όρους:-

- (α) δοχεία κατασκευασμένα από αργίλλιο (αλουμίνιο) ή από ειδικό χάλυβα πρέπει να είναι ικανά να στέκονται σταθερά όρθια. Το κδλον δεν πρέπει να ζυγίζει πάνω από 250 KG.
- (β) δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή κατάλληλη πλαστική ύλη θα τοποθετούνται σε κατάλληλες γερές προστατευτικές συσκευασίες που θα τα διατηρούν ασφαλώς όρθια· οι συσκευασίες θα είναι εφοδιασμένες με χειρολαβές. Εσωτερικές συσκευα-

σχές, πλην των κατασκευασμένων από πλαστική ύλη θα 282I
~~υφασίζονται~~ σε εξωτερικές συσκευασίες με αποσβε- (Συνεχίζεται)
~~τικό~~ υλικό. Οσάκις δοχεία περιέχουν υδατοειδή δια-
~~λύματα~~ υπεροξειδίου του υδρογόνου περιέχοντα άνω του
 40% εκατόν υπεροξειδίου υδρογόνου, το αποσβεστι-
 κό υλικό θα είναι κατάλληλως πυρο-στεγανόν. Κόλον του
 είδους αυτού δεν πρέπει να ζυγίζει περισσότερο από
 90 KG. ~~Εν~~ τούτοις, μπορεί να ζυγίζει μέχρι 110 KG εάν
 οι προστατευτικές συσκευασίες έχουν, επιπροσθέτως, συ-
 σκευασθεί σε κιβώτιο ή σκελετοκιβώτιον.

- (γ) υδατοειδή διαλύματα υπεροξειδίου του υδρογόνου περιέ-
 χοντα άνω του 6% εκατόν αλλά όχι άνω του 40% ~~εκατόν~~
 υπεροξειδίου του υδρογόνου μπορούν επίσης να πε-
 ριέχονται, άνευ προστατευτικών συσκευασιών, σε δοχεία
 κατασκευασμένα από κατάλληλη πλαστική ύλη, υπό τον όρον
 ότι το πάχος των τοιχωμάτων (συμπεριλαμβανομένων των
 χώρων τοποθέτησεως των ετικετών) δεν είναι σε κανένα
 σημείον κάτω από 4 MM (χιλ.), τα τοιχώματα προστατεύον-
 ται από γερές δοκίδες, και τα άκρα είναι ενισχυμένα.
 Τα δοχεία θα είναι εφοδιασμένα με χειρολαβές. Η χωρητι-
 κότης δεν πρέπει να υπερβαίνει τα 60 λίτρα.

Για το κλείσιμο και τον βαθμόν πληρώσεως (γε-
 μίσματος), βλέπε υπό στοιχείον (3).

- (3) Δοχεία χωρητικότητος μη υπερβαινούσης τις 3
 λίτρες μπορούν να έχουν ερμητικόν κλείσιμον. Σε τέτοιες πε-
 ριπτώσεις τα δοχεία θα πληρούνται (γεμίζονται) με βάρος του
 διαλύματος το οποίον, εκφραζόμενον σε γραμμάρια, είναι ίσον

με ~~δ~~χι περισσότερο των δύο-τρίτων του αριθμού του εκ-
~~φ~~ροντος την χωρητικότητα του δοχείου σε cm^3 .

282I

(Συνεχίζε-
ται))

Δοχεία χωρητικότητας υπερβαίνουσας τα 3 λί-
 τρα θα είναι εφοδιασμένα με ειδικό κλείσιμο εμποδίζον
 την υπερβολικήν εσωτερικήν πίεσιν, την διαρροήν του υ-
 γρού, και την είσοδον ξένης ύλης στο δοχείο. Οσάκις τα
 δοχεία συσκευάζονται χωριστά, η εξωτερική συσκευασία θα
 είναι εφοδιασμένη με κάλυμμα το οποίον, ενώ προστατεύει
 το κλείσιμο, παρέχει την δυνατότητα της επαληθεύσεως
 ότι το κλείσιμο κατευθύνεται προς τα άνω. Τα δοχεία αυτά
 δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χω-
 ρητικότητάς των.

3.- Μικτή συσκευασία

2822

(I) Ύλεις ομαδοποιημένες υπό τον αυτόν αριθ-
 μόν είδους μπορούν να συμπεριλαμβάνονται στο αυτό κώλον.
 Οι εσωτερικές συσκευασίες θα είναι σύμφωνες με ότι προ-
 βλέπεται για κάθε ύλη, και η εξωτερική συσκευασία θα εί-
 ναι ή οριζομένη για τις ύλες του εν λόγω αριθμού είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται
 υπό του άρθρου του τιτλοφορουμένου "Συσκευασία μιας ύλης
 ή εμπορευμάτων του αυτού είδους" και ουδείς ειδικός όρος
 παρατίθεται κατωτέρω, οι ύλες της παρούσης Κλάσεως, σε
 ποσότητες μη υπερβαίνουσες τα 6 KG στη περίπτωση των στε-
 ρεών ή τα 3 λίτρα στη περίπτωση των υγρών για όλες τις
 ύλες τις απαριθμούμενες υπό τον αυτόν αριθμόν είδους ή
 το αυτό γράμμα, μπορούν να εγκλείονται στο ίδιο κώλον
 είτε με τις ύλες άλλου αριθμού είδους ή άλλου γράμματος

2822
(Συνεχίζεται)

Κλάσεως, είτε με ύλες ή είδη ανήκοντα σε άλλες Κλάσεις (εάν μικτή συσκευασία επιτρέπεται ομοίως προκειμένου περί των ποιούτων υλών ή ειδών), είτε με άλλα εμπορεύματα, υπό την επιφύλαξη των παρακάτω ειδικών όρων.

Οι εσωτερικές συσκευασίες πρέπει να πληρούν τους γενικούς και ειδικούς όρους της συσκευασίας. Επιπροσθέτως, πρέπει να τηρούνται οι γενικοί όροι των περιθωρίων 2001 (5), και 2002 (6) και (7).

Η μικτή συσκευασία οξίνης ύλης με βασικήν ύλην στο ίδιο κέλον δεν επιτρέπεται εάν αμφότερες οι ύλες περιέχονται σε εύθραυστα δοχεία.

Το κέλον δεν πρέπει να ζυγίζει περισσότερο από 150 KG, ή περισσότερο από 75 KG εάν περιέχει εύθραυστα δοχεία.

Ειδικός Όρος

(Βλέπε σελ. 434.-

Ειδικοί Όροι

2822

(Συνεχίζεται)

| Αρ. Είδους | Περιγραφή Ύλης | Ανωτάτη Ποσότης | | Ειδικές Διατάξεις |
|---------------------------------|-------------------------------|-----------------|--------------|--|
| | | ανά δοχείο | ανά κόλον | |
| I ^ο (α) | OLCUM | 3 λίτρες | 12 λίτρες | Δεν πρέπει να συσκευάζονται μαζί με χλωρικά άλατα, υπερμαγ- νανικά, διαλύμα- τα υπεροξειδίου του υδρογόνου, υπερχλωρικά άλα- τα, υπεροξειδία ή υδραζίνη. Ο περιορισμός των 18 λίτρων ισχύει για τα οξέα θειϊ- κόν, νιτρικόν και υδροχλωρικόν, και μικτά αζω- τούχα όξέα, για όλες αυτές τις ύλες. Εάν το κό- λον περιέχει οξύ υποκείμενον στον περιορισμόν των 12 λίτρων, ο πε- ριορισμός αυτός πρέπει να εφαρ- μοσθεί. |
| I ^ο (α), (β), (γ) | Θειϊκόν οξύ πλήν του OLCUM | 3 λίτρες | 18 λίτρες | |

2822

(Συνεχίζεται)

| Αρ. | Περιγραφή | Ανωτάτη Ποσότητα | | Ειδικά |
|---------------------|--|------------------------------------|-------------|---|
| Είδους | Υλης | ανά δοχείο | ανά κδόν | Διατάξεις |
| (Σ υ ν ξ ε ι α) | | | | |
| 2 ^ο (α.) | Νιτρικόν Οξύ περιέχον άνω του 70 ^ο /ο καθαρού οξέος | 3 λίτρες | 12 λίτρες | Δεν πρέπει να συσκευάζονται μαζί με μυρμη- κικόν οξύ, τρι- αιθανολαμίνη, ανιλίνη, ξυλι- δίνη, τολουϊδί- νη, χλωρικά ά- λατα, υπερμαγ- γανικά, εύφλε- κτα υγρά με βαθμόν αναφλέ- ξεως κάτω των 21 ^ο C, διαλύμα- τα υπεροξειδί- ου του υδρογδ- νου, υπερχλωρι- κά άλατα, υπερο- ξειδία, υδραζί- νη, γλυκερίνη, γλυκόλες. Μόνο αδρανές υλικό πληρώσεως πρέ- πει να χρησι- μοποιείται. |
| 2 ^ο (β) | Νιτρικόν Οξύ περιέχον όχι άνω του 70 ^ο /ο κα- θαρού οξέος | 3 λίτρες | 18 λίτρες | |
| 3 ^ο | Μικτά οξέα νιτρώσεως | 3 λίτρες | 18 λίτρες | |
| 4 ^ο | Υπερχλωρικό Οξύ | Μικτή συσκευασία απα- γορεύεται | | |
| 5 ^ο | Υδροχλωρικό Οξύ | 5 λίτρες | 18 λίτρες | Δεν πρέπει να συσκευάζεται |

2822

(Συνεχίζεται)

| Αρ. Είδους | Περιγραφή Υλης | Ανωτάτη Ποσότητα | | Ειδικές Διατάξεις |
|---------------------|---|------------------|-------------------|---|
| | | ανά δοχείο | ανά κόλον | |
| (Σ υ ν έ χ ε ι α) | | | | |
| | | | | μαζί με χλωρικά άλατα, υπερμαγγα- νικά, υπερχλωρικά άλατα, υπεροξειδία (πλην των διαλυ- μάτων υπεροξειδίου του υδρογόνου) |
| 6 ^ο | Διαλύματα Υδροφθορικού οξέος | I λίτρα | 10 λίτρες | |
| II ^ο (α) | Διχλωριούχο Διθειό | 500 G | 500 G | |
| II ^ο (α) | Πενταχλωριούχο αντιμόνιο Χλωροσουλφονικό χλωρίδιο SULPHURYL ACID (Θειώδες οξύ;) THIONYLCHLORIDE Τετραχλωριούχο τιτάνιο Υπερχλωριούχος κασσίτερος | 2.5KG | 5KG | Δεν πρέπει να συσκευάζονται μαζί με ύλες της 36 της Κλάσεως 8 ή με ύλες της Κλά- σεως 5.1* πρέπει να προστατεύονται κατά της εισχωρή- σεως της υγρασίας |
| I2 ^ο | Τριχλωριούχο αντιμόνιο | | | |
| I4 ^ο | Βρώμιο - σε εύθραυστα δοχεία - σε άλλα δοχεία | 500 G | 500 G I KG | |

2822

(Συνεχίζεται)

| Αρ. Πιδους | Περιγραφή Υλης | Ανωτάτη Ποσότητα | | Ειδικά Διατάξεις |
|---------------|-------------------|------------------|--------------|---------------------|
| | | ανά δοχείο | ανά κόλον | |

(Σ υ ν έ χ ε ι α)

| | | | | |
|---------------------|---------------|----------|-----------|---|
| 15 ^ο (α) | Διφθοριούχα | 5 KG | 15 KG | Δεν πρέπει να συσκευάζονται μα- ζί με ύλες των Κλάσεων 4.2, 4.3 και 5.1, η με νι- τρικό οξύ ή μι- κτά οξέα νιτρώ- σεως. |
| 21 ^ο (β) | Μυρμηκικό οξύ | 5 λίτρες | 15 λίτρες | Δεν πρέπει να συσκευάζεται μα- ζί με χλωρικά ά- λατα, υπερμαγγα- νικά, διαλύματα υπεροξειδίου του υδρογόνου, νιτρι- κό οξύ, μικτά ο- ξέα νιτρώσεως. |
| 21 ^ο (γ) | Οξικό οξύ | 5 λίτρες | 15 λίτρες | Δεν πρέπει να συ- σκευάζεται μαζί με χλωρικά άλατα, υπερμαγγανικά. |
| 34 ^ο | Υδραζίνη | 5.5 KG | 5.5 KG | Δεν πρέπει να συ- σκευάζεται μαζί με θειϊκό οξύ, χλωροσουλφονικό οξύ, νιτρικό οξύ, μικτά οξέα νιτρώ- σεως, χλωρικά άλα- τα, υπερμαγγανικά, |

2822

(Συνεχίζεται)

| Αρ. Είδους | Περιγραφή Υλης | Ανωτάτη Ποσότητα | | Ειδικές Διατάξεις |
|---------------|-------------------|------------------|--------------|----------------------|
| | | ανά δοχείο | ανά κόλον | |

(Σ υ ν ε χ ε ι α)

θελο, διαλύματα υπεροξειδίου του υδρογόνου, υπερ-χλωρικά άλατα, και υπεροξειδία. Πρέπει να διατηρούνται χωριστά από καυστικές αλκαλικές ύλες και ισχυρούς άγοντες οξειδώσεως.

| | | | | |
|-----------------|---|--------|-------|--|
| 36 ^ο | Πρωτοθειούχο νάτριο περιέχον όχι άνω του 70 ^ο /ο Na_2S | 2.5 KG | 15 KG | Δεν πρέπει να συσκευάζεται μαζί με δξινες ύλες |
|-----------------|---|--------|-------|--|

| | | | | |
|---------------------|---|----------------------------------|--|--|
| 41 ^ο (α) | Διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω του 35 ^ο /ο υπεροξειδίου του υδρογόνου | Μικτή συσκευασία δεν επιτρέπεται | | |
|---------------------|---|----------------------------------|--|--|

| | | | | |
|---------------------|---|--|-----------|--|
| 41 ^ο (β) | Διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω του 15 ^ο /ο αλλά όχι άνω του 35 ^ο /ο υπεροξειδίου του υδρογόνου | Δεν πρέπει να συσκευάζονται με θειϊκό οξύ, χλωροσουλφονικό οξύ, μυρμηκικό οξύ, μικτά οξέα νιτρώσεως, τριεθανολαμίνη, ανιλίνη, ξυλιδίνη, τολουϊδίνη, υπερμαγγανικά, | | |
| | - σε εύθραυστα δοχεία | 1 λίτρα | 3 λίτρες | |
| | - σε άλλα δοχεία | 3 λίτρες | 12 λίτρες | |

2822

(Συνεχίζεται)

| Αρ. Εξδού | Περιγραφή Υλης | Ανωτάτη Ποσότης ανά δοχείο | | Ειδικές Διατάξεις |
|--------------|-------------------|-------------------------------|--------------|----------------------|
| | | ανά δοχείο | ανά κόλον | |

(Σ υ ν έ χ ε ι α)

εύκαυστα υγρά με
σημείο αναφλέξεως
κάτω των 21°C ,
μεταλλικά υπερο-
ξειδία, υδραζίνη.

| | | |
|---|----------------------------------|---|
| Διαλύματα υπεροξειδίου του υδρογόνου περιέχον- τα άνω του $6^{\circ}/\text{o}$ αλλά όχι άνω του $15^{\circ}/\text{o}$ υπερο- ξειδίου του υδρογόνου. | 3 λίτρες $\text{I}2$ λι- τρες | Πρέπει να χρησι- μοποιούνται μό- νο ανόργανα υ- λικά πληρώσε- ως. |
|---|----------------------------------|---|

4.- Ενδείξεις (μαρκάρισμα) και ετικέτες κινδύνου
επί των κόλων (Βλέπε Προσθήκη Α.9)

2823

Κιβώπια περιέχοντα συσσωρευτές ($\text{I}^{\circ}(\text{στ})$ και 33°),
θα μαρκάρονται ευανάγνωστα και ανεξίτηλα: "Συσσωρευτές".
Η επιγραφή αυτή θα είναι στην επίσημη γλώσσα της χώρας
της αναχωρήσεως και, εάν η γλώσσα αυτή δεν είναι η Αγγλι-
κή ή Γαλλική ή Γερμανική, στην Αγγλική, Γαλλική ή Γερμα-
νική, εκτός εάν άλλως προβλέπεται στις, τυχόν, συμφωνίες
που συνήψαν μεταξύ των ενδιαφερόμενες για την επιχεί-
ρηση μεταφοράς χώρες.

(I) Κόλα περιέχοντα ύλες των I° έως 7° , 9° , II° , $\text{I}2^{\circ}$, 2824
 $\text{I}4^{\circ}$, $\text{I}5^{\circ}$, 22° , 3I° , 35° ή $4\text{I}^{\circ}(\alpha)$ θα φέρουν ετικέτα σύμφω-
νον προς το μοντέλο No.5.

2824

(Συνεχίζεται)

Εν τούτοις, εάν τα υγρά των $I^{\circ}(α)$ έως $(γ)$, 2° έως 5° , 10° , 22° ή 32° συσκευάζονται σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής, ή παρεμφερές υλικό, χωρητικότητας υπερβαίνουσας τις(τα) 5 λίτρα, τα κόλα θα φέρουν δύο ετικέτες σύμφωνες προς το μοντέλο Νο.5.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μη ορατά από έξω, θα φέρουν ετικέτες σύμφωνες προς το μοντέλο Νο.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα οφείλουν, επιπροσθέτως, εκτός προκειμένου περί σφραγισμένων αμπουλών, να φέρουν ετικέτες σύμφωνες προς το μοντέλο Νο.8· οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπον ισοδύναμον οσάκις χρησιμοποιούνται άλλες συσκευασίες.

(3) Κάθε κιβώτιο περιέχον συσσωρευτές ($I^{\circ}(στ)$ και 33°), και κόλα ζυγίζοντα όχι άνω των 75 KG περιέχονται ύλες της I° έως 7° , 9° , II° , $2I^{\circ}$, $3I^{\circ}$ έως 35° και 37° , θα φέρουν, επιπροσθέτως, στις δύο αντίθετες πλευρές ετικέτες σύμφωνες προς το μοντέλο Νο.8.

(4) Προκειμένου περί αποστολών μεταφερομένων ως πλήρες φορτίο, η ετικέτα Νο.5, ως προβλέπεται υπό στοιχείον (I), δεν χρειάζεται να τεθεί στα κόλα εάν το όχημα φέρει την ένδειξιν την προβλεπομένην υπό του Παραρτήματος Β, περιθώριον IO 500.

2825

Β.- Στοιχεία του εγγράφου μεταφοράς

(I) Η περιγραφή των εμπορευμάτων στο έγγραφο της 2826

μεταφοράς πρέπει να είναι σύμφωνη με μία των ονομα- 2826
 σιών που υπογραμμίζονται στο περιθώριο 280Ι. Οσάνκις (Συνεχίζεται)
 η ονομασία της ύλης δεν σημειούται, στη περίπτωση
 των II⁰, I2⁰, I3⁰, I5⁰, 22⁰ και 35⁰, πρέπει να χρησι-
 μοποιείται η εμπορική ονομασία. Η περιγραφή των εμπο-
 ρευμάτων πρέπει να υπογραμμίζεται με κόκκινο και να
 ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμόν
 του είδους (μαζί με το, τυχόν, γράμμα), και τα αρχικά
 "ADR" ή "RID" (π.χ. 8, I (α), ADR).

(2) Προκειμένου περί βρωμίου περιέχοντος 0.005
 τοις εκατόν έως 0.2 τοις εκατόν ύδωρ, μεταφερομένου σε
 δοχεία συμφώνως προς το περιθώριο 28Ι0(2), τα παρακάτω
 πρέπει να βεβαιούνται στο έγγραφο μεταφοράς:- "Πάρθη-
καν μέτρα για την αποφυγή της διαβρώσεως της επενδύσεως
των δοχείων".

2827-
2834

Γ. Κενές συσκευασίες

(1) Δοχεία και δεξαμενές των 51⁰ πρέπει να είναι κλειστά με 2835
 τον ίδιο τρόπο και στεγανά στον ίδιο βαθμό σαν να ήταν γεμάτα.

(2) Η περιγραφή των εμπορευμάτων στο έγγραφο μεταφοράς
 πρέπει να είναι: "Κενό δοχείο, 8, 51, ADR (ή RID)". Αυτή η περι-
 γραφή πρέπει να υπογραμμίζεται με κόκκινο.

(3) Ακάθαρτα δοχεία τα οποία περιείχαν ύλες των 6⁰ ή βρώμιο
 (14⁰) θα φέρουν μία ετικέτα σύμφωνη προς το μοντέλο Νο. 5 (Προσ-
 θήκη Α.9). Δεν πρέπει να έχουν υπολείμματα οξέος ή βρωμίου στο
 εξωτερικό μέρος.

2836-
3099

ΟΙΚΟΝΟΜΙΚΗ ΕΠΙΤΡΟΠΗ ΓΙΑ ΤΗΝ ΕΥΡΩΠΗ
ΕΠΙΤΡΟΠΗ ΜΕΤΑΦΟΡΩΝ ΕΣΩΤΕΡΙΚΟΥ

Ευρωπαϊκή Συμφωνία

Για τη Διεθνή Οδική Μεταφορά Επικιν-
δύνων Εμπορευμάτων (ADR) και Πρωτο-
κόλλο Υπογραφής

Υπογράφηκε στη Γενεύη την 30 Σεπτεμβρίου 1957

ΤΟΜΟΣ II

(Προσθήκες Παραρτήματος Α.)

ΗΝΟΜΕΝΑ ΕΘΝΗ

1978.-

Π Ρ Ο Λ Ο Γ Ο Σ

Το παρακάτω κείμενο περιλαμβάνει, επιπροσθέτως της Συμφωνίας και του Πρωτοκόλλου Υπογραφής, τα Παραρτήματα με τη μορφή με την οποία τέθηκαν σε ισχύ την 29ην Ιουλίου 1968 καθώς και τις τροποποιήσεις τους μέχρι της 1ης Οκτωβρίου 1978.

Μέρος III

ΠΡΟΣΘΗΚΑΙ

ΠΡΟΣΘΗΚΗ Α.Ι

Α.- Όροι ευσταθείας και ασφαλείας αφορώντες
τις εκρηκτικές ύλες, εύφλεκτα στερεά και
οργανικά υπεροξειδία

Οι δροί ευσταθείας που εκτίθενται παρακάτω 3100
είναι τα κατώτατα πρότυπα τα καθορίζοντα την απαιτούμενη
ευστάθεια των υλών που πρόκειται να γίνουν δεκτές για μετα-
φορά. Οι ύλες αυτές μπορούν να παραδοθούν για μεταφορά μόνον
εάν συμμορφούνται πλήρως προς τους παρακάτω δρους.

Περὶ περιθωρίου 2101, 1°, περιθωρίου 2171, 3101
4° και περιθωρίου 2401, 7°(α): Νιτροκυτταρίνη θερμαινόμενη
για μισή ώρα σε 132°C δεν πρέπει να αναδίδει ορατές κυτρινο-
φαιές νιτρώδεις αναθυμιάσεις. Η θερμοκρασία αναφλέξεως πρέ-
πει να είναι άνω των 180°C. Νήμα πυροξυλίνης πρέπει να ικα-
νοποιεί τους ίδιους δρους ευσταθείας ως η νιτροκυτταρίνη. Βλέ-
πε περιθώρια 3150, 3151(α) και 3153.

Περὶ περιθωρίου 2101, 3°, 4° και 5°, και περι-
θωρίου 2401, 7°(β) και (γ): 3102

1.- Κονιοποιημένη νιτροκυτταρίνη μη περιέχουσα νιτρογλυκε-
ρίνη· πλαστικοποιημένη νιτροκυτταρίνη:

3 γραμ. κονιοποιημένης ή πλαστικοποιημένης νιτροκυττα-
ρίνης, θερμαινόμενα για μία ώρα σε 132°C, δεν πρέπει
να αναδίδουν ορατές κιτρινο-φαιές νιτρώδεις αναθυμιάσεις.
Η θερμοκρασία αναφλέξεως πρέπει να είναι άνω των 170°C.

2.- Κονιοποιημένη νιτροκυτταρίνη περιέχουσα νιτρογλυκερίνη :

1 γραμ. κονιοποιημένης νιτροκυτταρίνης θερμαινόμενο για
μία ώρα στους 110°C δεν πρέπει να αναδίδει ορατές κι-
τρινο-φαιές νιτρώδεις αναθυμιάσεις. Η θερμοκρασία ανα-
φλέξεως πρέπει να είναι άνω των 160°C.

Αναφοριὰ με τα 1. και 2., βλέπε περιθώρια 3150, 3151(β) και
3153.

Περὶ περιθωρίου 2101, 6°, 7°, 8°(α) και (β2 και 3103 9°(α), (β) και (γ):-

- I.- Τρινιτροτολουόλη (TOLITE), μίγματα οριζόμενα ως τρινιτρο-τολουόλη και τρινιτροανισόλη (6°), HEXYL (εξανιτροδιφαινυλαμίνη) και πικρικό οξύ (7°(α)), πεντολίτης (μίγματα τετρανιτρικής πενταερυθριτόλης και τρινιτροτολουόλης) και εξολίτης (μίγματα τριμαθυλενιο-τρινιτραμίνης και τρινιτροτολουόλης) (7°(β)), αδρανοποιημένος πενθρίτης και αδρανοποιημένον εξογόνον (7°(γ)), TRINITRORESORCINOL (8°(α)), τετρώλη (τρινιτροφαινυλομεθυλονιτραμίνη) (8°(β)), πενθρίτης (τετρανιτρική πέντερυθριτόλη) και εξογόνον (τριμεθυλενο-τρινιτραμίνη) (9°(α)), πεντολίτης (μίγματα πενθρίτου και τρινιτροτολουόλης) και εξολίτης (μίγματα εξογόνου και τρινιτροτολουόλης) (9°(β)) και μίγματα πενθρίτου ή εξογόνου με κηρό, κηρό παραφίνης ή όλες όμοιες με κηρό ή κηρό παραφίνης (9°(γ)), θερμαινόμενα για 3 ώρες σε θερμοκρασία 90°C, δεν πρέπει να αναδίδουν ορατές κιτρινο-φαιές νιτρώδεις αναθυμιάσεις. Βλέπε περιθώρια 3150 και 3152 (α).
- 2.- Οργανικές νιτρο-ενώσεις αναφερόμενες υπό στοιχείο 8° εκτός από TRINITRORESORCINOL και τετρώλη (τρινιτροφαινυλομεθυλονιτραμίνη), θερμαινόμενες για 48 ώρες σε θερμοκρασία 75°C, δεν πρέπει να αναδίδουν ορατές κιτρινο-φαιές νιτρώδεις αναθυμιάσεις. Βλέπε περιθώρια 3150 και 3152(β).
- 3.- Οργανικές νιτρο-ενώσεις αναφερόμενες υπό στοιχείο 8° δεν πρέπει να είναι περισσότερο ευαίσθητες στην ανάφλεξη, κρούση ή τριβή από:-

την TRINITRORESORCINOL, εάν είναι διαλυτές
στο νερό.

3103
(Συνεχίζεται)

τη τετράλη (τρινιτροφαινυλομεθυλονιτραμίνη),
εάν δεν είναι διαλυτές στο νερό.

Βλέπε περιθώρια 3150, 3152, 3154, 3155 και
3156.

Περὶ περιθωρίου 2101, $II^{\circ}(\alpha)$ και (β) :

3104

- 1.- Η μαύρη πυρίτιδα ($II^{\circ}(\alpha)$) δεν πρέπει να είναι περισσότερο ευαίσθητη στην ανάφλεξη φλόγας, κρούση ή τριβή από τη λεπτότερη πυρίτιδα κυνηγίου έχουσα τη παρακάτω σύνθεση: 75 γραμμάκια νιτρικό κάλιο, 10 γραμμάκια θείο και 15 γραμμάκια μαύρο ξυλάνθρακα (BLACK ALDER CHARCOAL). Βλέπε περιθώρια 3150, 3154, 3155 και 3156.
- 2.- Βραδυφλεγής πυρίτις ορυχείων όμοια με μαύρη πυρίτιδα ($II^{\circ}(\beta)$) δεν πρέπει να είναι περισσότερο ευαίσθητη σε ανάφλεξη φλόγας, κρούση ή τριβή από το βασικό εκρηκτικό που έχει τη παρακάτω σύνθεση:
75 γραμμάκια νιτρικό κάλιο, 10 γραμμάκια θείο και 15 γραμμάκια λιγνίτη. Βλέπε περιθώρια 3150, 3154, 3155 και 3156.

Περὶ περιθωρίου 2101, $I2^{\circ}$:- Νιτρικά εκρηκτικά υπό μορφή κόνεως (πυρίτιδος) ($I2^{\circ}(\alpha)$), και εκρηκτικά μη περιέχοντα ανόργανα νιτρικά άλατα, υπό μορφή κόνεως (πυρίτιδος ($I2^{\circ}(\beta)$)). πρέπει να είναι ικανά να εναποθηκευθούν για 48 ώρες σε $75^{\circ}C$ χωρίς να αναδίδουν ορατές κιτρινο-φαιές νιτρώδεις αναθυμιάσεις. Προ και μετά την αποθήκευση δεν πρέπει να είναι περισσότερο ευαίσθητες στην ανάφλεξη φλόγας,

3105

πρόσκρουση ή τριβή από το βασικό εκρηκτικό που έχει τη 3105
παρακάτω σύνθεση: (Συνεχίζεται)

80 ετα εκατό νιτρικό αμμώνιο, 12 ετα εκατό τρινι-
τροτολουόλη, 6 ετα εκατό νιτρογλυκερίνη και 2 ετα ε-
κατό ξυλάλευρο. Βλέπε περιθώρια 3150, 3152(β), 3154(α)
και (β), 3155 και 3156.

Δείγμα του ανωτέρω αναφερομένου εκρηκτικού ελ-
ναι στη διάθεση των Συμβαλλομένων Κράτων υπό του LABORA-
TOIRE DU CENTRE D'ETUDES ET RECHERCHES DES CHARBONNAGES DE
FRANCE (CERCHAR), BOITE POSTALE No.2, 60550 VERNEUIL-EN-
HALATTE, FRANCE (Εργαστηρίου του Κέντρου Σπουδών και Ερευ-
νών των Ανθρακωρυχείων της Γαλλίας).

Περί περιθωρίου 2101, 13^ο: Χλωρικά και υπερ- 3106
χλωρικά εκρηκτικά πρέπει να περιέχουν αμμωνιακό άλας. Δεν
πρέπει να είναι περισσότερο ευαίσθητα στην ανάγλεξη φλόγας
πρόσκρουση ή τριβή από χλωρικό εκρηκτικό που έχει τη παρα-
κάτω σύνθεση: 80 ετα εκατό χλωρικό κάλιο, 10 ετα εκα-
τό δινιτροτολουόλη, 5 ετα εκατό τρινιτροτολουόλη, 4
ετα εκατό κικινέλαιο και 1 ετα εκατό ξυλάλευρο. Βλέπε
περιθώρια 3150, 3154, 3155 και 3156.

Περί περιθωρίου 2101, 14^ο(α) και (β): Εκρηκτι- 3107
κά της 14^ο(α) και (β) δεν πρέπει να είναι περισσότερο ελ-
σθητα στην ανάφλεξη-φλόγας, πρόσκρουση ή τριβή από την εκρη-
κτική ζελατίνη περιέχουσα 93 ετα εκατό νιτρογλυκερίνη
ή συναμίτη GUHR περιέχοντα όχι περισσότερο από 75 ετα εκα-
τό νιτρογλυκερίνη. Πρέπει να ικανοποιούν τον έλεγχο εξιδρώσε-
ως του περιθωρίου 3158. Βλέπε περιθώρια 3150, 3154(β),

3155 και 3156.

3107

Περὶ περιθωρίου 2101, $I_4^0(\gamma)$: Εκρηκτικά της $I_4^0(\gamma)$ πρέπει να είναι ικανά να αποθηκευθούν για 48 ώρες σε 75°C , χωρίς να αναδίδουν ορατές νιτρινο-φαιές νιτρώσεις αναθυμιάσεις. Προ και μετά την εναποθήκευση δεν πρέπει να είναι περισσότερον ευαίσθητα στην ανάφλεξη φλόγας, πρόσκρουση ή τριβή από το βασικό εκρηκτικό που έχει τη παρακάτω σύνθεση: 37.7 ετα εκατό νιτρογλυκόλη ή νιτρογλυκερίνη ή μίγμα των δύο, 1.8 ετα εκατό βαμβακοπυρίτιδα, 4 ετα εκατό τρινιτροτολουόλη, 52.5 ετα εκατό νιτρικό αμμώνιο και 4 ετα εκατό ξυλάλευρο. Βλέπε περιθώρια 3150, 3152(β), 3154(α), (β), (γ) και (δ), 3155 και 3156. (Συνεχίζεται)

Περὶ περιθωρίου 2131, $I^0(\beta)$: Η εκρηκτική ύλη δεν 3108 πρέπει να είναι περισσότερον ευαίσθητη στην ανάφλεξη φλόγας, πρόσκρουση ή τριβή από την τετρύλη. Βλέπε περιθώρια 3150, 3154, 3155 και 3156.

Περὶ περιθωρίου 2131, $I^0(\gamma)$: Η εκρηκτική ύλη δεν 3109 πρέπει να είναι περισσότερον ευαίσθητη στην ανάφλεξη φλόγας πρόσκρουση ή τριβή από τον πενθέρτη. Βλέπε περιθώρια 3150, 3154, 3155 και 3156.

Περὶ περιθωρίου 2131, $5^0(\delta)$: Η γόμωση μεταδόσεως 3110 δεν πρέπει να είναι περισσότερον ευαίσθητη στην ανάφλεξη φλόγας, πρόσκρουση ή τριβή από την τετρύλη. Βλέπε περιθώρια 3150, 3154, 3155 και 3156.

Περὶ περιθωρίου 2170, (2)(δ): Η γόμωση του εκρηκτικού, αφού αποθηκευθεί για τέσσερες εβδομάδες σε 50°C , δεν πρέπει να δεικνύει δείγματα χειροτερεύσεως οφειλόμενα εξ

ανεπαρκή σταθερότητα (ευστάθεια). Βλέπε περιθώρια 3111 3150 και 3157.

Περὶ περιθωρίου 255I, 1^ο ἕως 50^ο: Οι ὅλες θα 3112
υπόκεινται σε έλεγχο που περιγράφεται στα περι-
θώρια 3154, 3155 και 3156.

B.- Κανόνες για ελέγχους

(1) Οι διαδικασίες ελέγχου, που εκτίθενται παρα- 3150
κάτω, πρόκειται να εφαρμοσθούν όταν προκύψουν διάφορες γνώ-
μες αναφορικά με την αποδοχή των υλών σε οδική μεταφορά.

(2) Εάν άλλες μέθοδοι ή διαδικασίες ελέγχου χρη-
σιμοποιούνται για την επαλήθευση των ὁρων ευσταθείας των
περιγραφομένων ανωτέρω στην Προσθήκη αυτή, οι μέθοδοι
αυτές πρέπει να οδηγούν στα ίδια ευρήματα που θα μπορούσαν
να φθάσουν δια των παρακάτω οριζομένων μεθόδων.

(3) Κατά την διεξαγωγή των δοκιμών ευσταθείας δια-
θερμάνσεως ^{που} περιγράφεται παραπάνω, η θερμοκρασία του κλιβά-
νου που περιέχεται στο υπό δοκιμή δείγμα δεν πρέπει να παρε-
κλίνει περισσότερο από 2^οC από την προβλεπόμενη θερμοκρα-
σία. η προβλεπόμενη διάρκεια 30-λέπτου ή 60-λέπτου δοκιμής
πρέπει να τηρείται εντός δύο λεπτών, της 48ώρου δοκιμής εντός
μιάς ώρας, και της δοκιμής 4-εβδομάδων εντός 24 ωρών.

Ο κλίβανος πρέπει να είναι τέτοιος ώστε η απαι-
τούμενη θερμοκρασία να εναποθηκεύεται όχι περισσότερο των
πέντε λεπτών μετά την παρεμβολή του δείγματος.

(4) Προτού υποβληθούν σε δοκιμή, που προβλέπε-
ται από το περιθώριο 3151, 3152, 3153, 3155 και 3156,
τα δείγματα πρέπει να ξηρανθούν όχι λιγώτερο των 15 ωρών

σε θερμοκρασία του περιβάλλοντος και σε στεγνωτήριο 3150
 κενό (VACUUM DESICCATOR) ^{που} περιέχει τηκτό και κοκ- (Συνεχίζεται)
 κώδες χλωριούχο ασβέστιο, της ύλης του δείγματος απ-
 πλωμένης σε λεπτό στρώμα. Για τον σκοπόν αυτόν, ύλες
 που δεν είναι υπό μορφή κόκκων ουδέ υπό μορφήν ινών
 θα αλεσθούν, ή τρυβούν, ή κοπούν σε μικρά τεμάχια. Η
 σε στεγνωτήριο πίεση πρέπει να αχθεί κάτω των
 50 MM υδραργύρου.

(5)(α) Προτού ξηρανθούν, ως προβλέπεται στη πα-
 ράγραφο (4), ανωτέρω, οι ύλες του περιθωρίου 210I, I^o
 (εκτός εκείνων που περιέχουν κηρόν παραφίνης ή παρεμ-
 φερή ύλη), 2^o, 9^o(α) και (β), και οι ύλες του περιθω-
 ρίου 240I, 7^o(β), θα υποστούν προκαταρκτική ξήρανση ^{μία}
 σε κλίβανο ξήρανσεως καλώς-εξαερισμένου, με τη θερ-
 μοκρασία του ρυθμισμένη στους 70^oC. μέχρις ότου η απώ-
 λεια του βάρους ανά τέταρτο είναι μικροτέρα του 0.3
 εκατόν του αρχικού βάρους.

(β) Για ύλες του περιθωρίου 210I, I^o (όταν
 περιέχουν κηρόν παραφίνης ή παρεμφερή ύλη), 7^o(γ) και
 9^o(γ), η προκαταρκτική ξήρανση πρέπει να διεξαχθεί ως
 προβλέπεται υπό του ανωτέρω εδαφίου (α), εκτός του ότι η
 θερμοκρασία του κλιβάνου θα ρυθμισθεί μεταξύ 40^o και 45^oC.

(6) Η νιτροκυτταρίνη του περιθωρίου 240I, 7^o(α)
 θα υποβληθεί αρχικώς στην ξήρανση ^{που} προβλεπεται
 υπό της ανωτέρω παράγραφου 5(α). η ξήρανση ακολούθως θα
 ολοκληρώνεται με διατήρησιν της νιτροκυτταρίνης επί 15
 ώρες τουλάχιστον πάνω από συμπεπυκνωμένου θειϊκού οξέος
 σε στεγνωτήριο.

Έλεγχος χημικής ευσταθείας υπό θερμότηταΠερὶ περιθωρίων 3101 και 3102

(α) Έλεγχος υλών απαριθουμένων στο περιθώριο 3101 3151

(I) Σε κάθε ένα από δύο γυάλινους δοκιμαστικούς σωλή-
νες που έχουν τις παρακάτω διαστάσεις:-

μήκος 350 MM

εσωτερική διάμετρος 16 MM

πάχος τοιχώματος 1.5 MM

τοποθετείται I γραμ. ύλης ξηρανθείσης του πυρην¹χλωριώχου
ασβεστίου (εάν είναι απαραίτητο η ξήρανση πρέπει να διε-
ξαχθεί μετά την ελάττωση της ύλης σε τεμάχια^{που} ζυγίζουν όχι
άνω των 0.05 γραμ. το καθένα). Και οι δύο οι δοκιμαστικοί
σωλήνες, τελείως καλυμμένοι με χαλαρά εφαρμοζόμενα κλεισί-
ματα, τοποθετούνται μετά σε κλίβανο στο^ν οποίον τουλά-
χιστον τα τέσσερα πέμπτα του μήκους των είναι ορατά, και
διατηρούνται σε σταθερή θερμοκρασία 132^οC επί 30 λεπτά.
Παρατηρούνται εάν νιτρώδη αέρια υπό την μορφήν κιτρινο-
φαιών αναθυμιάσεων σαφώς ορατών σε λευκό φόντο αναδίδονται
διαρκούντος του χρόνου αυτού.

(2) Ελλείψει ττοιούτων αναθυμιάσεων η ύλη θεωρείται
ότι είναι σταθερή.

(β) Έλεγχος κόνεων απαριθουμένων στο περιθώριο 3102.

(I) Κόνεις νιτροκυτταρίνης μη περιέχουσai νιτρογλυκε-
ρίνη, ζελατινοποιημένη ή όχι και πλαστικοποιημένη νιτρο-
κυτταρίνη: 3 γραμ. κόνες τοποθετούνται στους γυάλινους δο-
κιμαστικούς σωλήνες, όμοιους με τους αναφερομένους εις (α),
οι οποίοι εν συνεχεία τοποθετούνται σε κλίβανο τηρούμενο

σε σταθερή θερμοκρασία 132°C .

3151

(2) Κόνεις νιτροκυτταρίνης περιέχουσai νιτρο-^(Συνεχίζεται)
γλυκερίνη : Έ γραμ. κόνεως τοποθετείται σε γυάλινους δοκι-
μαστικούς σωλήνες, όμοιους με τους αναφερομένους εις (α),
οι οποίοι ακολουθώς τοποθετούνται σε κλίβανο τηρούμενο σε
σταθερή θερμοκρασία 110°C .

(3) Οι δοκιμαστικοί σωλήνες οι περιέχοντες τας
κόνεις τας αναφερομένας εις (1) και (2) τηρούνται εντός κλι-
βάνου επί μίαν ώρα . Διαρκούντος του χρόνου αυτού νιτρώδη
αέρια δεν πρέπει να είναι ορατά. Παρατήρηση και εκτίμησιν
ως εις (α).

Περί περιθωρίων 3103 και 3105

(α) Έλεγχος υλών απαριθμουμένων στο περιθώριο 3103, I. 3152

(1) Δύο δείγματα εκρηκτικού το καθένα^{που} ζυγίζονται
10 γραμ. τοποθετούνται σε κυλινδρικές φιάλες ζυγίσσεως που
έχουν εσωτερική διάμετρο 3 CM και ύψος 5 CM αποκάτω της
πλευράς του καλύμματος· οι φιάλες κλείνονται ακολουθώς
ερμητικά με τα καλύμμάτ'α τους και θερμαίνονται για τρεις
ώρες σε σταθερή θερμοκρασία 90°C μέσα σε κλίβανο στον ο-
ποίο είναι σαφώς ορατές.

(2) Διαρκούντος του χρόνου αυτού νιτρώδη αέ-
ρια δεν πρέπει να είναι ορατά. Παρατήρηση και εκτίμηση
όπως στο περιθώριο 3151 (α).

(β) Έλεγχος υλών απαριθμουμένων στα περιθώρια 3103, 2 και
3105.

(1) Δύο δείγματα εκρηκτικού το καθένα^{που} ζυγίζονται
10 γραμ. τοποθετούνται σε κυλινδρικές φιάλες ζυγίσσεως που

έχουν εσωτερική διάμετρο 3 CM και ύψος 5 CM από κάτω 3152
της πλευράς του καλύμματος· οι φιάλες ακολούθως κλει- (Συνεχίζεται)
νονται ερμητικά με τα καλύμμά τους και θερμαίνονται
για 48 ώρες σε σταθερή θερμοκρασία 75°C μέσα σε κλίβανο
στον οποίο είναι καθαρά ορατές.

(2) Κατά το χρονικό αυτό διάστημα δεν πρέπει να
είναι ορατά νιτρώδη αέρια. Παρατήρηση και εκτίμηση ως
εις περιθώριο 3151(α).

Θερμοκρασία Αναφλέξεως (βλέπε περιθώρια 3101 και 3102)

(1) Η θερμοκρασία αναφλέξεως καθορίζεται δια 3153
θερμάνσεως 0.2 γραμ. ύλης κλεισμένης σε γυάλινο δοκιμα-
στικό σωλήνα βυθισμένο σε λουτρό κράματος WOOD. Ο δο-
κιμαστικός σωλήνας τοποθετείται στο λουτρό όταν το τε-
λευταίο φθάσει τους 100°C. Η θερμοκρασία του λουτρού
αυξάνεται ακολούθως προοδευτικά κατά 5°C ανά λεπτό.

(2) Οι δοκιμαστικοί σωλήνες πρέπει να έχουν τις
παρακάτω διαστάσεις:-

| | |
|---------------------------|--------|
| μήκος | 125 MM |
| εσωτερική διάμετρος | 15 MM |
| πάχος τοιχώματος | 0.5 MM |

και πρέπει να είναι βυθισμένοι σε βάθος 20 MM.

(3) Ο έλεγχος πρέπει να επαναληφθεί τρεις φορές,
της θερμοκρασίας εις την οποίαν η ανάφλεξη της ύλης λαμ-
βάνει χώρα, π.χ., βραδεία ή ταχεία καύση, ανάφλεξη ή
ακαριαία έκρηξη (εκτόνωση), σημειουμένης κάθε φορά.

(4) Η κατωτάτη θερμοκρασία που καταγράφεται στους
τρεις ελέγχους είναι η θερμοκρασία ανάφλεξης.

Έλεγχος ευαισθησίας εις ερυθροπύρωση και ανάφλεξη 3154
φλόγας (βλέπε περιθώρια 3103 έως 3110).

(α) Έλεγχος εις ερυθροπυρωμένη ημισφαιρική σιδηρά χοάνη (βλέπε περιθώρια 3103 έως 3106 και 3108 έως 3110).

(1) Οι προς εξέταση ποσότητες του εκρηκτικού αυξανόμενες από 0.5 γραμ. εις 10 γραμ. ρίπτονται μέσα σε ερυθροπυρωμένη ημισφαιρική σιδηρά χοάνη πάχους 1 MM και διαμέτρου 120 MM.

Τα αποτελέσματα του ελέγχου ταξινομούνται *παρεμπιπτόντως*:

- 1.- ανάφλεξη με βραδεία καύση (εκρηκτικά με βάση νιτρικού ~~καθ~~ αμμωνίου).
- 2.- ανάφλεξη με ταχεία καύση (χλωρικά εκρηκτικά).
- 3.- ανάφλεξη με βιαία καύση και κατάκαυση (μαύρη πυρίτις).
- 4.- ακαριαία έκρηξη (εκτόνωση) (βροντώδης υδράργυρος).

(2) Το αποτέλεσμα (επίδραση) επί της αλληλουχίας των γεγονότων του ποσού που χρησιμοποιήθηκε εκρηκτικού πρέπει να λαμβάνεται υπόψη.

(3) Το προς εξέταση εκρηκτικό δεν πρέπει να δεικνύει βασική διαφορά από το στάνταρντ εκρηκτικό.

(4) Οι σιδηρές χοάνες πρέπει να έχουν προσεκτικά καθαρισθεί *πριν από κάθε* έλεγχο και να αντικαθίστανται σε συχνά χρονικά διαστήματα.

(β) Έλεγχος της Περιπτώσεως αναφλέξεως (βλέπε περιθώρια 3103 έως 3110).

(1) Το προς εξέταση εκρηκτικό τοποθετείται σε μικρό

σώρο πάνω σε σιδηρό έλασμα σε ποσότητες αυξανόμενες -υπό 3154
το φώς των αποτελεσμάτων του ελέγχου κατά την (α)- από (Συνεχίζεται)
0.5 γραμ. έως το ανώτατο 100 γραμ.

(2) Ένα αναμμένο σπέρτο τοποθετείται στη κορυφή
της μικρής σωρού και λαμβάνεται σημείωση εάν το εκρηκτικό
αναφλαγεί και καεί βραδέως, κατακαεί, ή καεί ακαριαία, και
εάν, *μία φορά* έλαβε χώρα η ανάφλεξη, η καύση εξακολουθεί
ακόμη και μετά το σβύσιμο (την απομάκρυνση) του σπέρτου.
Εάν δεν λάβει χώρα ανάφλεξη παρόμοιος έλεγχος γίνεται, φέρ-
νοντας το εκρηκτικό σε επαφή με φλόγα αερίου και σημειούν-
ται τα αυτά σημεία.

(3) Τα αποτελέσματα του ελέγχου συγκρίνονται με
τα επιτυγχανόμενα με το βασικό (στάνταρντ) εκρηκτικό.

(γ) Έλεγχος καύσεως με συνθήκες εγκλεισεως εντός κυλίνδρου
από φύλλα χάλυβος (βλέπε περιθώριο 3107)

(I). Ο έλεγχος της καύσης διεξάγεται σε κυβικό
κιβώτιο, κατασκευασμένο από φύλλα χάλυβα με άκρα μήκους
8 CM και πάχος τοιχώματος 1 MM. Το κιβώτιο είναι κατασκευα-
σμένο από φύλλα πυρακτωμένου μαλακού χάλυβα και κλεισμέ-
νο κατά τρόπο όσο το δυνατόν ερμητικό δια πτυχώσεως του
άκρου του υπεράνω καλύμματος (εικόν I.).

(2) Στη περίπτωση εκρηκτικών που είναι ευάλωτα
στη τριβή, η άνω επιφάνεια πρέπει να καλύπτεται με φύλλο
χαρτιού για να αποφευχθεί η διαφυγή μορίων του εκρηκτικού
μεταξύ των άκρων και η παγίδευση των εκεί όταν το άκρο
του καλύμματος λυγισθεί. Το κιβώτιο πληρούται εξ ολοκλήρου
με το εκρηκτικό εις τρόπον ώστε το τελευταίο να έχει όσο το

δύνατο την αυτήν πυκνότητα όπως όταν είναι σε φυσίγγια. 3154
 Το κιβώτιο τοποθετείται στην πυρά με προσοχή· θα πρέπει (Συνεχίζεται),
 αρχικώς να τυλιχθεί, π.χ., σε πολλά στρώματα χάρτου συ-
 σκευασίας προς αποφυγήν αμέσου αναφλέξεως του εκρηκτικού.

Ένας σωρός από ξύλα ύψους 0.8 M. ετοιμάζεται δια-
 τη φωτιά με αρχική τοποθέτηση επί του εδάφους ενός λεπτού
 στρώματος ξυλοβάμβακος και εν συνεχεία επάνω από αυτό, κελ-
 μενά οριζόντια τρία καυσόξυλα (κούτσουρα) μήκους περίπου
 0.5 M και διαμέτρου 0.25 M. Εγκαρσίως αυτών τοποθετούνται
 τρία ακόμη καυσόξυλα ομοίου μεγέθους. Επάνω από όλα τοπο-
 θετούνται τρία στρώματα μικρών ράβδων κομμένων περίπου σε
 κήκος 0.2 M, με ξυλοβάμβακα μεταξύ των στρωμάτων. Σε κάθε
 πλευρά, τρία ή τέσσερα τεμάχια ξύλου μήκους περίπου 0.5 M
 ακουμπούνται στη σωρό για να την εμποδίσουν να πέσει όταν
 θα καίγεται. Η σωρός ανάβεται με αναμμένη θρυαλλίδα από
 ξυλοβάμβακα.

(3) Παρατηρήσεις γίνονται δια να ιδούμε εάν το
 εκρηκτικό αναφλέγεται ή εκρήγνυται· πόσην ώραν καίει και τι
 φαινόμενα συνοδεύουν την καύσιν και τι αλλαγές υπέστη το
 κιβώτιο.

(4) Ο έλεγχος διεξάγεται τέσσερες φορές. Φωτο-
 γραφία λαμβάνεται των χαλυβδίνων κιβωτίων μετά την χρησι-
 μοποίησίν τους.

(δ) Έλεγχος θερμάνσιν σε περιωρισμένο χώρο σε χαλύβδι-
 νο σωλήνα με βαθμονομημένη διάτρητο πλάκα (έλεγχος
 χαλυβδίνου σωλήνος) (βλέπε περιθώρια 3103 έως 3110
 και 3112)

(1) Οι έλεγχοι των (α) έως (γ) μπορούν να συμπληρωθούν από τον παρακάτω έλεγχο. 3154 (Συνεχίζεται)

(2) Περιγραφή του χαλυβδίνου σωλήνος (Εικών 2):

Ο σωλήνας κατασκευάζεται δια πίεσεως εκ φύλλου μετάλλου καταλλήλου για βαθύ εφελκυσμό. 1/ Αι διαστάσεις είναι: εσωτερική διάμετρος 24 MM* πάχος τοιχώματος 0.5 MM* μήκος 75 MM. Στο ανοικτό άκρο εφαρμόζεται μια εξωτερική φλάντζα. Ο σωλήνας κλείνεται με ανθεκτική στη πίεση κεντρική διάτρητο πλάκα στερεωμένη στεγανά πάνω στη φλάντζα με εξωτερικά κοχλιωμένο κολλάρο περαστό στον σωλήνα και με παξιμάδι κιβωτίου κοχλιωμένο πάνω στο κολλάρο αυτό. Η πλάκα κατασκευάζεται από ανθεκτικό στη θερμότητα χρωμιούχο χάλυβα 2/ πάχους 6 MM. Δια να επιτραπεί η διαφυγή των αερίων της αποσυνθέσεως, χρησιμοποιούνται πλάκες με κυλινδρο-κεντρικές διατρήσεις (α) των κάτωθι διαμέτρων: 1.0-1.5-2.0-2.5-3-4-5-6-8-10-12-14-16-18-20 MM* διάμετρος 24 MM προστίθεται όταν ο σωλήνας χρησιμοποιείται χωρίς διάτρητο πλάκα και μηχανισμό κλεισίματος. Το κοχλιωτό κολλάρο και παξιμάδι κατασκευάζονται από μαγγάνιο-χρωμιούχο χάλυβα μη-εκλεπιζόμενο μέχρι τους 800°C. 1/

1/ π.ψ. Υλική Προδιαγραφή Αρ. I.0336.505 ζ, συμφώνως προς DIN I623 SHEET I.

2/ π.χ. Υλική Προδιαγραφή Αρ. I.4873, συμφώνως προς SHEET "STAHL-EISEN-WERKSTOFF" 490-52.

1/ π.χ. Υλική Προδιαγραφή Αρ. I.3817, συμφώνως προς SHEET "STAHL-EISEN-WERKSTOFF" 490-52.

Για διάτρητες πλάκες διαμέτρου I έως 8 MM, περικόχλια (πα- 3154
ξιμάδια) διατρήσεως (β) διαμέτρου 10 MM πρέπει να χρη- (Συνεχίζεται)
σιμοποιούνται· εά η διάμετρος της διατρήσεως είναι άνω
των 8 MM, τότε η διάμετρος διατρήσεως του περικοχλίου
πρέπει να είναι 20 MM. Κάθε σωλήνας χρησιμοποιείται δι-
έναν έλεγχο και μόνον. Αφ'ετέρου, οι διάτρητες πλάκες,
τα κοχλιωτά κολλάρια και παξιμάδια μπορούν να χρησιμοποιη-
θούν και πάλιν εφ'όσον δεν έχουν καταστραφεί. Μετά από
κάθε έλεγχο πρέπει να μετράται η διάτρησις.

(3) Θέρμανσις και προστατευτικός μηχανισμός

(Εικόν 3):-

Η θέρμανσις παρέχεται δια δημοτικού αερίου καθα-
ράς θερμικής τιμής 4,000 KCAL/MM³, από 4 καυστήρες παρά-
γοντες περίπου 2.4 KCAL/SEC για κατανάλωση 0.6 I/SEC.

Επειδή η καταστροφή του σωλήνα είναι δυνατή, η
θέρμανσις αναλαμβάνεται μέσα σε αδιαπέραστο από θραύσμα-
τα συγκολλημένο κιβώτιο, κατασκευασμένο από χάλυβα πάχους
10 MM, ανοικτό στη μία πλευρά και στο άνω μέρος. Ο σωλήνας
αιωρείται μεταξύ δύο ράβδων διαμέτρου 4 MM παρεμβαλλομένων
δι'οπών διατρηθεισών στα έναντι τοιχώματα του κιβωτίου,
και ακολούθως θερμαίνεται δια τεσσάρων καυστήρων TECLU
(διαμέτρου εξωτερικού σωλήνος 19 MM), του κατωτάτου καυστή-
ρος θερμαίνοντος τον πυθμένα του σωλήνα, των δεξιού και
αριστερού καυστήρων θερμαινόντων τα τοιχώματα, και του ο-
πισθίου καυστήρος το κλείσιμον. Οι σωλήνες του καυστήρος
παρεμβάλλονται και ασφαλίζονται (στηρίζονται) σε οπές διαμέ-
τρου 20 MM διατρηθείσες στα τοιχώματα του αδιαπέραστου από

θραύσματα κιβωτίου. Οι καυστήρες ανάβονται ταυτόχρονα 3154
με βοηθητικό αναβλυστήρα και ρυθμίζονται σε άφθονη (Συνεχίζεται)
παροχή αέρος εις τρόπον ώστε οι κορυφές των κυανών
εσωτερικών κώνων των φλογών να ακουμπούν σχεδόν τον
σωλήνα.

Η δλη εγκατάσταση περιέχεται σε τράπεζα δο-
κιμής χωριζομένην από τον χώρο της παρατηρήσεως δι' ι-
σχυρού τοίχου εις τον οποίον έχουν διευθετηθεί οπές
διοπτρεύσεως προστατευόμενες από ωπλισμένην ύαλον και
χαλύβδινες πλάκες. Το αδιαπέραστο από θραύσματα κιβώτιο
τοποθετείται με την ανοικτή του πλευρά προς τον χώρο πα-
ρατηρήσεως, με προσοχήν όπως οι φλόγες μη επηρεασθούν
από ρεύματα. Εξοπλισμός δια την εξαγωγήν αερίων αποσυν-
θέσεως και καπνού εκ της εκρήξεως εγκαθίσταται στο δο-
κιμαστήριον.

Εάν δημοτικόν αέριον δεν διατίθεται, προπάνιον
μπορεί να χρησιμοποιηθεί δια θέρμανσιν. Στην περίπτωση αυ-
τή το προπάνιο λαμβάνεται από βιομηχανικόν κύλινδρον
εφοδιασμένον με ρυθμιστή πίεσεως (υδροδείκτης 500 MM),
διά τινος μετρητή (μετρητού τύπου φυσητήρος με ικανότη-
τα 2 λιτρών σε υδροδείκτη 500 MM), και διανέμεται δια σω-
ληνώσεως εις τους τέσσερες καυστήρες, οι αναβλυστήρες των
οποίων έχουν διάμετρον 0.8 MM. Ο καθένας καυστήρας κατα-
ναλίσκει όχι περισσότερον από περίπου 1.7 λίτρα προπανί-
ου ανά λεπτόν. Οι κύλινδροι αερίου και ο μετρητής το-
ποθετούνται έξω από τη τράπεζα δοκιμής.

(4) Διαδικασία (μέθοδος) ελέγχου:-

3154

(Συνεχίζεται)

Ο σωλήνας πληρούται με την εκρηκτική ύλην μέχρι 15 MM της κορυφής, τ.έ. σε ύψος 60 MM. Εάν η ύλη είναι υπό μορφήν κάνεως συμπιέζεται δια προσεκτικού και ελαφρού ανοίγματος του σωλήνα και ακολούθως δι' ελαφράς πίεσεως με μικρή ξύλινη ράβδο. Εάν η ύλη είναι υπό μορφήν ζελατίνης τοποθετείται στον σωλήνα με την βοήθεια σπάτουλας· μετά από κάθε προσθήκη η ύλη πιέζεται ελαφρά προς τα κάτω με μια μικρή ξύλινη ράβδο προς εξάλειψιν των απορροφήσεων αέρος. Όταν η ποσότης της τεθείσας ύλης ζυγισθεί, το κοχλιωτό κολλάρο περνιέται στον σωλήνα, η απαιτούμενη διάτρητη πλάκα τοποθετείται στη θέση της, και το παξιμάδι σφίγγεται με το χέρι. Ουσιαστως είναι να βεβαιούμεθα ότι μέρος της ύλης δεν έχει παγιδευθεί μεταξύ της φλάντζας και της πλάκας, ή εις τις κοχλιώσεις. Ο σωλήνας τοποθετείται ακολούθως σε μέγγενη με θωράκισμ κατά της εκρήξεως εξ αμελείας, και το παξιμάδι σφίγγεται πλήρως με κλειδί. Ο σωλήνας, ήδη έτοιμος δια τον έλεγχον, αιωρείται μεταξύ των δύο ράβδων στο αδιαπέραστο από θραύσματα κιβώτιο· ο βοηθητικός αναβλυστήρας ανάβεται, και όταν η τράπεζα δοκιμής κλεισθεί ανοίγεται η παροχή του αερίου στους τέσσερες καυστήρες. Ταυτοχρόνως χρονομέτρης τίθεται σε λειτουργία για να μετρήσει τον χρόνον T_1 ο οποίος περνά μεταξύ του ανάμματος των καυστήρων και της αναφλέξεως της ύλης, όπως εικονίζεται δια της διαφυγής φλόγας εκ της οπής της πλάκας, και τον χρόνον T_2 μεταξύ του ανάμματος και της εκρήξεως. Μετά το πέρας του ελέγχου η παροχή αερίου κλείνεται και

το σύστημα εξαγωγής στην τράπεζα της δοκιμής τίθεται σε 3154 λειτουργία· κανείς δεν πρέπει να εισέλθει στην τράπεζα (Συνεχίζεται)
δοκιμής εάν δεν παρέλθει αρκετός χρόνος.

Δια να είμεθα βέβαιοι ότι ο μηχανισμός θερμάνσεως λειτουργεί ικανοποιητικά, των δοκιμών πρέπει να προηγείται "εικονική λειτουργία" (DUMMY RUN).

(5) Ερμηνεία των αποτελεσμάτων:

Ο σχετικός βαθμός ευαισθησίας μίας ύλης προς τη θέρμανση στο χαλύβδινο σωλήνα θαφράζεται δια της οριακής διαμέτρου, δηλαδή της οπής με τη μεγαλύτερη διάμετρο σε χιλιοστάμετρα με την οποία, σε τρεις δοκιμές, ο ένας τουλάχιστον σωλήνας εκρήγνυται, τ.έ. θραύεται σε τουλάχιστον τρία τεμάχια. Η θερμική ευαισθησία αυξάνει με αύξηση της οριακής διαμέτρου και με μείωση των χρόνων T_1 και T_2 .

Οργανικά υπεροξείδια (πλην των υγροποιούμενων ή αραιούμενων με πτητικές ύλες, πχ. ύδωρ) δια τα οποία η οριακή διάμετρος δεν είναι μικρότερη των 2.0 MM πρέπει να θεωρούνται ως εκρηκτικές ύλες της Κλάσεως Ia (βλέπε επίσης σημείωση εις περιθώριον 2550).

(ε) Έλεγχος θερμάνσεως σε αγγείο (σκεύος) πίεσεως με διάτρητον πλάκα και διαρρηκτικόν δίσκον (έλεγχος αγγείου πίεσεως) (βλέπε περιθώριον 3112)

(I) Δι' οργανικά υπεροξείδια, οι έλεγχοι οι εικονιζόμενοι εις (α), (β) και (δ) μπορούν να συμπληρωθούν από τον παρακάτω έλεγχον.

(2) Περιγραφή του αγγείου (σκεύους) πίεσεως (εικόνες 4 έως 6):

Οι Εικόνες 4 έως 6 και οι κατάλληλοι τίτλοι δίδουν 3154 τις λεπτομέρειες της χρησιμοποιηθείσας συσκευής και τις (Συνεχίζεται) διαστάσεις και τα υλικά των συστατικών μερών.

Δέον να σημειωθεί ότι προβλέπεται η χρήση 24 πλάκων, οι δε διάμετροι των οπών είναι: 1.0-1.2-1.5-2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5-6.0-7.0-8.0-9.0-10.0-11.0-12.0-14.0-16.0-18.0-20.0-22.0 και 24.0 MM. Οι πλάκες αυτές έχουν πάχος 2.0 MM \pm 0.2 MM.

Ο διαρρηκτικός δίσκος (δίσκος εκρήξεως) κόβεται με τρύπανο από φύλλο λευκού ορειχάλκου πάχους 0.05 MM αντέχον σε πίεση εκρήξεως των 5.4 \pm 0.5 KG/CM² σε κανονική θερμοκρασία. Μη-πυρακτωμένος κυλινδρoσυμπιεστός λευκός ορείχαλκος περιέχων 67 άτομα εκατόν χαλκόν είναι κατάλληλος.

(3) Μηχανισμός θερμάνσεως:

Το αγγείον πίεσεως θερμαίνεται δια βουτανίου τεχνικής διαβαθμίσεως (TECHNICAL-GRADE) λαμβανόμενο από κύλινδρον εφοδιασμένο με ρυθμιστήν πίεσεως. Η απόδοσις της θερμότητας πρέπει να είναι περίπου 2,700 KCAL/H (ωριαίως). Με καθαρή θερμική τιμή 27,000 KCAL/M³ (εις 1 ATM και 20°), ο ρυθμός της παροχής αερίου πρέπει να είναι περίπου 100 L/H (ωριαίως). Χρησιμοποιείται καυστήρ βουτανίου TECLU. Η ποσότης του χρησιμοποιηθέντος αερίου μετράται με περιστροφόμετρο ή με άλλον μετρητήν και ρυθμίζεται με τη βαλβίδα του καυστήρα.

Αντί βουτανίου, δημοτικόν αέριον ή προπάνιον μπορεί να χρησιμοποιηθεί με κατάλληλον καυστήρα, υπό τον όρον ότι η εις θερμότητα απόδοσις του αερίου είναι ομοίως περί-

που 2,700 KCAL/H (π.χ., στη περίπτωση του δημοτικού αερίου 3I54 με καθαρά θερμική τιμή 4,050 KCAL/M³ θα ήταν απαραίτη- (Συνεχίζεται)
τη η παροχή περίπου 670 I/H).

Ο κύλινδρος αερίου και το περιστροφόμετρο ή άλλος μετρητής πρέπει να ευρίσκονται εκτός της περιοχής ελέγχου.

(4) Διαδικασία (μέθοδος) Ελέγχου:

Για κανονική δοκιμή (έλεγχο), 10 γραμμάρια της ύλης τοποθετούνται εις το αγγέλιον (σκεύος). Στην περίπτωση ύλης η ευαισθησία της οποίας είναι άγνωστη αρχίζουμε με μικρότερες ποσότητες: κάνουμε αρχή με 1 γραμμάριο, ακολούθως (εάν είναι δυνατόν) 5 γραμμάρια, και τελικά 10 γραμμάρια. Ο πυθμένας του αγγείου πρέπει να είναι ομοιόμορφα καλυμμένος με την ύλη. Ο διαρρηκτικός δίσκος, η κεντρική διάτρητη πλάκα και ο δακτύλιος συγκρατήσεως τοποθετούνται εν συνεχεία. Τα πτερυγιωτά περινόχλια (παξιμάδια) σφίγγονται με το χέρι και το περινόχλιο (παξιμάδι) κιβωτίου με κλειδί. Ο διαρρηκτικός δίσκος καλύπτεται με αρκετό νερό δια να τον διατηρεί σε χαμηλή θερμοκρασία.

Το αγγείο (σκεύος) πίεσεως τοποθετείται σε τρίποδον (με διάμετρον εσωτερικού δακτυλίου 67 MM) που είναι εσωτερικά ένας προστατευτικός κύλινδρος. Ο δακτύλιος στον πυθμένα του αγγείου παραμένει (κάθεται) στο τρίποδο.

Ο καυστήρας ανάβεται, η ροή του αερίου ρυθμίζεται στον απαιτούμενο ρυθμό, και η ροή του αέρος ρυθμίζεται κατά τέτοιο τρόπο ώστε το χρώμα της φλόγας να είναι κυανούν και ο εσωτερικός κώνος του φωτός της φλόγας κυα-

νούς. Το τρίποδον πρέπει να έχει τέτοιο ύψος ώστε ο εσωτερικός κώνος να ακουμπά τον πυθμένα του αγγείου. Ακολούθως ο καυστήρας τοποθετείται κάτω από το αγγείο μέσω οπής του προστατευτικού κυλίνδρου.

Ο χώρος των δοκιμών (ελέγχων) πρέπει να εξαερίζεται πολύ καλά η δε είσοδος εις αυτόν να απαγορεύεται διαρκούσης της δοκιμής. Το αγγείον παρατηρείται από έξω είτε με καθρέφτες δι' οπής διοπτρεύσεως στον τοίχο, εφοδιασμένης με ωπλισμένην ύαλον.

Ο χρόνος T_1 μεταξύ της ενάρξεως της θερμάνσεως και της ενάρξεως της αντιδράσεως (φλόγα, παραγωγή καπνού, σφύριγμα) και ο χρόνος T_2 μέχρι της λήξεως της αντιδράσεως (έκρηξις, λήξις σφυρίγματος, ή σβύσιμον της φλόγας) μετρούνται. Το αγγείον ακολούθως ψύχεται με νερό και καθαρίζεται.

(5) Ερμηνεία αποτελεσμάτων:

Ο σχετικός βαθμός ευαισθησίας μιάς ύλης στη θέρμανση στο αγγείο πίεσεως εκγράζεται δια της οριακής διαμέτρου, δηλαδή της διαμέτρου της μεγαλύτερας οπής σε χιλιοστόμετρα με την οποία ο διαρρηκτικός δίσκος θραύεται τουλάχιστον μία φορά σε τρεις δοκιμές ενώ παρέμεινε ανέπαφος κατά τη διάρκεια τριών δοκιμών με την επομένη μεγαλύτερη διάμετρο.

Η θερμική ευαισθησία αυξάνει με την αύξηση της οριακής διαμέτρου και τη μείωση των χρόνων T_1 και T_2 .

Οργανικά υπεροξειδία (πλην των υγροποιουμένων ή αραιουμένων με πτητικές ύλες, π.χ. ύδωρ) δια τα οποία η οριακή διάμετρος δεν είναι μικρότερη των 9 MM πρέπει

να θεωρούνται ως εκρηκτικές ύλες της Κλάσεως Ια (βλέπε επίσης σημείωμα στο περιθώριο 2550).

Δοκιμή ευαισθησίας σε πρόσκρουση (βλέπε περιθώρια 3155 3103 έως 3110 και 3112)

- (α) Δοκιμή ρίψεως σφύρας (FALL-HAMMER TEST) I (Εικόνες 7 και 8) κατά βασικού (υπ ό έλεγχον) εκρηκτικού (I). Το εκρηκτικό, αφού ξηρανθεί όπως περιγράφεται στο περιθώριο 3150, τοποθετείται υπό την ακόλουθη μορφή:
- (α) Συπαγή εκρηκτικά ρινίζονται αρκετά λεπτά δια να διέλθουν χωρίς κατάλοιπα από κόσκινο πλέγματος I MM* μόνο τα επί του κόσκινου πλέγματος 0.5 MM κρατούνται για την επόμενη δοκιμή.
- (β) Εκρηκτικά υπό μορφήν κόκκων διέρχονται από κόσκινο πλέγματος I MM* ό,τι διέλθει από το κόσκινο αυτό κρατείται για τη δοκιμή προσκρούσεως.
- (γ) Πλαστικά και ζελατινώδη εκρηκτικά σχηματίζονται σε μικρά, περίπου σφαιρικά δισκία (καταπότια) ζυγίζονται μεταξύ 25 και 35 MG.

(2) Η συσκευή δια την διεξαγωγή της δοκιμής αποτελείται από ένα βάρος, το οποίον, ολισθαίνον μεταξύ δύο ράβδων, είναι σε θέση να ρυθμισθεί να πέσει από προκαθορισμένο ύψος και να αφεθεί ευχερώς να πέσει. Το βάρος δεν πέφτει απ' ευθείας στο εκρηκτικό, αλλά πέφτει πάνω σε επικρουστήρα D που κάθεται πάνω σε άκμονα (αμόνι) E, και οι δύο (επικρουστήρας και αμόνι) από πολύ σκληρό χάλυβα, και ολισθαίνει ευχερώς στον οδηγό δακτύλιο F (Εικόν 7). Το δείγμα του εκρηκτικού τοποθετείται μεταξύ του επικρουστήρα και του άκμονα. Ο επικρουστήρας, ο άκμονας και ο οδηγός

δακτύλιος ευρίσκονται σε προστατευτικό κύλινδρο C κατα- 3155
σκευασμένον από σκληρό χάλυβα και τοποθετημένον πάνω (Συνεχίζε-
ται)
σε χαλύβδινο συγκρότημα B εντοιχισμένο σε τσιμεντένιο
συγκρότημα A (Εικόν 8). Αι διαστάσεις των διαφόρων εξαρ-
τημάτων δίδονται στις εικόνες.

(3) Οι δοκιμές εκτελούνται με τη σειρά επί
του υπό έλεγχον εκρηκτικού και επί του βασικού (CONTROL)
εκρηκτικού ως εξής:-

(α) Το εκρηκτικόν, υπό μορφήν σφαιρικού δισκίου (καταποτί-
ου) (εάν είναι πλαστικόν) ή μετρούμενον με κοχλιάριο
μετρήσεως χωρητικότητας 0.05 CM^3 (εάν είναι υπό μορφήν
κόκκων ή ρινισμάτων), τοποθετείται με προσοχήν μεταξύ
του επικρουστήρος και του άκμονος, αι επιφάνειαι επαφής
των οποίων δεν πρέπει να είναι υγραί. Η θερμοκρασία
του περιβάλλοντος δεν πρέπει να υπερβαίνει τους 30°C
ούτε να είναι μικρότερη των 15°C . Κάθε δείγμα του εκρη-
κτικού πρέπει να υποβάλεται σε μία πρόσκρουση μόνον.
Μετά από κάθε έλεγχο (δοκιμή) ο επικρουστήρας, ο άκμονος
και ο οδηγός δακτύλιος πρέπει να καθαρίζονται προσεκτι-
κά, αφαιρουμένου κάθε υπολείμματος του εκρηκτικού.

(β) Οι δοκιμές πρέπει να αρχίζουν από ύψη ρίψεως που ήθε-
λαν ενδεχομένως προκαλέσει πλήρη έκρηξιν των υπό δοκι-
μήν εκρηκτικών. Το ύψος ρίψεως μειώνεται βαθμηδόν μέχρις
όπου η έκρηξις είναι ατελής ή ουδεμία έκρηξις γίνεται.
Στο ύψος αυτό διεξάγονται τέσσερας δοκιμές προσκρού-
σεως, και εάν τουλάχιστον μία παράγει ορισμένην έκρη-
ξιν, τέσσερας επί πλέον δοκιμές ρίψεως από ελαφρώς χα-

μηλότερον ύψος διεξάγονται, και ούτω καθ' εξής.

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(γ) Το χαμηλότερον ύψος ρίψεως το προκαλούν ορισμένην έκρηξη (Συνεχίζεται)
 ξιν σε σειρά τουλάχιστον τεσσάρων δοκιμών στο ύψος
 αυτό λαμβάνεται ως το όριον ευαισθησίας.

(δ) Η δοκιμή προσκρούσεως διεξάγεται κανονικώς με ρίψιν
 βάρους 2 KG· εν τούτοις, εάν η ευαισθησία στη πρόσκρου-
 ση με το βάρος αυτό απαιτεί ύψος ρίψεως μεγαλύτερον
 των 60 έως 70 CM, η δοκιμή προσκρούσεως πρέπει να
 διεξαχθεί με βάρος 5 KG.

(ε) Δοκιμή ρίψεως-σφύρας (FALL-HAMMER TEST) II (Εικόνες 9
 έως 13) με αριθμητικήν διατύπωση της ευαισθησίας σε
 πρόσκρουση (ενέργεια προσκρούσεως σε KGM)

(I) Η δοκιμή η περιγραφομένη στο (α) μπορεί να αντικα-
 τασταθεί από τη παρακάτω δοκιμή.

(2) Περιγραφή της συσκευής:

Τα βασικά εξαρτήματα της συσκευής είναι ο μηχαν-
 ισμός προσκρούσεως (βλέπε υπό στοιχείον (4)), το ^{χυτό} χαλύβδι-
 νο συγκρότημα με τη βάση, ο άκμων, η στήλη, οι οδηγοί και η
 σφύρα με μηχανισμόν αφέσεως (Εικών 9). Ένας χαλύβδινος
 άκμων (διαμέτρου 100 MM, ύψους 70 MM) βιδώνεται στο χαλύ-
 βδινο συγκρότημα (230 X 250 X 200 MM) χυτό σε ένα σώμα με τη
 βάση (450 X 450 X 60 MM). Βιδωμένο στο πίσω μέρος του χαλυ-
 βδίνου συγκροτήματος είναι το στήριγμα στο οποίο στερεώνεται
 η στήλη από χαλύβδινο σωλήνα (SEAMLESS-DRAWN STEEL TUBE)
 (εξωτερικής διαμέτρου 90 MM, εσωτερικής διαμέτρου 75 MM).
 Οι δύο οδηγοί στερεώνονται στη στήλη μέσω τριών εγκαρσίων
 δοκών και είναι εφοδιασμένοι με οδοντωτή ράβδο δια να περιο-

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(Συνεχίζεται)

πυθεί η αναπήδηση της σφύρας και με μια κινητή βαθμονομημένη κλίμακα για τη ρύθμιση του ύψους της ρίψεως (πτώσεως). Ο μηχανισμός συγκρατήσεως και αφέσεως της σφύρας ρυθμίζεται μεταξύ των οδηγών και συσφίγγεται σ' αυτούς δια της λειτουργίας περικοχλίου μετά μοχλού (LEVER-NUT) πάνω σε δύο σιαγόνες. Η συσκευή είναι έτσι στερεωμένη επί συμπαγούς συγκροτήματος εκ μπετόν (600 X 600 X 600 MM), δια τεσσάρων κοχλιών προσδέσεως σφραγισμένων στο μπετόν ώστε η βάση να είναι σε επαφή με το μπετόν καθ' όλο τον χώρον αυτού και οι οδηγοί να είναι ακριβώς κάθετοι. Εύλινο αντέχον στα θραύσματα κιβώτιον το οποίον έχει επένδυση δια μολύβδου πάχους 2 MM και ανοίγει ευκόλως περιβάλλει τη συσκευή μέχρι του επιπέδου της εγκαρσίας δοκού του πυθμένος. Ένας εξαγωγεύς αερίων παρέχει τη δυνατότητα στα αέρια της εκρήξεως και την σκόνη ανα αφαιρεθούν από την όλην.

(3) Περιγραφή των σφυρών-ρίψεως (FALL-HAMMERS):-

Κάθε σφύρα είναι εφωδιασμένη με δύο αύλακες εμφράξεως (POSITIONING GROOVES) που την συγκρατούν μεταξύ των οδηγών καθώς πέπτει και με ένα αξονίσκο αιωρήσεως, μία δυναμένη να αφαιρεθεί κεφαλή προσκρούσεως και μία αρπάγη αναπήδησεως (REBOUND CATCH) που βιδώνονται στη σφύρα (Εικόνων II). Η κεφαλή προσκρούσεως είναι από σκληρό χάλυβα (HRC 60 έως 63)· η κατωτάτη διάμετρος της είναι 25 MM· έχει ένα ωμίδιο το οποίο την εμποδίζει από του να πιεσθεί στη σφύρα δια της προσκρούσεως.

Υπάρχουν τρεις σφύρες διαφορετικού βάρους. Η σφύ-

ρα I-KG (ενός κιλού) χρησιμοποιείται για λίαν ευπαθείς 3I55
 ύλες, η σφύρα 5-KG (πέντε κιλών) για ύλες μέσης ευπα- (Συνεχίζεται)
 θείας (ευαισθησίας) και η σφύρα 10-KG (δέκα κιλών) για
 ύλες χαμηλής ευαισθησίας. Οι σφύρες των 5-KG και 10-KG είναι
 από ατσάλιο και συμπαγή χάλυβα (Τουλάχιστον ST 37-I, συμφώνως
 προς DIN I7000). Η σφύρα του I-KG πρέπει να έχει βαρύ χα-
 λύβδινο κέντρο φέρον την κεφαλή προσκρούσεως και σχηματίζ-
 ζον με αυτήν την κυρίαν μάζα της σφύρας.

Η σφύρα του I-KG χρησιμοποιείται για ύψη ρίψεων
 των 10 έως 50 CM (ενέργεια προσκρούσεως 0.1 έως 0.5 KGM),
 η σφύρα των 5-KG για ύψη ρίψεων των 15 έως 60 CM (ενέργεια
 προσκρούσεως 0.75 έως 3 KGM), και η σφύρα των 10-KG για ύψη
 ρίψεων των 35 έως 50 CM (ενέργεια προσκρούσεως 3.5 έως 5 KGM).

(4) Περιγραφή του μηχανισμού προσκρούσεως:-

Το προς εξέτασιν δείγμα εγκλείεται σε ένα μη-
 χανισμό προσκρούσεως (Εικών II) αποτελούμενον εκ δύο στε-
 ρεών χαλυβδίνων κυλίνδρων ομοαξονικώς τοποθετημένα το ένα
 επάνω στο άλλο σε κυλινδρικό οδηγό δακτύλιο κατασκευασμένον
 ομοίως από χάλυβα. Οι κύλινδροι είναι χαλύβδινοι κατά της
 τριβής κυλινδροτριβείς και και είναι διαμέτρου 10 MM (τύ-
 πος με μέση παρέκκλισιν -4 μικρόν δι'ανοχήν εκ -2 μικρόν,
 τ.έ. διαμέτρου $10 \begin{smallmatrix} -0.003 \\ -0.005 \end{smallmatrix} \text{MM}$), ύψους 10 MM, με στιλβωμένες
 επιφάνειες και κυκλικά άκρα (ακτίς καμπυλότητος 0.5 MM)
 και σκληρότητα HRC μεταξύ 58 και 65. Ο οδηγός δακτύλιος
 έχει εξωτερικήν διάμετρον 16 MM, διάμετρον (οπήν) μετ'επικαλύ-
 φεως $10 \begin{smallmatrix} +0.005 \\ +0.010 \end{smallmatrix} \text{MM}$ καί ύψος 13 MM. Κυλινδρικός ελεγκτής ο-
 πών μπορεί να χρησιμοποιηθεί δια να ελέγξει την διάμετρο

της οπής εάν είναι εντός των προβλεπομένων ανοχών. Οι 3155
κυλίνδροι και ο οδηγός δακτύλιος θα πρέπει να απολι- (Συνεχίζεται)
πανθούν με ακετόνην προτού χρησιμοποιηθούν.

Ο μηχανισμός προσκρούσεως τοποθετείται σε ενδιάμε-
σο άκμονα/26 MM και ύψους 26 MM και κεντράρεται με δακτύ-
λιον στερεώσεως εφωδιασμένον με δακτύλιον με οπές αερισμού
δια να επιτρέπεται η διαφυγή των αερίων (Εικόνες II και
I2). Κάθε επιφάνεια προσκρούσεως των κυλίνδρων θα χρησι-
μοποιείται μόνον ~~μία φορά~~ εάν λάβει χώραν έκρηξη, ο οδηγός
δακτύλιος δεν θα χρησιμοποιηθεί εκ νέου.

(5) Προετοιμασία των δειγμάτων:-

Οι εκρηκτικές ύλες δοκιμάζονται σε ξηρά κατάστα-
ση. Οι ύλες του περιθωρίου 2101, II⁰ έως I4⁰, δοκιμάζον-
ται όπως παραδίδονται εφ' όσον το ~~εε νέφθ~~ περιεχόμενόν των
συμφωνεί με την τιμήν την οριζομένην υπό του κατασκευαστή.
Εάν το ~~εε νέφθ~~ περιεχόμενον είναι υψηλότερο, τα μίγματα
πρέπει να ξηρανθούν προ της δοκιμής μέχρις ότου το ~~εε υ-~~
γρασίαν περιεχόμενόν των είναι εκείνο που ορίζεται.

Επιπροσθέτως, στη περίπτωση των στερεών υλών πλήν
των υπό μορφήν πάστας υλών πρέπει να τηρούνται τα ~~απομόνδια~~
σημεία:-

- (α) ύλες υπό μορφήν κόκκων κοσκινίζονται (πλέγμα κοσκί-
νου 0.5 MM)* κάθε τι το οποίον διέρχεται δια του κο-
σκίνου χρησιμοποιείται δια την δοκιμήν*
- (β) ύλες οι οποίες έχουν συμπιεσθεί, χυθεί ή άλλώς ενο-
ποιηθεί θραύονται σε μικρά τεμάχια και κοσκινίζονται*
τα (απο)κοσκινίδια διαμέτρου από 0.5 MM έως 1.0 MM
χρησιμοποιούνται για τη δοκιμή.

(6) Διαδικασία Ελέγχου (Δοκιμής):-

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Προκειμένου περί υλών υπό μορφήν κόνας, λαμβάνεται δείγμα με κυλινδρικό μέτρον ικανότητας/χωρητικότητας 40 MM^3 (διάμετρος $3.7 \text{ MM} \times 3.7 \text{ MM}$). Για όλες υπό μορφήν πάστας, κυλινδρικός σωλήνας αυτής χωρητικότητας χρησιμοποιείται, ο οποίος βυθίζεται στη μάζα. Μετά την ισοπέδωσιν του περισσεύματος του εκτεινομένου πέραν του μέτρου, το δείγμα εξαγεται με τη βοήθεια ξυλίνης ράβδου. Δι' ερηκτικὰ υγρά μία λεπτά-εξηλασμένη πιπέττα (σιφόνι) 40 MM^3 χρησιμοποιείται. (Συνεχίζεται)

Το δείγμα τοποθετείται πάνω στον ανοικτό μηχανισμό προσκρούσεως, ο οποίος είναι ήδη στον δακτύλιο στερεώσεως στον ενδιάμεσο άκμονα, και στη περίπτωση υλών υπό μορφήν κόνας ή πάστας ο άνω χαλύβδινος κύλινδρος πιέζεται ελαφρώς και προσεκτικώς με τον δείκτην της ράβδου μέχρις ότου ακουμπήσει το δείγμα χωρίς να το επιπεδώνει. Στην περίπτωση υγρών υλών ο άνω χαλύβδινος κύλινδρος πιέζεται προς τα κάτω με τη βοήθεια της κλίμακας βάθους βερνιέρου βαθυμέτρου μέχρις ότου απέχει 1 MM από τον κάτω κύλινδρον, και κρατείται στη θέση αυτή με ελαστικό δακτύλιο προηγουμένως ολισθήσαν εις τούτον. (Βικίων Ι3).

Ο μηχανισμός τοποθετείται στο κέντρον επί του άκμονος, το προστατευτικό ξύλινο κιβώτιον κλείεται, η σφύρα αιωρούμενη στο απαιτούμενο ύψος αφήνεται (ελευθερώνεται), και ο εξαγωγέας αερίων τίθεται ακολούθως σε λειτουργία. Η δοκιμή εκτελείται έξι φορές σε κάθε ύψος ρίψεως (πτώσεως).

(7) Ερμηνεία των αποτελεσμάτων:-

Ερμηνεύοντες τα αποτελέσματα της δοκιμής ευαι- 3155
 σθησίας στη πρόσκρουση, διακρίνεται γίνεται μεταξύ (Συνεχίζε-
 "ουδεμία αντίδρασις" "αποσύνθεσις" (χωρίς φλόγα ή ται)
 έκρηξη· δυναμένη να αναγνωρισθεί δι' αλλαγής-χρώματος
 ή οσμής) και "έκρηξη" (με αδύνατη έως ισχυρή έκρηξη °/).
 Ο βαθμός ευαισθησίας σε πρόσκρουση μιας ύλης μετράται
 δια καθορισμού του βάρους της σφύρας σε κιλά και του
 κατωτάτου ύψους ρίψεως σε CM με την οποίαν λαμβάνει χώ-
 ρα έκρηξης σε τουλάχιστο μία από έξι δοκιμές, και της
 προκύπτουσας ενεργείας προσκρούσεως σε KGM. Η ευαισθη-
 σία της ύλης στην πρόσκρουση ούσα μεγαλύτερα, χαμηλοτέ-
 ρα είναι η ενέργεια προσκρούσεως σε KGM.

Δοκιμή ευαισθησίας στην τριβή (βλέπε περιθώρια 3103 έως 3156
 3110 και 3112)

(α) Δοκιμή τριβής σε ιγδόν (γουνί) εκ πορσελάνης

(1) Το εκρηκτικόν ξηραίνεται σε χλωριούχο ασβε-
 στίο. Δείγμα του εκρηκτικού συμπιέζεται και αλέθεται
 (τρίβεται) σε αβερνίκωτο ιγδόν/εκ πορσελάνης με γου-
 δοχέρι, επίσης αβερνίκωτο. Το ιγδόν (γουνί) και γουδο-
 χέρι πρέπει να έχουν θερμοκρασίαν περίπου 10 βαθμούς με-
 γαλύτερη της θερμοκρασίας του περιβάλλοντος (15° έως
 30°C).

(2) Τα αποτελέσματα της δοκιμής συγκρίνονται
 με τα επιτευχθέντα με το βασικό (ελέγχου) εκρηκτικό
 (πρότυπο εκρηκτικό), και ταξινομούνται ως παρακάτω:

1.- ουδέν αποτέλεσμα ·

2.- αδύνατος συμπτωματολογικός σπινθηρισμός ·

3.- συχνός σπινθηρισμός ή πολύ έντονος συμπτωματικός σπινθηρισμός. 3156
(Συνεχίζεται.)

ο/ Για μερικές ύλες υπάρχει "ανάφλεξη χωρίς έκρηξη".
Η αντίδραση αυτή, εν τούτοις, θεωρείται ως έκρηξη
(και χαρακτηρίζεται εκ των εντός των εισαγωγικών δρων)
διότι συνεπάγεται ολόκληρον το δείγμα και έκρηξη μπο-
ρεί επίσης να λάβει χώραν υπό ιδίας συνθήκας.

(3). Εκρηκτικά τα οποία, κατόπιν δοκιμής, δίδουν
το αποτέλεσμα το αναφερόμενον εις 1. πρέπει να θεωρούν-
ται ως πρακτικώς μη ευπαθή εις την τριβήν· εάν δίδουν
το αποτέλεσμα το αναφερόμενον εις 2. πρέπει να θεωρούν-
ται ως μετρίως ευαίσθητα εις την τριβήν· εάν δίδουν το
αποτέλεσμα το αναφερόμενον εις 3. πρέπει να θεωρούνται
ως πολύ ευαίσθητα εις την τριβήν.

(β) Έλεγχος (δοκιμή) με τη συσκευή τριβής (Εικόνες I4
και I5)

(1) Η δοκιμή η περιγραφομένη εις (α) μπορεί να
αντικατασταθεί δια της εξής δοκιμής:

(2) Περιγραφή της συσκευής:

Η συσκευή τριβής κατασκευάζεται από βάση χυτο-
χάλυβοσ επί της οποίας ο κατάλληλος μηχανισμός τριβής, απο-
τελούμενος από σταθερόν γόμφον εκ πορσελάνης και κινητήν
πλάκα εκ πορσελάνης (Εικόν I4), μοντάρεται. Η πλάκα εκ
πορσελάνης φέρεται επί κινητού συστήματος το οποίον λει-
τουργεί επί δύο οδηγών. Ανοίγοντες τον διακόπτην (πλήκτρον-
ωθήσεως) το κινητόν σύστημα μετακινείται υπό ηλεκτρικού
κινητήρος μέσω διωστήρος, εκκεντρικού δίσκου και καταλλή-

λου μηχανισμού κατά τοιούτον τρόπον ώστε η πλάκα εκ 3I56 πορσελάνης να κινείται πίσω-μπρός μόνο μία φορά (Συνεχίζεται) κάτωθι του γόμφου εκ πορσελάνης, της αποστάσεως της διαδρομής ούσης 10 MM. Ο συγκρατητής του γόμφου περιστρέφεται επί άξονος εις τρόπον ώστε ο εκ πορσελάνης γόμφος να μπορεί να αλλαγεί· εκτείνεται διά τινος βραχίονος φορτώσεως με έξι εγχοπέσδι 'ανάρτησιν βάρους. Η ισορροπία εις την θέσιν "μηδέν" (χωρίς βάρη) επιτυγχάνεται δια ρυθμίσεως αντιβάρου. Όταν χαμηλώσμε (κατεβάσμε) τον συγκρατητή του γόμφου επί της πλάκας εκ πορσελάνης ο επιμήκης άξωνιστος εκ πορσελάνης γόμφου είναι κάθετος επί της άνω επιφανείας της πλάκας. Ένα από τα βάρη κρέμεται μέσω ενός δακτυλίου και αγκίστρου εις την κατάλληλη εγχοπή· το επί του γόμφου φορτίο μπορεί να ποικίλει από 0.5 έως 36 KG.

(3) Περιγραφή των εκ πορσελάνης πλάκας και γόμφου:

Αι επίπεδοι εκ πορσελάνης πλάκες κατασκευάζονται από καθαρή τεχνική πορσελάνη και έχουν τις παρακάτω διαστάσεις:- 25 MM X 25 MM X 5 MM. Προτού πυροδοτηθούν (αναφλεγούν) αι επιφάνειες λεθάνσεως καθίστανται ανώμαλές τριβόμενές με σπόγγον. Τα σημεία (ενδείξεις) του σπόγγου είναι σαφώς ορατά.

Οι κυλινδρικοί εκ πορσελάνης γόμφοι κατασκευάζονται επίσης εκ τεχνικής λευκής πορσελάνης· είναι μήκους 15 MM και διαμέτρου 10 MM και τα ανώμαλα άκρα τους στρογγυλεύονται, με ακτίνα καμπυλότητας 10 MM.

Δείγματα των εκ πορσελάνης γόμφων και πλακών 3156
της ανωτέρω περιγραφόμενης ποιότητας είναι κατατεθει- (Συνεχίζε-
μένα εις BUNDESANSTALT FÜR MATERIALPRÜFUNG, Βερολί-
νον-DAHLEM, από όπου μπορούν να ληφθούν οι διευθύνσεις
των κατασκευαστών.

Επειδή η φυσική μη-κατεστραμμένη τραχύτητα των
πλακών και κόμβων αποτελεί ουσιώδη προϋπόθεση για την
αντίδραση της εκρηκτικής ύλης, κάθε τμήμα της επιφανεί-
ας πρέπει να χρησιμοποιείται μόνο μία φορά. Συνεπώς,
οι δύο ακραίες επιφάνειες κάθε γόμφου είναι αρκετές για
δύο δοκιμές, και οι δύο επιφάνειες τριβής της πλάκας
θα χρησιμεύσουν η κάθε μία για τρεις έως έξι περίπου δο-
κιμές.

(4) Προετοιμασία δειγμάτων:

Η εκρηκτική ύλη δοκιμάζεται σε ξηρά κατάσταση.
Οι ύλες του περιθωρίου 2101, II⁰ έως I4⁰ δοκιμάζονται δ-
πως παραδίδονται εφ' όσον το νερό περιεχόμενόν των συμ-
φωνεί με την τιμήν την οριζομένην υπό του κατασκευαστή.
Εάν το νερό περιεχόμενον είναι μεγαλύτερον, τα μίγ-
ματα πρέπει να ξηρανθούν προ της δοκιμής μέχρις ότου πο-
σο υγρασίαν περιεχόμενόν των είναι το οριζόμενον.

Επιπροσθέτως, για στερεές ύλες, πλην των χυλών
υπό μορφήν πάστας, πρέπει να τηρούνται τα παρακάτω σημεία:-

- (α) ύλες υπό μορφήν κόκκων κοσκινίζονται (πλέγμα κοσκί-
νου 0.5 MM)* κάθε τι που διέρχεται από το κόσκινο
χρησιμοποιείται για τη δοκιμή.
- (β) ύλες οι οποίες έχουν συμπιεσθεί, χυθεί ή άλλως ενοποιη-

θεί θραύονται σε μικρά τεμάχια και κοσκινίζονται·
κάθε τι το οποίον διέρχεται από το πλέγμα του
κοσκίνου 0.5 MM χρησιμοποιείται για τη δοκιμή.

3156

(Συνεχίζε-
ται)

(5) Διαδικασία (μέθοδος) δοκιμής:

Πλάκα εκ πορσελάνης στερεώνεται στο κινητό
σύστημα της συσκευής τριβής κατά τρόπον ώστε οι αύλα-
κες των σημείων του σπόγγου λειτουργούν εγκαρσίως προς
την κατεύθυνση της κινήσεως. Η υπό εξέταση ποσότητα,
περίπου 10 MM^3 , λαμβάνεται από ύλη υπό μορφήν κόβης
μέσω κυλινδρικού μέτρου (διαμέτρου $2.3 \text{ MM} \times 2.4 \text{ MM}$)·
στην περίπτωση ύλης υπό μορφήν πάστας το δείγμα μετρά-
ται υπό κυλινδρικού σωλήνος ο οποίος βυθίζεται στη μά-
ζα. Μετά την επιπέδωση του περισσεύματος του εκτεινο-
μένου πέραν του μέτρου, το δείγμα λαμβάνεται μέσω ξυ-
λίνης ράβδου και τοποθετείται επάνω στη πλάκα εκ πορ-
σελάνης. Ο σταθερά σφιγμένος γόμφος εκ πορσελάνης το-
ποθετείται επί της σωρευθείσας ποσότητας ως εικονίζε-
ται στην Εικόνα 15· ο βραχίονας φορτώσεως φορτώνεται με
το απαραίτητον βάρος και τίθεται εις λειτουργίαν το πλήκ-
τρον ώσεως του διακόπτου. Μέριμνα πρέπει να ληφθεί όπως
ο γόμφος επικάθεται στο δείγμα και όπως υπάρχει αρκετή
ύλη έμπροσθεν αυτού δια να έλθει κάτω από τον γόμπο
καθώς κινείται η πλάκα.

(6) Ερμηνεία αποτελεσμάτων:

Ερμηνεύοντες τα αποτελέσματα της δοκιμής, διά-
κριση γίνεται μεταξύ "ουδεμία αντίδρασις", "αποσύνθεσις"
(αλλαγή χρώματος, οσμή), "ανάφλεξις", "σπινθηρισμός" και
"έκρηξις".

Ο σχετικός βαθμός ευαισθησίας ύλης στη τριβή 3156
μέσα στη συσκευή τριβής όπως περιγράφεται καθορίζε- (Συνεχίζεται)
ται (χωρίς να ληφθεί υπ' όψη ο συντελεστής τριβής)
από το μικρότερο επί του γόμφου φορτίο σε KG (κιλά),
με το οποίον λαμβάνει χώραν ανάφλεξις, σπινθηρισμός ή
εκρηξίς σε τουλάχιστο μία από έξι δοκιμές. Εν προκειμένω,
ακόμη και η ανάφλεξις και ο σπινθηρισμός θεωρούνται ως
επικίνδυνες αντιδράσεις. ^{Όσο} Η ευαισθησία εκρηκτικής ύλης
στην τριβή είναι μεγαλυτέρα, τόσο μικρότερο το εξακριβού-
μενο επί του γόμφου φορτίο (βάρος φορτώσεως ~~σε~~ σχέση με
το μήκος του γόμφου φορτώσεως).

Εκρηκτικά υγρά και υλικά υπό μορφήν πάστας δεν
είναι γενικώς ευαίσθητα στη τριβή υπό τας συνθήκας της
δοκιμής αυτής, επειδή λόγω της λιπαντικής επιδράσεως η
παραγομένη ελαφρά εκ τριβής θερμότητα δεν είναι αρκετή
δια να επάγει ανάφλεξιν. Με τέτοιες ύλες η έλλειψις οιασ-
δήποτε αντιδράσεως δεν είναι ένδειξις ότι η ύλη δεν εί-
ναι ι επικίνδυνος.

Η σταθερότης των προϊόντων των αναφερομένων στο 3157
περιθώριο 3111 πρέπει να ελέγχεται δια συνήθων εργαστη-
ριακών μεθόδων.

Έλεγχος δυναμίτου δι' εξίδρωσιν (βλέπε περιθώ- 3158
ριον 3107)

(I) Η συσκευή δια την δοκίμην του δυναμίτου δι'
εξίδρωσιν (Εικόν Ι6 έως Ι8) αποτελείται από ένα κοίλο
ορειχάλκινο κύλινδρο. Ο κύλινδρος αυτός, ο οποίος είναι
κλεισμένος στο ένα άκρον από πλάκα του αυτού μετάλλου,

Έχει εσωτερική διάμετρο 15.7 MM και βάθος 40 MM.

3I58

Φέρει 20 οπές διαμέτρου 0.5 MM (4 σειρές από 5 οπές) (συνεχίζε-
ται)

επ' της περιφέρειας. Ορειχάλκινο έμβολο, κυλινδρικό
48 MM του συνολικού του μήκους των 52 MM, μπορεί να
ολισθαίνει στον κατακόρυφο κύλινδρο· το έμβολο αυτό
του οποίου η διάμετρος είναι 15.6 MM, φορτώνεται με
βάρος 2,220 γραμμαρίων ώστε να παραχθεί πίεσις εξ 1.2
KG/CM².

(2) Μικρό πώμα δυναμίτου ζυγίζον 5 έως 8
γραμμάρια, μήκους 30 MM και διαμέτρου 15 MM, τυλίσσε-
ται σε πολλή λεπτή γάζα και τοποθετείται στον κύλινδρο·
το έμβολο και το βάρος φορτώσεως τοποθετούνται ακολού-
θως επ' αυτού εις τρόπον ώστε ο δυναμίτης να υπόκειται
σε πίεση 1.2 KG/CM².

Σημειούται το χρονικό διάστημα που περνά
για την εμφάνισιν των πρώτων ενδείξεων λιπαρών σταγο-
νιδίων (νιτροκυτταρίνης) στις εξωτερικές επιφάνειες των
οπών του κυλίνδρου.

(3) Ο δυναμίτης θεωρείται ικανοποιητικός
εάν ο διαρρέυσας χρόνος προ της εμφανίσεως των υγρών
εξιδρώσεων είναι περισσότερος των 5 λεπτών, της δοκιμής
εχούσης διεξαχθεί σε θερμοκρασία 15° έως 25°C.

3I59-

3I99

Έλεγχος (Δοκιμή) ΚαύσεωςΠερὶ περιθωρίου 3I54(γ)Εικὼν 1:- Χαλύβδινο κιβώτιο (σχῆμα σελ. 2844)

πάχος τοιχώματος I MM

διαστάσεις σε MM

- (1) γενική άποψη
- (2) κάθετος τομή
- (3) τομή A-B
- (4) κατασκευή τοιχώματος
- (5) κατασκευή βάσεως και καλύμματος
- (6) άκρα υποκείμενα σε πτύχωση

Έλεγχος δια θερμάνσεως σε χαλύβδινο σωλήνα
με βαθμονομημένη διάτρητο πλάκα

Περὶ περιθωρίου 3I54(δ))Εικὼν 2: Χαλύβδινος σωλήνας και εξαρτήματα (σχῆμα σελ. 2844)Εικὼν 3: Θέρμανσις και προστατευτικός μηχανισμός (σχῆμα σελ. 2844)

διαστάσεις σε MM* δια υλικά κατασκευής

βλέπε περιθώριο 3I54(δ), (2) και (3)

(I) σωλήνας

(Iα) εξωτερική φλάντζα

(2) κοχλιωτό κολλάρο* χαμηλής-τριβής νήμα

(3) διάτρητος πλάκα $\alpha = 1.0 \dots 20.0$ διάμετρος(4) περιδόχλιο (παξιμάδι) $\beta =$ διαμέτρου 10 ή 20

(5) λοξοτμημένη επιφάνεια

(6) 2 επίπεδα (FLATS) για κλειδς μεγέθους 4I.

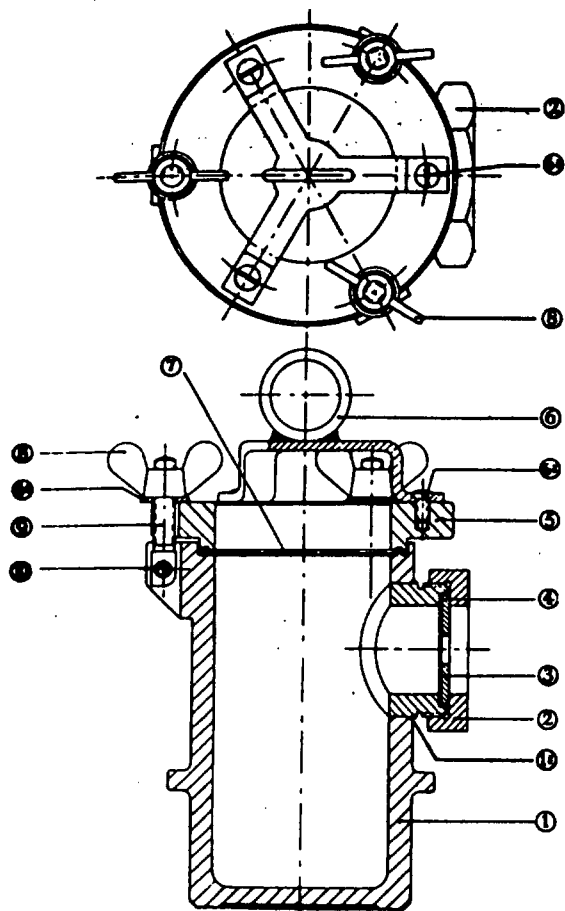
- (7) 2 επίπεδα γτα κλειδύ μεγέθους 36
- (8) κιβώτιο ανθεκτικό στα θραύσματα
- (9) 2 ράβδοι υποστηρίξεως δια τον σωλήνα
- (10) συναρμολογημένος σωλήνας
- (11) θέσεις οπισθίου καυστήρος· οι άλλοι καυστήρες
είναι ορατοί
- (12) βοηθητικός αναβλυστήρ

Έλεγχος θερμάνσεως σε αγγείον (σκεύος) πίεσεως
με διάτρητο πλάκα και διαρρηκτικόν δίσκον
Περί περιθωρίου 3I54(ε)

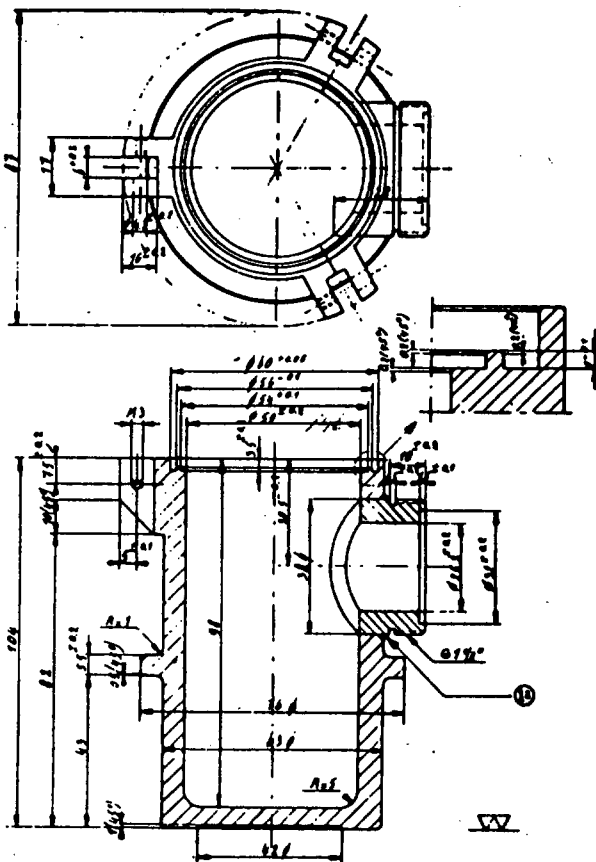
Εικόν 4: Συναρμολογημένον αγγείον πίεσεως
κάθετος τομή και σχέδιον (σχήμα σελ. 690)

Εικόν 5: Αγγείον (σκεύος) πίεσεως (σχήμα σελ. 690)
διαστάσεις σε MM

- (I) αγγείον (σκεύος) πίεσεως (ανοξείδωτος χάλυψ)
- (Iα) συγκολλημένη ένωσις
- (2) περιδόχλιο (παξιμάδι) κιβωτίου (πλήρως-κεκορε-
σμένος δυνάμενος να συγκολληθεί χάλυψ)
- (3) κεντρική-διάτρητος πλάκα (ανοξείδωτος χάλυψ)
- (4) αδρανής δακτύλιος συγκρατήσεως, πάχους 0.5
- (5) δακτύλιος πίεσεως (ανοξείδωτος χάλυψ)
- (6) ορειχάλκινος λαβή
- (6α) ορειχάλκινος κοχλίας (υλικό M4 X 8 DIN 88)
- (7) διαρρηκτικός δίσκος (για υλικό βλέπε περιθώ-
ριο 3I54 (ε) (2))
- (8) πλευρικά περιδόχλια (παξιμάδια) (ορείχαλκος M6
DIN 3I5)



ΕΙΚΟΝΑ 4



ΕΙΚΟΝΑ 5

(8α) ροδέλα (ορειχάλκινος 6 DIN I 25)

(9) κοχλίας αρτήσεως (οφθαλμοκοχλίας) (ανοξείδωτος χάλυψ.)

(10) αξονίσκος για πλευρικά περικόχλια (ανοξείδωτος χάλυψ.)

Σημειώσεις:- Ανοξείδωτος χάλυψ έχων την κατωτέρω μέση σύνθεσιν θεωρείται κατάλληλος: CR 18⁰%, Ni 9⁰%, MN \leq 2⁰%, Si \leq 1⁰%, C \leq 0.12⁰%.

Εικὼν 6: Δακτύλιος πίεσεως του αγγείου· λεπτομέρειαι καθέτου τομῆς και κατόψεως (PLAN VIEW)

διαστάσεις σε MM (σχῆμα σελ. 2847)

Δοκιμή I ρίψεως-σφύρας (FALL-HAMMER)Έργ. περιθωρίου 3155(α)Εικὼν 7: Μηχανισμός προσκρούσεως, κάθετος τομή

διαστάσεις σε MM (σχῆμα σελ. 2847)

Εικὼν 8: Βάσις για μηχανισμό προσκρούσεως,κάθετος τομή

διαστάσεις σε MM (σχῆμα σελ. 2848)

Α.- συμπαγές εκ μπετόν συγκρότημα (BLOCK)

Β.- χαλύβδινο συγκρότημα (BLOCK)

Γ.- προστατευτικός κύλινδρος

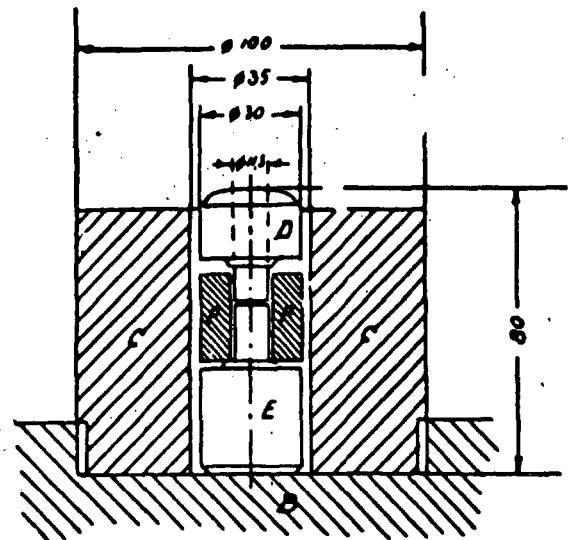
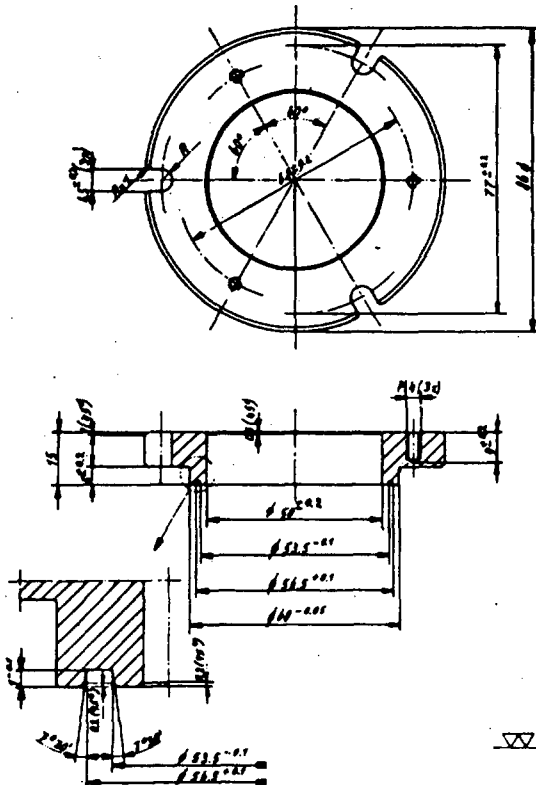
Δ.- επικρουστήρ

Ε.- άκμωνας(αμόνι)

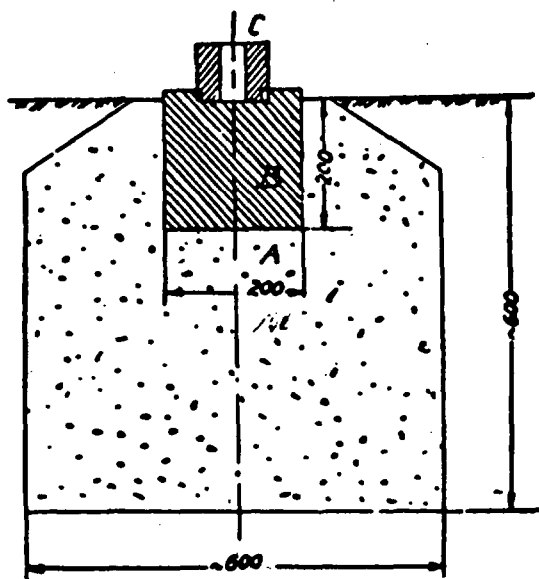
ΣΤ.- οδηγός δακτύλιος

Εικὼν 9: Ρίψις-σφύρας (FALL-HAMMER) IIπροσθία και πλευρική, γενική άποψη

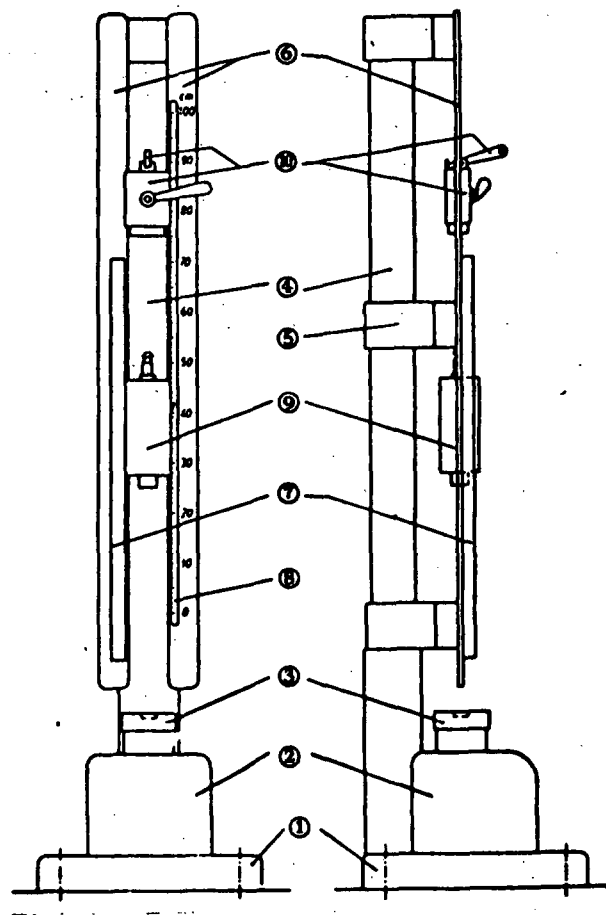
διαστάσεις σε MM (σχῆμα σελ. 2848)



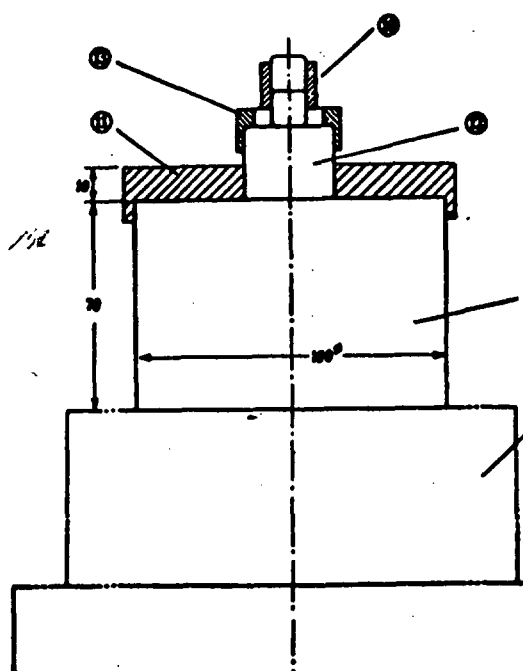
ΕΙΚΟΝΑ 7



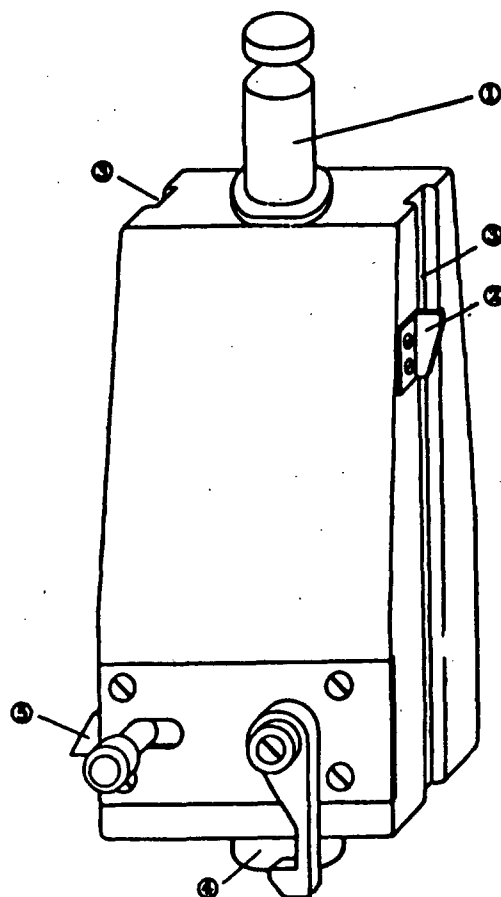
ΕΙΚΟΝΑ 8.



ΕΙΚΟΝΑ 9



ΕΙΚΟΝΑ 10.



ΕΙΚΟΝΑ 11

Εικόν Ι0: Ρίψις-σφύρας ΙΙ,κάτω τμήμα (σχήμα σελ. 2848)

διαστάσεις σε MM

- (1) βάσις, 450 X 450 X 60
- (2) χαλύβδινο συγκρότημα (BLOCK), 230 X 250 X 200
- (3) άκμωνας, 100 διαμέτρου X 70
- (4) στήλη
- (5) μέσος εγκάρσιος-δοκός
- (6) 2 οδηγοί
- (7) οδοντωτή ράβδος
- (8) βαθμονομημένη κλίμακα
- (9) σφύρα-ρίψεως (πίπτον βάρος)
- (10) μηχανισμός συγκρατήσεως και αφέσεως
- (11) πλάκα στερεώσεως
- (12) ενδιάμεσος άκμωνας (ανταλλάξιμος),
διαμέτρου 26 X 26
- (13) δακτύλιος στερεώσεως με οπές
- (14) μηχανισμός προσκρούσεως

Εικόν ΙΙ: Σφύρα (πίπτον βάρος) 5 KG (σχήμα σελ. 2848)

- (1) αξονίσκος αιωρήσεως
- (2) δείκτης ύψους
- (3) αύλαξ εμφράξεως
- (4) κυλινδρική κεφαλή προσκρούσεως
- (5) αρπάγη αναπηδήσεως

Εικόν Ι2: Μηχανισμός προσκρούσεως για ύλες υπό μορφήν κόνουςή πάστας (σχήμα σελ. 2851)

διαστάσεις σε MM

Εικόν 13: Μηχανισμός προσκρούσεως για ύλες υπό μορφήν υγρού (σχήμα σελ. 2851)

- (1) χαλύβδινοι κύλινδροι[†]
- (2) οδηγός δακτύλιος για χαλύβδινους κυλίνδρους[†]
- (3) δακτύλιος στερεώσεως με οπές
 - (α) κάθετος τομή
 - (β) κάτωφης
- (4) ελαστικός δακτύλιος
- (5) υγρή ύλη (40 MM^3)
- (6) χώρος ελεύθερος από υγρό

† Ο χάλυψ μπορεί να έχει τη παρακάτω σύνθεσιν:

CR $\leq 1.55\%$, C $\leq 1\%$, Si MAX 0.25%

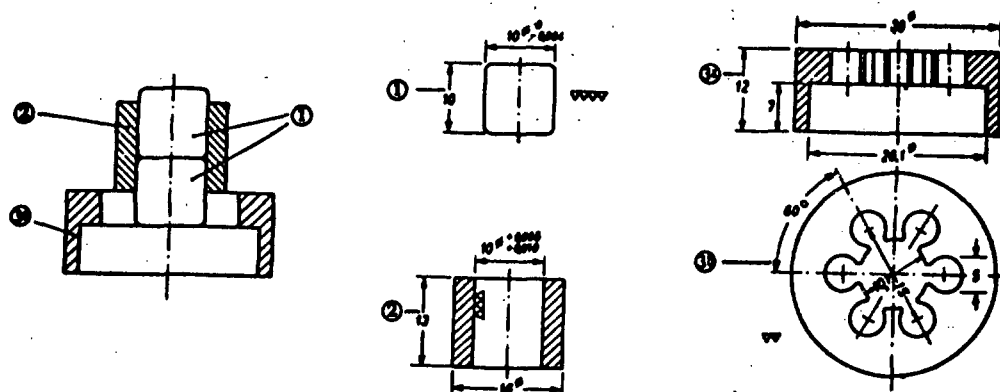
MN $\leq 0.35\%$, HRC 58 ... 65 (επεξεργασθείς εν θερμώ χάλυψ)

Έλεγχος (δοκιμή) με συσκευή τριβής

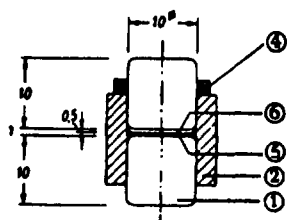
Περί περιθωρίου 3156(β)

Εικόν 14: Συσκευή τριβής: πρόσοφης και κάτωφης (σχήμα σελ. 2851)

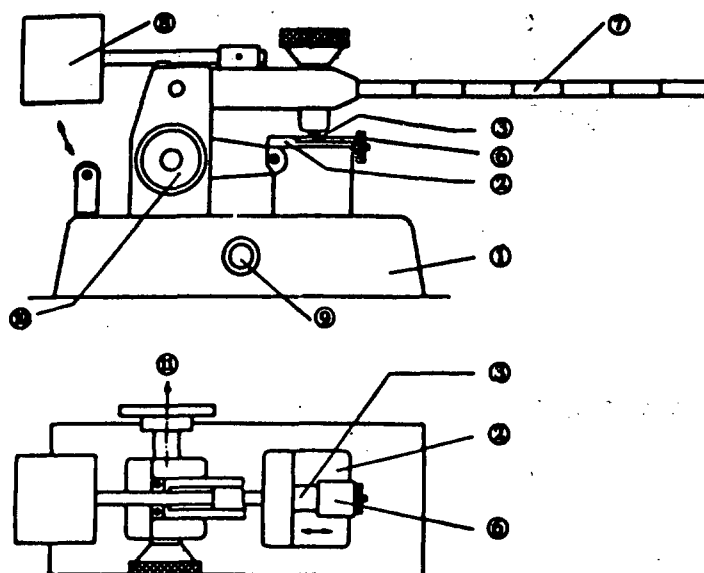
- (1) χαλύβδινη βάση
- (2) κινητό σύστημα (MOVABLE CARRIAGE)
- (3) πλάκα εκ πορσελάνης, $25 \times 25 \times 5 \text{ MM}$, επί του
κινητού συστήματος
- (4) σταθερό γομφίο εκ πορσελάνης, διαμέτρου $10 \times 15 \text{ MM}$
- (5) δείγμα υπό έλεγχον, περίπου 10 MM^3
- (6) συγκρατητής γομφίου
- (7) βραχίων φορτώσεως
- (8) αντίβαρον
- (9) διακόπτης
- (10) τροχός προς ρύθμισιν του κινητού συστήματος
σε θέση εκκινήσεως



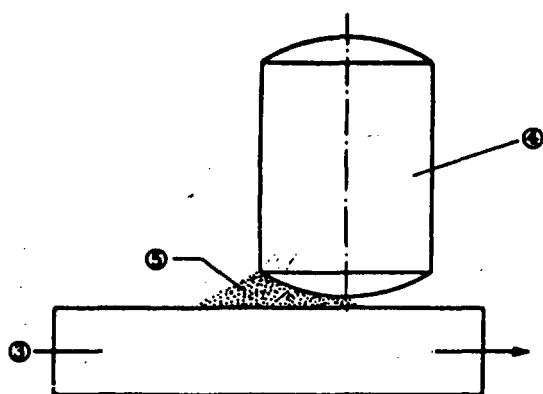
ΕΙΚΟΝΑ 12.



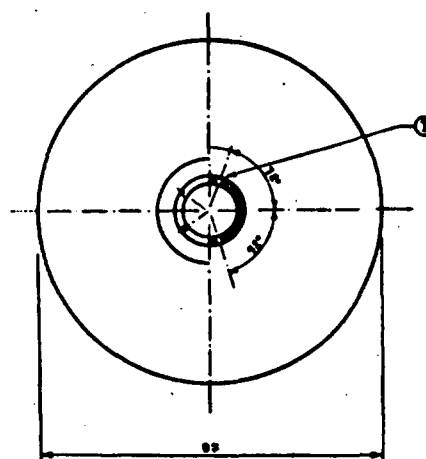
ΕΙΚΟΝΑ 13



ΕΙΚΟΝΑ 14.



ΕΙΚΟΝΑ 15.



ΕΙΚΟΝΑ 16

ΠΡΟΣΘΗΚΗ Α.2

Α.- Διατάξεις αφορώσαι την φύσιν των δοχείων
(RECEPTABLES) εκ κράματος αλουμινίου για
συγκεκριμένα αέρια της Κλάσεως 2

Ι.- Ποιότης του υλικού

(Ι) Τα υλικά των δοχείων εκ κράματος αλουμινίου 3200
 τα οποία πρόκειται να γίνουν δεκτά για τα αέρια τα νανα-
 φερδόμενα στο περιθώριο 2203 (2) (β) θα πληρούν τους παρα-
 κάτω όρους:

| | A | B | Γ | Δ |
|--|-----------|-----------|-----------|-----------|
| Αντοχή εις εφελκυσμόν, RM, σε KG/MM ² | 5 έως 19 | 20 έως 38 | 20 έως 38 | 35 έως 50 |
| Κρίσιμον σημείον ε- λαστικότητος, Re, σε KG/MM ² (μόνιμο σέτ | I έως 17 | 6 έως 32 | I4 έως 34 | 2I έως 42 |
| $\gamma = 0.2\%$ | | | | |
| Μόνιμος επιμήκυνσις σε ρήγμα (I=5D) επί τοις εκατόν | I2 έως 40 | I2 έως 30 | I2 έως 30 | II έως I6 |
| Δοκιμή κάμψεως N =5(RM \leq 10) N=6(RM \leq 33) N=6(RM \leq 33) N=7(RM \leq 40) (διάμετρος προ-N =6(RM $>$ 10) N=7(RM $>$ 33) N=7(RM $>$ 33) N=8(RM $>$ 40) | | | | |
| ηγουμένου: $D=N.E$, όπου E είναι το πάχος του υπό δοκιμήν τεμα- χίου) | | | | |
| Αριθμός Σειράς Σωματείου Αλουμινίου* | I000 | 5000 | 6000 | 2000 |

* Βλέπε "Πρότυπα και Στοιχεία Αλουμινίου", πέμπτη έκδοσις, Ιανουά-
 ριος 1976, δημοσιευθέν υπό του Σωματείου Αλουμινίου, 750 THIRD AVENUE
 Ν. Υόρκη.
 Ξα

Οι πραγματικές ιδιότητες θα εξαρτηθούν εκ της 3200
 συνθέσεως του *προυιμένου* κράματος και εκ της (Συνεχί-
 τελικής επεξεργασίας του δοχείου, αλλά οποιοδήποτε κρ- ζεται)
 μα χρησιμοποιηθεί το πάχος του δοχείου θα υπολογίζεται
 δια του παρακάτω τύπου:

$$\epsilon = \frac{P \cdot X \cdot D}{\frac{200 R_e}{I.30} \cdot P},$$

όπου ϵ = κατώτατο πάχος του τοιχώματος του δοχείου, σε MM.

P = πίεσις δοκιμής, σε KG/CM².

D = ονομαστική εξωτερική διάμετρος του δοχείου, σε MM. και

R_e = εγγυημένη κατωτάτη 0.26τα εκατό τάση δοκιμής,
 σε KG/MM².

Επιπροσθέτως, η τιμή της κατωτάτης εγγυημένης τά-
 σεως δοκιμής (R_e) του τύπου, *6ε καμία* περίπτωση θα εί-
 ναι μεγαλύτερα των 0.85 φορές της εγγυημένης κατωτάτης
 αντοχής εις εφελκυσμόν (R_m), οποιοσδήποτε και εάν είναι ο
 χρησιμοποιηθείς τύπος του κράματος.

Σημειώσεις:- (6χημία 6ε) 2856

I.- Τα ανωτέρω χαρακτηριστικά βασίζονται επί προη-
 γουμένης δια τα παρακάτω υλικά τα χρησιμοποιηθέντα για
 δοχεία:

Στήλη A: Αλουμίνιον, καθαρόν, 99.5^ο/ο καθαρόν.

Στήλη B: Κράματα αλουμινίου και μαγνησίου.

Στήλη Γ: Κράματα αλουμινίου, πυριτίου και μαγνη-
 σίου, ως ISO/R209-AI-Si-MG (Σωματελον
 Αλουμινίου 635I).

2.- Η μόνιμος επιμήκυνσις σε ρήγμα ($L = 5D$) 3200
 μετράται δια τεμαχίων-δοκιμής κυκλικής τομής εις τα (Συνεχίζεται
 οποία το μήκος του μετρητού L ισούται με πέντε φορές
 τη διάμετρο D · εάν τεμάχια ορθογωνίου τομής χρησιμο-
 ποιηθούν, το μήκος του μετρητού πρέπει να υπολογισθεί
 δια του τύπου $L = 5.65 / F_0$, όπου F_0 είναι η αρχική
 επιφάνεια (εμβαδόν) της διατομής του τεμαχίου δοκιμής.

3.- (α) Η δοκιμή κάμψεως (βλέπε διάγραμμα) θα διε-
 ξάγεται επί δειγμάτων λαμβανομένων δια κο-
 πής εις ^{δύο} ίσα μέρη πλάτους $3ε$, αλλά εν ου-
 δεμιά περιπτώσει ολιγώτερο των 25 MM,
 δακτυλιοειδούς τμήματος κυλίνδρου. Τα δείγ-
 ματα θα τορναρισθούν μόνον στα άκρα.

(β) Η δοκιμή κάμψεως θα διεξάγεται μεταξύ ερ-
 γαλείου κάμψεως (μαντρέλι) διαμέτρου (D)
 και δύο κυκλικών στηριγμάτων χωριζομένων δι-
 'αποστάσεως των ($D \neq 3ε$). Διαρκούσης της
 δοκιμής οι εσωτερικές όψεις θα χωρίζονται
 δι' αποστάσεως όχι μεγαλύτερας της διαμέτρου
 του εργαλείου κάμψεως (μαντρελίου).

(γ) Το δείγμα δεν θα παρουσιάζει ρωγμάς όταν
 καμφθεί προς τα μέσα περίξ του εργαλείου
 κάμψεως (μαντρελίου) μέχρις ότου οι εσωτε-
 ρικές όψεις χωρισθούν δι' αποστάσεως όχι
 μεγαλύτερας της διαμέτρου του εργαλείου
 κάμψεως (μαντρελίου).

(δ) Ο λόγος (N) μεταξύ της διαμέτρου του εργα-

λείου κάμψεως (μαντρελιού) και του πάχους 3200 του δείγματος θα συμφωνεί με τις τιμές που (Συνεχίζεται)
δίδονται στον πίνακα.

$D \neq 3e$ περίπου.

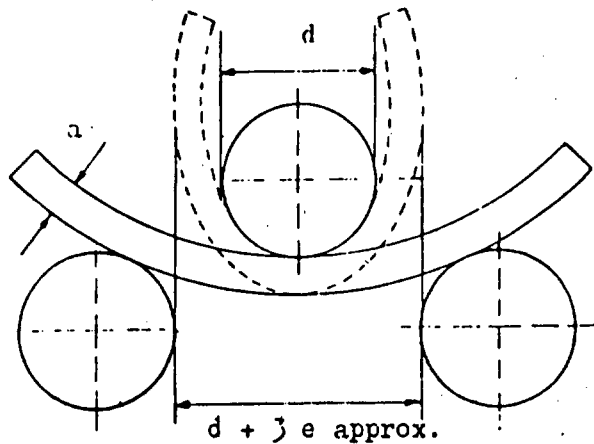


Diagram of bend test

Διάγραμμα δοκιμής κάμψεως

(2) Χαμηλότερα τιμή κατωτάτης επιμηκύνσεως είναι δεκτή υπό τον όρον ότι πρόσθετος δοκιμή εγκριθείσα υπό της αρμοδίας αρχής της χώρας εις την οποίαν κατασκευάζονται τα δοχεία αποδείξει ότι η ασφάλεια της μεταφοράς εξασφαλίζεται ~~σε όποια~~ έκτασι. εξασφαλίζεται δια δοχεία κατασκευασμένα συμφώνως προς τα χαρακτηριστικά τα διδόμενα εις την παράγραφον (I) του πίνακος.

(3) Το πάχος του τοιχώματος των δοχείων εις το λεπτότερον σημείον θα είναι το κάτωθι:-

οσάνης η διάμετρος του δοχείου είναι μικρότερα των 50 MM: όχι μικρότερο των 1.5 MM.

οσάνης η διάμετρος του δοχείου είναι από 50 έως 150 MM: όχι μικρότερο των 2 MM. και

οσάνης η διάμετρος του δοχείου είναι μεγαλύτερα των 150 MM: όχι μικρότερο των 3 MM.

(4) Τα άκρα των δοχείων θα έχουν ημικυκλικόν, ελλειπτικόν ή "λαβής καλάθου" τμήμα·θα παρέχουν τον αυτόν βαθμόν ασφαλείας ως το σώμα του δοχείου.

II.- Πρόσθετος επίσημος δοκιμή κραμάτων αλουμινίου

(I) Επιπροσθέτως των δοκιμών των απαιτούμενων υπό 320I των περιθωρίων 22I5, 22I6 και 22I7, είναι απαραίτητον να γίνει έλεγχος για πιθανή ενδοκρυσταλλική διάβρωση του εσωτερικού τοιχώματος του δοχείου *όπου* γίνεται χρήσις κράματος αλουμινίου περιέχοντος χαλκόν, ή *όπου* γίνεται χρήσις κράματος αλουμινίου περιέχοντος μαγνήσιον και μαγγάνιον και το εις μαγνήσιον περιεχόμενον είναι μεγαλύτερον του 3.5 *ετα* εκατό ή το εις μαγγάνιο περιεχόμενον είναι μικρότερον του 0.5 *ετα* εκατό .

(2) Προκειμένου περί κράματος αλουμινίου/χαλκού η δοκιμή θα διεξαχθεί υπό του κατασκευαστού κατά την έγκρισιν νέου κράματος υπό της αρμοδίας αρχής· εν συνεχεία θα επαναλειφθεί, κατά την πορείαν της παραγωγής για κάθε χύσιμον του κράματος.

(3) Προκειμένου περί κράματος αλουμινίου/μαγνησίου η δοκιμή θα διεξαχθεί υπό του κατασκευαστού κατά την έγκρισιν του νέου κράματος και της μεθόδου κατασκευής υπό της αρμοδίας αρχής. Η δοκιμή θα επαναλειφθεί όσάκις γίνεται αλλαγή εις την σύνθεσιν του κράματος ή εις την μέθοδον κατασκευής.

(4) (α) Προπαρασκευή κραμάτων αλουμινίου/χαλκού
Προτού το κράμα αλουμινίου/χαλκού υποβληθεί εις την δοκιμή της διαβρώσεως, τα δείγματα θα καθαρισθούν από το λίπος δια καταλλήλου διαλυτικού, και ξηρανθούν.

(β) Προπαρασκευή κραμάτων αλουμινίου/μαγνησίου
Προτού το κράμα αλουμινίου/μαγνησίου υποβληθεί εις την δοκιμήν της διαβρώσεως, τα δείγματα θα θερμανθούν επί επτά ημέρες σε 100° C· ακο-

λούθως θα καθαρισθούν από το λίπος δια καταλ-
λήλου διαλυτικού, και ξηρανθούν.

3201

(γ) Εκτέλεσις της δοκιμής

(Συνεχίζε-
ται)

Η εσωτερική πλευρά του δείγματος μετρήσεως
 $1,000 \text{ MM}^2$ ($33,3 \times 30 \text{ MM}$) του υλικού του περιέ-
χοντος χαλκόν θα επεξεργασθεί σε θερμοκρασία
του περιβάλλοντος, επί 24 ώρες, με $1,000 \text{ ML}$
υδατώδους διαλύματος περιέχοντος 3 ~~τοις~~ εκατό
 NaCl και 0.5 τοις εκατόν HCl .

(δ) Εξέτασις

Αφού πλυθεί και ξηρανθεί, τμήμα του δείγματος
μήκους 20 MM θα εξετασθεί μικρογραφικώς σε με-
γύνθυσιν 100 έως 500 X, κατά προτίμησιν μετά
την ηλεκτροστίλβωσιν.

Το βάθος της προσβολής δεν θα προχωρήσει πέραν
του δευτέρου στρώματος κόκκων εκ της επιφανείας
της υποκειμένης εις την δοκιμήν της διαβρώσεως·
κατ' αρχήν, εάν ολόκληρον το πρώτον στρώμα των
κόκκων προσβληθεί, μόνον μέρος της δευτέρας σει-
ράς πρέπει να προσβληθεί.

Προκειμένου περί τμημάτων, η εξέτασις θα εκτε-
λείται εις ορθάς γωνίας προς την επιφάνειαν.

Οσάκις μετά την ηλεκτροστίλβωσιν ευρεθεί απαράλ-
τητον/τα ^{δπως} όρια των κόκκων είναι ιδιαιτέρως ορατά
δια μεταγενεστέραν εξέτασιν, τούτο θα γίνει δια
μεθόδου αποδεκτής από την αρμοδίαν αρχήν.

III.- Προστασίας της εσωτερικής επιφανείας

Η εσωτερική επιφάνεια των δοχείων εκ κράματος αλου- 3202

μινίου θα είναι εφοδιασμένη με κατάλληλον αντιδιαβρωτικήν επένδυσιν εάν οι αρμόδιοι σταθμοί ελέγχου (δοκιμών) (Συνεχίζεται) το θεωρήσουν απαραίτητον.

3203-
3249

Β.- Όροι αφορώντες τα υλικά και την κατασκευήν των δοχείων των προοριζομένων δια την μεταφοράν των βαθεία-κατεψυγμένων υγροποιημένων αερίων της Κλάσεως 2

(Ι) Δοχεία, δεξαμεναί και περιβλήματα πρέπει να είναι κατασκευασμένα από χάλυβα, αλουμίνιον, κράμα αλουμινίου, χαλκόν, ή κράμα χαλκού, π.χ. ορείχαλκον. Εν τούτοις, δοχεία, δεξαμεναί και περιβλήματα κατασκευασμένα από χαλκό ή κράμα χαλκού θα γίνονται δεκτά μόνον δι' αέρια μη περιέχοντα ακετυλένιον· αιθυλένιον μπορεί εν τούτοις να περιέχει όχι άνω του 0.005 τοις εκατό ακετυλένιον.

(2) Μόνον υλικά κατάλληλα δια την χαμηλοτέραν θερμοκρασίαν λειτουργίας των δοχείων, δεξαμενών και περιβλημάτων, και των εξαρτημάτων και παρακολουθημάτων των, μπορούν να χρησιμοποιηθούν.

Τα παρακάτω υλικά θα γίνονται δεκτά δια την κατασκευήν δοχείων, δεξαμενών και περιβλημάτων:

(α) χάλυβες μη υποκείμενοι εις εύθρυπτον ρήγμα εις την χαμηλωτέραν θερμοκρασίαν λειτουργίας (βλέπε περιθώριο 3265).

Δύνανται να χρησιμοποιηθούν οι κάτωθι:-

Ι.- λεπτό-κοκκοι καθαροί χάλυβες, σε θερμοκρασία μέχρι -60°C .

2.- Νικελιούχοι χάλυβες (με περιεχόμενον εις νικέ- 3251
 λιον 0.5 έως 96~~τα~~ εκατό), μέχρι θερμοκρασίας (Συνεχίζε-
 -196° (, εξαρτωμένης εκ του εις νικέλιον περιεχο-
 μένου. ^{ται})

3.- Χρωμιονικελιούχοι μετά ωστενίτου χάλυβες, μέχρι
 θερμοκρασίας -270°C.

(β) αλουμίνιον όχι ολιγώτερο του 99.5~~τα~~ εκατό καθαρόν,
 ή κράματα αλουμινίου (βλέπε περιθώριον 3266)·

(γ) αποξειδωμένος χαλκός όχι ολιγώτερο του 99.9~~τα~~ εκατό
 καθαρός, ή κράματα χαλκού έχοντα περιεχόμενον εις χαλ-
 κόν άνω του 56~~τα~~ εκατό (βλέπε περιθώριον 3267).

(I) Δοχεία, δεξαμενάι και περιβλήματα θα είναι είτε 3252
 άνευ ραφών είτε συγκολλημένα.

(2) Δοχεία του περιθωρίου 2207 κατασκευασμένα από ωστε-
 νίτη χάλυβα, χαλκόν ή κράμα χαλκού μπορούν εναλλακτικώς να
 υποβληθούν εις σκληράν συγκόλλησιν.

Τα εξαρτήματα και παρακολουθήματα μπορούν είτε 3253
 να βιδώνωνται στα δοχεία, δεξαμενές και περιβλήματα είτε
 να προσκολλώνται σ' αυτά ως κάτωθι:-

(α) δοχεία, δεξαμενάι και περιβλήματα κατασκευασμένα από
 χάλυβα, αλουμίνιο ή κράμα αλουμινίου: δια συγκολλήσεως·

(β) δοχεία, δεξαμενάι και περιβλήματα κατασκευασμένα από
 ωστενίτη χάλυβα, χαλκό ή κράμα χαλκού: δια συγκολλή-
 σεως ή σκληράς-συγκολλήσεως.

Η κατασκευή των δοχείων, δεξαμενών και περιβλημά- 3254
 των και ο τρόπος της προσκολλήσεώς των εις το όχημα, κάτω
 από το σασσί ή εις το φέρον υποδοχέα (CONTAINER) σασσί·

θα είναι κατά τρόπον ώστε να αποκλείεται μετά βεβαιότη- 3254
 -σιαδήποτε τοιαύτη μείωσις της θερμοκρασίας των φερδόντων (Συνεχίζε-
 -ται)
 το φορτίον εξαρτημάτων που θα τα καθίστα ενδεχομένως εύ-
 θρυπτα (εύθραυστα). Τα στερεώματα (δεσίματα) των δοχείων,
 δεξαμενών και περιβλημάτων θα έχουν έτσι υπολογισθεί ώστε
 ακόμη και όταν το δοχείον, η δεξαμενή ή το περίβλημα είναι
 στη χαμηλωτέρα θερμοκρασία της λειτουργίας του να εξακολου-
 θούν να κατέχουν τις απαραίτητες μηχανικές ιδιότητες.

3255-

3264

Ι.- Υλικά, δοχεία, δεξαμενές και περιβλήματα

(α) Χαλύβδινα δοχεία, δεξαμενές και περιβλήματα

Τα υλικά τα χρησιμοποιούμενα δια την κατασκευήν 3265
 δοχείων, δεξαμενών και περιβλημάτων, και αι συγκολλητι-
 καί των πλαισιώσεις, πρέπει εις την χαμηλωτέραν θερμοκρα-
 σίαν λειτουργίας των να πληρούν τουλάχιστον τους κατωτέρω
 όρους, ως προς την αντοχήν εις κρούσιν.

Οι δοκιμές μπορούν να διεξαχθούν με τεμάχια-δοκιμών
 έχοντα εγκοπήν σχήματος U ή σχήματος V.

Υλικά

Αντοχή εις κρούσιν I/2/ ελάσματος
 και συγκολλητικών πλαισιώσεων
 (WELD BEADS) στη χαμηλωτέρα θερμο-
 κρασία λειτουργίας

KGM/CM² 3/KGM/CM² 4/

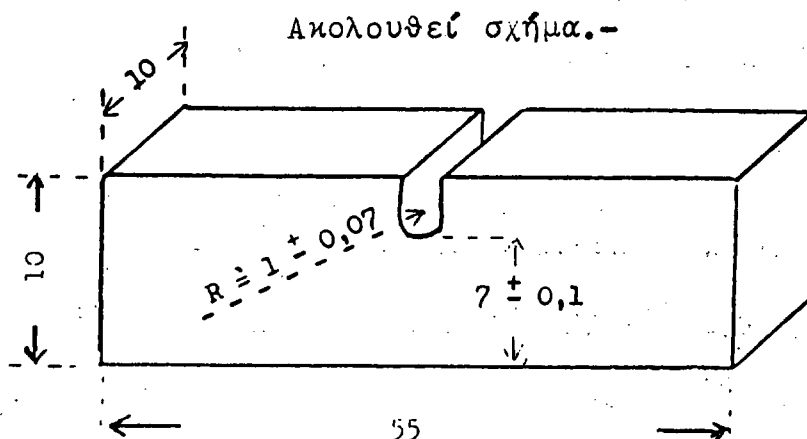
| | | |
|-------------------------------------|-----|-----|
| Καθαρός νεκορεσμένος χάλυψ | 3.5 | 2.8 |
| Χάλυψ κράματος Φερρίτη Νι/ 5°/ο | 3.5 | 2.2 |
| Αάλυψ κράματος Φερρίτη 5°/ο/Νι/9°/ο | 4.5 | 3.5 |
| Ωστενίτης CR-Νι Χάλυψ | 4.0 | 3.2 |

1/ Αντοχάς εις κρούσιν καθορισθείσαι με διαφορετικὰ 3265 τεμάχια-δοκιμών δεν είναι αμοιβαίως παραβληταί.

2/ Βλέπε περιθώρια 3275 έως 3277.

3/ Οι τιμές αφορούν τεμάχια δοκιμών με εγχοπήν σχήματος U ως εικονίζεται κατωτέρω.

4/ Οι τιμές αφορούν τεμάχια δοκιμών με εγχοπήν σχήματος V σύμφωνα προς ISO R 148.



Προκειμένου περί ωστενίτου χάλυβος, μόνον η συγκολλητική πλαισίωσις χρειάζεται να υποβληθεί σε δοκιμήν αντοχής εις κρούσιν.

Δια θερμοκρασίας λειτουργίας κάτω των -196°C , η δοκιμή αντοχής εις κρούσιν δεν εκτελείται στη χαμηλωτέρα θερμοκρασία λειτουργίας, αλλά στους -196°C .

(β) Δοχεία, δεξαμενές και περιβλήματα κατασκευασμένα από αλουμίνιον ή κράμα αλουμινίου

Οι ραφές των δοχείων, δεξαμενών και περιβλημάτων 3266 σε θερμοκρασία του περιβάλλοντος πρέπει να πληρούν τους παρακάτω δρους ως προς τον συντελεστήν κάμψεως:

| Πάχος φύλλου ε σε MM | Συντελεστής κάμψεως K_I / δια την ραφήν Ρίζα εις ζώνην συμπίεσεως \| Ρίζα εις ζώνην τάσεως |
|----------------------------|---|
| ≤ 12 | ≥ 15 ≥ 12 |
| > 12 έως 20 | ≥ 12 ≥ 10 |
| > 20 | ≥ 9 ≥ 8 |

I, Βλέπε περιθώριο 3285

(γ) Δοχεία, δεξαμενές και περιβλήματα κατασκευασμένα από χαλκό ή κράμα χαλκού

Δεν είναι απαραίτητον να διεξαχθούν δοκιμαί προς καθορισμόν εάν η αντοχή εις κρούσιν είναι κατάλληλος.

3268-

3274

2.- Δοκιμαί (Έλεγχοι)

(α) Δοκιμαί αντοχής εις κρούσιν

Η αντοχή εις κρούσιν η εικονιζομένη στο περιθώριο 3275 3265 αφορά τεμάχια-δοκιμών μετρήσεως 10 X 10 MM και έχοντα εγχοπήν σχήματος U ή σχήματος V.

Σημειώσεις:- I.- Αναφορικώς με το σχήμα του τεμαχίου δοκιμής, βλέπε περιθώριο 3265 (πίνα ξ), υποσημειώσεις 3/ και 4/.

2.- Για ελάσματα μικρότερα των 10 MM αλλά πάχους όχι μικροτέρου των 5MM, τεμάχια δοκιμών έχοντα διατομήν 10 X ε MM, όπου "ε" αντιπροσωπεύει το πάχος του ελάσματος, θα χρησιμοποιούνται. Τέτοιες δοκιμές αντοχής εις κρούσιν γενικώς αποδίδουν υψηλότερες τιμές εκείνων των τριούτων δοκιμών επί βασικών (στάνταρντ) τεμαχίων δοκιμών.

3.- Ουδεμία δοκιμή αντοχής εις κρούσιν θα διεξάγεται επί πλασμάτων πάχους μικροτέρου των 5 MM, ή επί των ραφών των.

(I) Για την δοκιμή ελάσματος η αντοχή εις κρούσιν θα προσδιορίζεται επί τριών τεμαχίων-δοκιμών. Τα τεμάχια δοκιμών θα αφαιρούνται εις ορθές γωνίες προς την διεύθυνσιν ελάσεως (κυλίσσεως) προκειμένου περί τεμαχίων-δοκιμών

με εγκοπήν σχήματος U και εις την διεύθυνσιν ελάσεως (κυλίσσεως) προκειμένου περί τεμαχίων δοκιμών με εγκοπήν σχήματος "V".

3276

(Συνεχίζεται)

(2) Για την δοκιμήν ραφών τα τεμάχια-δοκιμών θα λαμβάνονται ως κάτωθι:

ε / IO

Τρία τεμάχια-δοκιμών εκ του κέντρου της συγκολλήσεως·

τρία τεμάχια-δοκιμών εκ της ζώνης παραμορφώσεως της δημιουργηθείσης υπό της συγκολλήσεως (η εγκοπή θα ευρίσκεται τελείως έξω της τηχθείσης περιοχής αλλά όσο το δυνατόν πλησιέστερον αυτής.)

Σχήματα: (σελ. 2865) Κέντρον συγκολλήσεως Ζώνη παραμορφώσεως

π.έ. εξ τεμάχια-δοκιμών συνολικώς.

Τα τεμάχια δοκιμών θα υποστούν μηχανικήν επεξεργασίαν (τορνευθούν) ώστε να έχουν το ανώτατο δυνατόν πάχος.

IO / ε / 20

Τρία τεμάχια-δοκιμών εκ του κέντρου συγκολλήσεως·

τρία τεμάχια-δοκιμών εκ της ζώνης παραμορφώσεως·

Σχήμα

κέντρον συγκολλήσεως

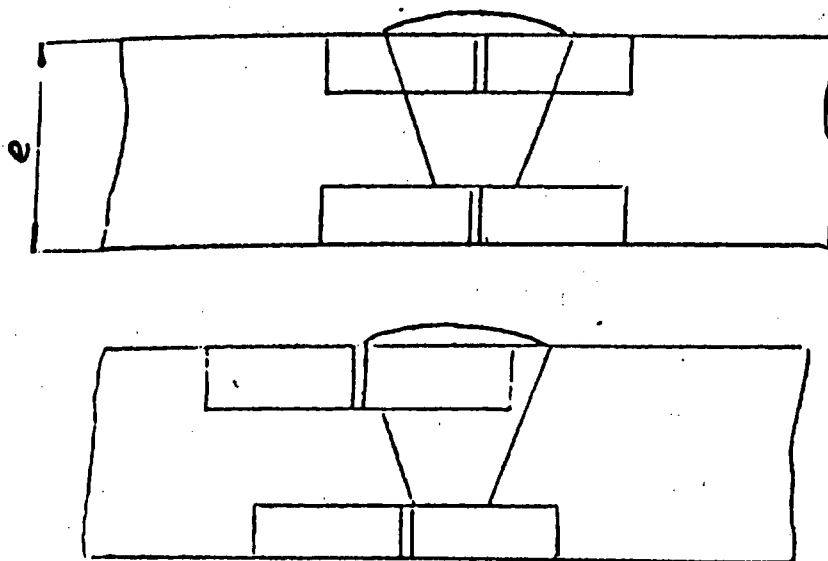
Σχήμα

Ζώνη παραμορφώσεως

π.έ. εξ τεμάχια-δοκιμών συνολικώς.

ε 20

Δύο σειρές (σετ) των τριών τεμαχίων δοκιμών (μια σειρά στην



ἄνω ὀφιν, μία σειρά στην κάτω ὀφιν) σε κάθε ένα των παρακάτω οριζομένων σημείων:

3276
(Συνεχίζεται)

Σχήμα (σελίδας 2866)

Κέντρον Συγκολλήσεως

Σχήμα (σελίδας 2866)

Ζώνη Παραμορφώσεως

τ.έ. δώδεκα τεμάχια δοκιμών συνολικώς.

(I) Για έλασμα ο μέσος ὀρος των τριών δοκιμών θα πληροί τις κατώτατες τιμές τις διδόμενες στο περιθώριο 3265* καμμία των τιμών δεν μπορεί να είναι μεγαλύτερα του 30 ετα εκατό κάτω της κατωτάτης ορισθείσης τιμής.

(2) Για συγκολλήσεις οι μέσες τιμές τριών τεμαχίων δοκιμών ληφθέντων εκ διαφορετικών σημείων, κέντρου συγκολλήσεως και ζώνης παραμορφώσεως, θα αντιστοιχούν προς τις κατώτατες εικονιζόμενες τιμές. Καμμία των τιμών δεν μπορεί να είναι μεγαλύτερη του 30 ετα εκατό κάτω της κατωτάτης ορισθείσης τιμής.

3278-
3284

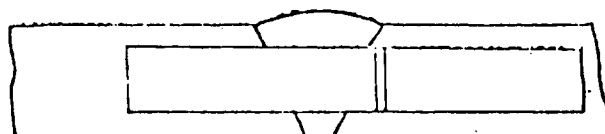
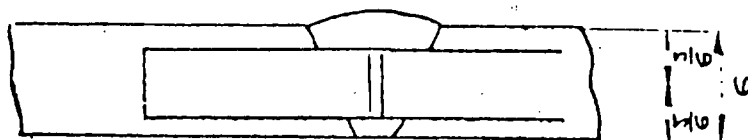
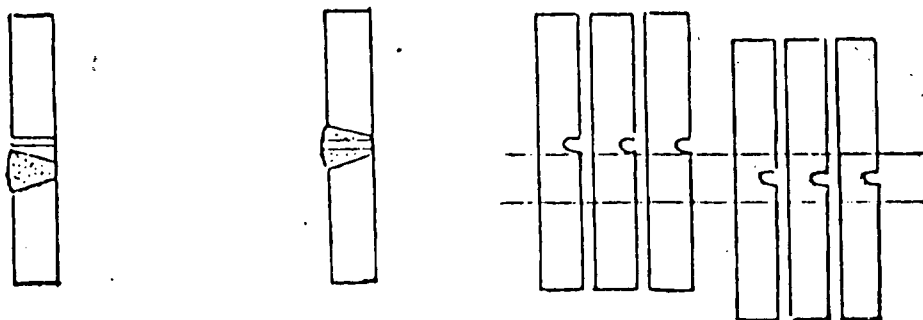
(β) Προσδιορισμός συντελεστού κάμψης

(I) Ο συντελεστής κάμψης K αναφερόμενος στο περιθώριο 3266 προσδιορίζεται ως κάτωθι:-

$$K = 50 \frac{\varepsilon}{R},$$

όπου ε = πάχος του ελάσματος σε MM. και

R = μέση ακτίνα καμπυλότητας σε MM του τεμαχίου δοκιμής όταν η πρώτη ρωγμή εμφανισθεί στη ζώνη τάσεως.



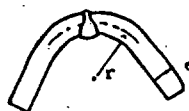
(2) Ο συντελεστής κάμψεως K θα προσδιορίζεται για 3285 τη ραφή. Το πλάτος του τεμαχίου δοκιμής θα είναι ίσο (Συνεχίζεται) με 3 ε.

(3) Τέσσερες δοκιμές θα εκτελούνται επάνω στη ραφή, δύο με τη ρίζα στη ζώνη συμπίεσεως (Εικών Ι) και δύο με τη ρίζα στη ζώνη τάσεως (Εικών 2). Όλοι οι λαμβανόμενοι τιμαί θα πληρούν τους όρους των κατωτέρων τιμών του περιθωρίου 3266.

Εικών Ι



Εικών 2



3286-
3290

Γ.- Διατάξεις αφορώσαι δοκιμές σε διανεμητές
αεροζόλ και μιάς χρήσεως (μη-δυναμένους να
γεμισθούν εκ νέου) υποδοχείς (CONTAINERS)
δι' αέρια υπό πίεσιν της Κλάσεως 2, 10^ο
και 11^ο

Ι.- Δοκιμαί πίεσεως και εκρήξεως επί μοντέλου
δοχείου

Δοκιμαί υδραυλικής πίεσεως θα διεξάγονται σε του- 3291
λάχιστον πέντε άδεια δοχεία εκάστου μοντέλου:

- (α) μέχρις επιτεύξεως της προβλεπομένης πίεσεως δοκιμής, όταν ουδεμία διαρροή ή ορατή μόνιμος παραμόρφωσις θα έχει λάβει χώρα· και
- (β) μέχρις ότου διαρροή ή έκρηξις λάβει χώρα· το, τυχόν, κοίλον άκρον, πρέπει να υποχωρήσει πρώτον, και το δοχείον δεν πρέπει να παρουσιάσει διαρροήν ή έκρηξιν μέχρις ότου επιτευχθεί πίεσις 1.2 φορές της πίεσεως δοκιμής.

2. Δοκιμασία στεγανότητας (διαρροής) σε όλα τα δοχεία

(I). Για τη δοκιμή σε διανεμητές αεροζόλ (IO^0) και 3292 μιάς χρήσεως (μη-δυναμένους να γεμισθούν εκ νέου) υποδοχείς (CONTAINERS) δι' αέριον υπό πίεσιν (II^0) σε λουτρό καυτού-ύδατος, η θερμοκρασία του λουτρού και η διάρκεια της δοκιμής θα είναι τέτοια ώστε η εσωτερική πίεσις εκάστου δοχείου να φθάσει τουλάχιστον το 90 έτα εκατό της εσωτερικής πίεσεως που θά έφθανε σε 55^0C .

Εν τούτοις, εάν το περιεχόμενον είναι ευαίσθητον στη θερμότητα ή εάν τα δοχεία είναι κατασκευασμένα από πλαστικό υλικό το οποίο μαλακώνει στη θερμοκρασία αυτής της δοκιμής, η θερμοκρασία του λουτρού θα είναι από 20^0 έως 30^0C · επιπροσθέτως, ένας διανεμητής από κάθε παρτίδα 2.000 θα δοκιμάζεται στη θερμοκρασία τη προβλεπομένη από τη προηγούμενη παράγραφο.

(2) Ουδεμία διαρροή ή μόνιμος παραμόρφωσις των δοχείων θα προκύψει. Η διάταξις η αφορώσα τη μόνιμο παραμόρφωση δεν ισχύει για δοχεία τα οποία, κατασκευασμένα από πλαστική ύλη, μαλακώνουν.

3293-

ΠΡΟΣΘΗΚΗ Α.3

3299

Δοκιμασία αφορώσαι άφλεκτα υγρά των Κλάσεων 3 και 6.I

(I) Το σημείον αναφλέξεως προσδιορίζεται μέσω ενός 3300 των κατωτέρω τύπων συσκευών:

(α) δια χρήσιν σε θερμοκρασίες μη υπερβαίνουσες τους 50^0C :

ABEL, ABEL-PENSKY, LUCHAIRE-FINANCES, TAG·

(β) δια χρήσιν σε θερμοκρασίες άνω των 50^0C : PENSKY-MARTENS,

LUCHAIRE-FINANCES.

3300

(γ) ελλείπει αυτών, οποιαδήποτε κλειστή με καπάκι συ- (Συνεχίζεται)
σκευή ικανή να δώσει αποτελέσματα εντός 2^ο τα οποία
συσκευή που αναφέρεται ανωτέρω θα έδιδε στον αυτόν τρόπον.

(2) Προς καθορισμόν του σημείου αναφλέξεως των
βαφών (χρωμάτων), κόμμι (γομμωδών ουσιών) και παρομοίων
ιξωδών προϊόντων περιεχόντων διαλυτικά, μόνον συσκευές
και μέθοδοι ελέγχου κατάλληλοι για τον καθορισμόν του ση-
μείου αναφλέξεως των ιξωδών υγρών μπορούν να χρησιμοποιη-
θούν, όπως

μέθοδος Α του ΙΡ προτύπου Ι70/59 ή περισσότερον
προσφάτων ΙΡ προτύπων, Γερμανικών προτύπων DIN
53 213 και TGL 14 301, φυλλάδιον 2.

Η διαδικασία της δοκιμής (ελέγχου) θα είναι: 3301

- (α) για τη συσκευή ABEL, εκείνη του ΙΡ (Ινστιτούτου Πετρε-
λαίου, οδός NEW CAVENDISH, αρ. 61, Λονδίνον, W.I.)
προτύπου 34/47, το πρότυπο αυτό μπορεί να χρησιμοποιη-
θεί επίσης για τη συσκευή ABEL-PENSKY.
- (β) για τη συσκευή PENSKY-MARTENS, εκείνη του ΙΡ (Ινστι-
τούτου Πετρελαίου, οδός NEW CAVENDISH, αρ. 61, Λονδί-
νον, W.I.) προτύπου 34/47, ή εκείνην του ASTM (Αμερικα-
νικού Σωματείου Δοκιμών και Υλικών, 1916 RACE STREET,
Φιλαδέλφειας 3, (PA.) προτύπου D.93/46.
- (γ) για τη συσκευή TAG, εκείνην του ASTM (Αμερικανικού Σω-
ματείου Δοκιμών και Υλικών, 1916 RACE STREET, Φιλαδελ-
φείας 3, (PA.)) προτύπου D.53/46.
- (δ) για τη συσκευή LUCHAIRE, εκείνη των Οδηγιών συνημμένων

στην υπουργικήν απόφασιν (ARRETE MINISTERIEL) (Γαλλίας) της 26ης Οκτωβρίου 1925 την εκδοθείσαν υπό του Υπουργείου Εμπορίου και Βιομηχανίας και δημοσιευθείσαν εις την Εφημερίδα της Κυβερνήσεως (JOURNAL OFFICIEL) της 29ης Οκτωβρίου 1925.

Εάν οποιαδήποτε άλλη συσκευή χρησιμοποιειθεί, πρέπει να ληφθούν αι παρακάτω προφυλάξεις:-

- I.- η δοκιμή πρέπει να εκτελεσθεί σε τόπο απαλλαγμένο από ρεύματα. 3301 (Συνεχίζεται)
- 2.- ο ρυθμός αυξήσεως της θερμοκρασίας του υπό δοκιμήν υγρού δεν πρέπει να υπερβαίνει τους 5°C ανά λεπτόν.
- 3.- η ενδεικτική-φλόγα πρέπει να έχει μήκος 5 MM (\pm 0.5 MM).
- 4.- η ενδεικτική-φλόγα πρέπει να εφαρμοσθεί στο άνοιγμα του δοχείου μετά από κάθε αύξηση 1°C της θερμοκρασίας του υγρού.

Σε περίπτωση διαφωνίας ως προς την ταξινόμηση του αφλέκτου υγρού, ο αριθμός είδους (ITEM NUMBER) ο προτεινόμενος υπό του αποστολέως θα γίνεται δεκτός εάν δοκιμη-ελέγχου του σημείου αναφλέξεως, διεξαχθείσα στο *πρωϊμένο* υγρό, αποδώσει αποτέλεσμα μη διαφορετικό κατά περισσότερο των 2° εκ των ορίων (21°, 55° και 100°C αντιστοίχως) των αναφερομένων στο περιθώριο 2301. Εάν δοκιμη-ελέγχου αποδώσει αποτέλεσμα διαφορετικό από άνω των 2°C εκ των ορίων αυτών, δεύτερη δοκιμή-ελέγχου πρέπει να διεξαχθεί, και να υιοθετηθεί ο ληφθείς ανώτατος αριθμός. 3302

Το εις υπεροξείδιον περιεχόμενον ενός υγρού θα προσδιορίζεται ως κάτωθι:- 3303

Ποσότης Ρ (περίπου 5 γραμ., ζυγισθείσα στο 3303
πλησιέστερο CG) του υγρού του οποίου πρόκειται να καθο- (Συνεχί-
ρισθεί η πυκνότης τοποθετείται σε φιάλην ERLLENMEYER· ζεται)
προστίθενται 20 CM³ ανυδρίτου του οξικού οξέος και πε-
ρίπου Ι γραμ. κονιοποιημένου στερεού ιωδιούχου καλίου·
κουνάμε τη φιάλη και, μετά από δέκα λεπτά, τη θερμαίνο-
με για 3 λεπτά σε περίπου 60°C· ακολούθως την αφήνομε να
ψυχθεί επί 5 λεπτά, μετά τα οποία προσθέτομε 25 CM³ νερό.
Αφού την αφήσωμε ακίνητη για μισή ώρα, η πυκνότης του
ελευθερωθέντος ιωδίου καθορίζεται με δεκατοκανονικόν
διάλυμα θειοθειϊκού νατρίου. Πλήρης αποχρωματισμός καθο-
ρίζει το τέλος της αντιδράσεως. Εάν N είναι ο αριθμός των
CM³ του απαιτουμένου θειοθειϊκού διαλύματος, το ποσοστόν
του υπάρχοντος υπεροξειδίου (υπολογιζόμενον ως H₂O₂)
εις το δείγμα λαμβάνεται δια του τύπου $\frac{17 N}{100 P}$.

100 P

3304-

3399

ΠΡΟΣΘΗΚΗ Α.4

Υπό επιφύλαξιν

3400-

3499

ΠΡΟΣΘΗΚΗ Α.5

Διατάξεις αφορώσαι εις δοκιμάς επί μεταλλικών βαρελίων
αναφερομένων στα περιθώρια 2303(6) και 2813(I) (γ)

I.- Δοκιμή υδραυλικής πίεσεως

Η δοκιμή αυτή θα εκτελείται υπό εγκεκριμένης υπηρεσίας. 3500

Αριθμός δειγμάτων

Τρία βαρέλια ανά τύπον σχεδίου και ανά κατασκευαστήν.

Διαδικασία (μέθοδος) δοκιμής και πίεσις δοκιμής

Τα βαρέλια θα υποβληθούν σε πίεση υδραυλικού θλιβομέτρου
 όχι κάτω των 0.75 KG/CM^2 επί πέντε λεπτά, κατά τη διάρ-
 κεια του οποίου χρόνου η πίεσις πρέπει να παραμένει στα-
 θερά. Τα βαρέλια δεν θα υποστηρίζονται μηχανικώς διαρκού-
 σης της δοκιμής.

Κριτήρια καθοριστικά της επιτυχούς διεξαγωγής της δοκιμής

Τα βαρέλια πρέπει να παραμείνουν στεγανά.

II.- Δοκιμή ρίψεως

Η δοκιμή αυτή θα εκτελείται υπό εγκεκριμένης υπηρεσίας. 3501

Αριθμός δειγμάτων

Έξι βαρέλια ανά τύπον σχεδίου και ανά κατασκευαστήν.

Προετοιμασία συσκευασιών (κόλων) για δοκιμή

Τα βαρέλια θα πληρούνται μέχρι του 98 στα εκατό της
 χωρητικότητός των.

Στόχος

Ο στόχος θα είναι άκαμπος, ομαλή, επίπεδος και οριζόν-

τιος επιφάνεια.

Ύψος ρίψεως

3501

Εάν η δοκιμή διεξάγεται με *νερό*

(Συνεχίζεται)

(α) οσάνκις τα προς μεταφοράν υγρά έχουν ειδικόν βάρος μη υπερβαίνον το $I.2 : I.20 M^{\circ}$

(β) οσάνκις τα προς μεταφοράν υγρά έχουν ειδικόν βάρος υπερβαίνον το $I.2$: ύψος εκφραζόμενον σε μέτρα δι' αριθμού ίσου προς τον αριθμόν τον εκφράζοντα το ειδικόν βάρος του προς μεταφοράν υγρού στρογγυλενομένου μέχρι ενός δεκαδικού ψηφίου.

Εάν η δοκιμή διεξάγεται με το υπό μεταφοράν υγρόν ή με υγρόν του οποίου το ειδικόν βάρος είναι τουλάχιστον ίσον προς το του υπό μεταφοράν υγρού : $I.20 M$.

Σημείον κρούσεως

Η δοκιμή θα περιλαμβάνει ρίψεις δύο ειδών:-

Πρώτη ρίψις (χρησιμοποιούντες τρία βαρέλια):

Το βαρέλι θα κτυπά τον στόχον διαγωνίως επί της ούγκιας, η εάν δεν έχει ούγκια, επί περιφερειακής ραφής.

Όταν ριφθεί, το βαρέλι θα αιωρείται κατὰ τέτοιο τρόπον ώστε το κέντρον της βαρύτητός του να είναι καθέτως υπεράνω του σημείου κρούσεως.

Δεύτερη ρίψις (χρησιμοποιούντες τα άλλα τρία βαρέλια):

Το βαρέλι θα κτυπά τον στόχον οριζοντίως επί της συγκολλημένης επιμήκους ραφής του κορμού του βαρελιού.

Κριτήρια καθοριστικά της επιτυχούς διεξαγωγής της δοκιμής

Μετά την ρίψιν, όλα τα βαρέλια πρέπει να είναι στεγανά όταν αποκατασταθεί η ισορροπία μεταξύ της εξωτερικής πιέ-

σεως και της εσωτερικής πίεσεως. Εάν ένα βαρέλι δεν 3501
είναι στεγανό, θα δοκιμασθούν άλλα δώδεκα βαρέλια. (Συνεχί-
ζεται)
Κανένα από αυτά τα βαρέλια δεν πρέπει να παρουσιάζει
οποιαδήποτε διαρροή μετά τις δοκιμές. Εάν περισσότερα
του ενός της πρώτης παρτίδος των έξι βαρελιών δεν είναι
στεγανά, το περί ου πρόκειται βαρέλι θα απορριφθεί.

III.- Δοκιμή διαρροής

Κάθε βαρέλι θα δοκιμάζεται (ελέγχεται): 3502

(α) προτού χρησιμοποιηθεί στη μεταφορά για τη πρώτη
φορά και

(β) μετά την ανακαίνισιν, προτού χρησιμοποιηθεί και
πάλιν στη μεταφορά.

Διαδικασία (μέθοδος) Δοκιμής (ελέγχου)

Το βαρέλι θα βυθισθεί στο νερό· ο τρόπος διατηρήσεως του
βαρελιού κάτω από το νερό θα είναι τέτοιος ώστε να μη
διαφευσθεί το αποτέλεσμα της δοκιμής. Εναλλακτικώς το βα-
ρέλι μπορεί να καλυφθεί με διάλυμα σάπωνος, βαρέος ελαίου
ή ετέρου καταλλήλου υγρού επί των ραφών και επί οιασδήποτε
άλλου μέρους όπου θα μπορούσε να προκύψει διαρροή.
Μπορούν επίσης να χρησιμοποιηθούν άλλαι μέθοδοι τόσον τουλάχιστον
αποτελεσματικά, όπως η διαφορική δοκιμή πίεσεως αέρος
("AIR-POCKET TESTER") ("δοκιμαστής κενού αέρος").

Εφαρμοσθησομένη ατμοσφαιρική πίεσις

Η πίεσις δεν θα είναι μικρότερη των 0.2 KG/CM^2 .

Κριτήρια καθοριστικά της επιτυχούς διεξαγωγής της δοκιμής

Δεν πρέπει να υπάρχει διαρροή αέρος.

IV.- Μαρκάρισμα

Βαρέλια δοκιμασθέντων τύπων κατασκευής θα μαρκάρονται 3503

II ανέβη με τυπωμένη την ένδειξιν του Κράτους[†] εις 3503
το οποίον διεξήχθη η δοκιμή, την ένδειξιν "ADR" ή (Συνεχίζε-
"RID" και τον αριθμόν μητρώου των εκχωρηθέντα υπό
της Υπηρεσίας που διεξήγαγε τις δοκιμές. ται)

V.- Εκθέσις δοκιμής

Εκθέσις δοκιμής πρέπει να συνταχθεί, η οποία θα περι-
λαμβάνει:- 3504

- I.- στοιχεία αναγνώρισεως του κατασκευαστού του βαρελιού·
- 2.- περιγραφήν (π.χ. χρησιμοποιηθέν υλικόν, πάχος τοι-
χωμάτων και άκρων, ενώσεων, ραφών) και σχέδιον·
- 3.- το αποτέλεσμα των δοκιμών·
- 4.- το σήμα του βαρελιού.

Αντίγραφον της εκθέσεως της δοκιμής θα σταλεί εις Υπη-
ρεσίαν ορισθείσάν υπό της αρμοδίας αρχής του Κράτους
εις το οποίον διεξήχθη η δοκιμή.

3505-
3599

αι αναφερόμεναι ενδείξεις είναι αι εθνικαί διακριτικαί εν-
δείξεις αυτοκινήτων διεθνούς κυκλοφορίας.

ΠΡΟΣΘΗΚΗ Α.6

ΔΙΑΤΑΞΕΙΣ ΔΙΕΠΟΥΣΑΙ ΤΙΣ ΡΑΔΙΟΕΝΕΡΓΕΙΣ ΥΛΕΣ ΤΗΣ ΚΛΑΣΕΩΣ 7
ΚΕΦΑΛΑΙΟΝ Ι - ΟΡΟΙ ΣΥΣΚΕΥΑΣΙΑΣ ΚΑΙ ΣΧΕΔΙΟΝ ΚΟΛΟΥ

Α.- ΓΕΝΙΚΟΙ ΟΡΟΙ ΣΧΕΔΙΟΥ ΣΥΣΚΕΥΑΣΙΑΣ ΚΑΙ ΚΟΛΩΝ

(1) Η συσκευασία θα είναι έτσι σχεδιασμένη ώστε 3600 το κόλον να μπορεί να χειρίζεται ευχερώς και να μπορεί να ασφαρίζεται (στερεώνεται) κανονικά διαρκούσης της μεταφοράς.

(2) Κόλον μικτού βάρους 10 KG και άνω και μέχρι 50 KG θα είναι εφωδιασμένον με χειρολαβήν.

(3) Κόλον μικτού βάρους άνω των 50 KG θα είναι έτσι σχεδιασμένον ώστε να μπορεί ο ασφαλής χειρισμός του να γίνεται δια μηχανικού μέσου.

(4) Το σχέδιο θα είναι τέτοιο ώστε οποιαδήποτε εξαρτήματα (συγκρατητήρες) ανυψώσεως επί του κόλου, όταν χρησιμοποιηθούν κατά τον προτιθέμενον τρόπον, να μην επιβάλουν ανασφαλείς τάσεις επί της δομής του κόλου· η εκτίμησις θα λαμβάνει υπόφει τους ενδεδειγμένους συντελεστές ασφαλείας προς κάλυψιν της "ανά τεμάχιον" ανυψώσεως.

(5) Εξαρτήματα (συγκρατητήρες) και οποιαδήποτε άλλα χαρακτηριστικά επί της εξωτερικής επιφανείας της συσκευασίας που θα μπορούσαν να χρησιμοποιηθούν δια την ανύψωσιν των κόλων θα δύνανται να αφαιρεθούν ή άλλως ακινητοποιηθούν δια μεταφοράν ή θα σχεδιάζονται δια να(υπο)στηρίζουν το βάρος του κόλου συμφώνως προς τους όρους της ανωτέρω παραγράφου (4).

(6) Το εξωτερικό στρώμα της συσκευασίας θα είναι έτσι σχεδιασμένο ώστε να αποφεύγεται, όσον είναι πρακτικώς δυνατόν, η συλλογή και η συγκράτησις του ύδατος.

(7) Οι εξωτερικές επιφάνειες της συσκευασίας θα 3600 έχουν, όσο είναι πρακτικώς δυνατόν, σχεδιασθεί και υποστεί τελικήν επεξεργασία κατά τρόπον ώστε να μπορούν ευχερώς να απολυμανθούν.

(8) Οποιαδήποτε χαρακτηριστικά προστεθέντα εις το κώλον κατά τον χρόνον της μεταφοράς τα οποία δεν είναι εξαρτήματα του κώλου δεν θα μειώνουν την ασφάλειαν του κώλου.

(9) Η μικρότερη γενική εξωτερική διάστασις της συσκευασίας δεν θα είναι μικρότερη των 10 CM.

(10) Ύλεις που έχουν κρίσιμον θερμοκρασίαν κάτω των 50°C ή, στη θερμοκρασία αυτή, πύεσις ατμού άνω των 3 KG/CM^2 θα περιέχεται εις τα δοχεία τα οποία επίσης θα είναι σύμφωνα προς τις διατάξεις των περιθωρίων 2202 και 2211 έως 2218.

B.- ΠΡΟΣΘΕΤΟΙ ΟΡΟΙ ΓΙΑ ΚΟΛΑ ΤΥΠΟΥ Α

(1) Το εξωτερικόν κάθε κώλου θα ενσωματώνει χα- 3601 ρακτηριστικόν ως μία σφραγίδα, η οποία δεν θα μπορεί ευχερώς να σπάσει και η οποία, ενδσω θα είναι ανέπαφη, θα αποτελεί απόδειξιν ότι το κώλον δεν ανοίχθηκε.

(2) Όσον είναι πρακτικώς δυνατόν, η συσκευασία θα έχει έτσι σχεδιασθεί ώστε οι εξωτερικές επιφάνειες να είναι ελεύθερες από προεξέχοντα χαρακτηριστικά.

(3) Το σχέδιο της συσκευασίας θα λάβει υπόψη τις μεταβολές της θερμοκρασίας στις οποίες η συσκευασία μπορεί να υποβληθεί διαρκούσης της μεταφοράς και αποθηκεύσεως. Από της απόψεως αυτής, -40°C και 70°C θα θεωρούνται ως ικανοποιητικά όρια δια την επιλογήν των υλικών· ειδική προσο-

χ), εν τούτοις, θα δίδεται σε εύθυπτο (εύθραυστο) θραύ- 360I
ση στάθμια της ανωτέρω θερμοκρασίας. (Συνεχίζε-
ται)

(4) Το σχέδιον και η τεχνική της κατασκευής για συγκολλημένες, συγκολλημένες δι' ορειχάλκου ή άλλης μεταλλικής τήξεως ενώσεις θα είναι σύμφωνα προς τα εθνικά ή διεθνή πρότυπα ή προς πρότυπα αποδεκτά από την αρμόδια αρχή.

(5) Το κέλον θα είναι ικανόν να αντέχει τας επιδράσεις οιασδήποτε επιταχύνσεως, κραδασμού ή ταλαντώσεως η οποία ενδέχεται να υπάρξει διαρκούσης της κανονικής μεταφοράς χωρίς οιαδήποτε χειροτέρευσιν της αποτελεσματικότητος των μηχανισμών κλεισίματος επί των διαφόρων δοχείων ή της ακεραιότητος του κέλου ως εν σύνολον. Ειδικώτερον, περικύχλια, βίδες και λοιποί μηχανισμοί ασφαλείας θα είναι έτσι σχεδιασμένοι ώστε να τας εμποδίζουν να καταστούν χαλαρά (να χαλαρώνουν) ή να ελευθερούνται (λύονται) ασκόπως, ακόμη και μετά από επανειλημμένην χρήσιν.

(6) Ραδιενεργείς ύλες ειδικού τύπου (μορφής) μπορούν να θεωρούνται ως συστατικόν στοιχείον του συστήματος υποδοχέων (CONTAINMENT SYSTEM).

(7) Το σχέδιον θα περιλαμβάνει σύστημα υποδοχέων κλειδόμενον δια θετικού μηχανισμού στερεώσεως, δηλαδή δια μηχανισμού ο οποίος δεν θα μπορεί να ανοίγει μόνος του, θα μπορεί μόνον να ανοίγει εκ προθέσεως και θα ανθίσταται εις την επίδρασιν πιθανής αυξήσεως της πίεσεως εσωτερικώς του δοχείου.

(8) Εάν σύστημα υποδοχέων (CONTAINMENT SYSTEM) αποτελέει χωριστήν μονάδα της συσκευασίας, θα είναι ικανόν

να κλείνει ασφαλώς, δια θετικού μηχανισμού στερεώσεως 360I
(προσδέσεως) ο οποίος θα είναι ανεξάρτητος από οποιο- (Συνεχίζεται)
δήποτε άλλο εξάρτημα της συσκευασίας.

(9) Τα υλικά της συσκευασίας και οποιαδήποτε
συστατικά μέρη ή δομαί θα συμφωνούν φυσικώς και χημικώς
μεταξύ των και με το περιεχόμενο του κδλου· δέον να λαμ-
βάνεται υπόψη η συμπεριφορά των υπό ακτινοβολίαν.

(10) Το σχέδιον οιοιδήποτε συστατικού μέρους του
συστήματος υποδοχέων (CONTAINMENT SYSTEM) θα λαμβάνει
υπόψη, οσάκις είναι δυνατόν να εφαρμοσθεί, την ραδιολυ-
τικήν αποσύνθεσιν των υγρών και άλλων τρωτών υλικών και
την παραγωγήν αερίου δια χημικής αντιδράσεως και ραδιο-
λύσεως.

(11) Το σύστημα υποδοχέων (CONTAINMENT SYSTEM)
θα κρατεί το ραδιενεργόν περιεχόμενόν του κάτω της ελατ-
τώσεως της περιβαλλοντικής πιέσεως μέχρι 0.25 KG/CM^2 .

(12) Όλες οι βαλβίδες, πλην των βαλβίδων ανα-
κουφίσεως της πιέσεως, δια των οποίων το ραδιενεργόν πε-
ριεχόμενον θα μπορούσε άλλως να διαφύγει θα προστατεύον-
ται κατά της μη-εξουσιοδοτηθείσης λειτουργίας των και θα
είναι εφοδιασμένες με καλύπτρα δια να συγκρατείται οποια-
δήποτε διαρροή εκ της βαλβίδος.

(13) Προστευτικόν της ακτινοβολίας κάλυμμα το
οποίον εγκλείει συστατικόν μέρος της συσκευασίας οριζό-
μενον ως τμήμα του συστήματος υποδοχέων (CONTAINMENT SYSTEM)
θα είναι έτσι σχεδιασμένον ώστε να εμποδίζεται ή μη ηθελη-
μένη ελευθέρωσις του συστατικού τούτου μέρους εκ του προ-

στατευτικού καλύμματος. Οσάκις το προστατευτικόν της ακτι- 360I
νοβολίας κάλυμμα και το εντός αυτού τοιούτον συστατικόν (Συνεχίζε-
ται)
μέρος αποτελούν χωριστήν μονάδα, το προστατευτικόν της
ακτινοβολίας κάλυμμα θα είναι ικανόν να κλείνει ασφαλώς
δια θετικού μηχανισμού στερεώσεως (προσδέσεως) ο οποίος
θα είναι ανεξάρτητος από οιαδήποτε άλλην δομήν συσκευασίας.

(I4) Οποιαδήποτε συνδετικά προσαρτήματα επί του
κόλου θα είναι έτσι σχεδιασμένα ώστε, υπό κανονικής και
τυχαίας συνθήκας, αι δυνάμεις εις τα προσαρτήματα αυτά δεν
θα εξασθενούν την ικανότητα του κόλου να αντιμετωπίσει
τους όρους της παρούσης προσθήκης.

(I5) Η συσκευασία τύπου Α θα είναι έτσι σχεδια-
σμένη ώστε, εάν υπεβάλετο στις δοκιμές τις οριζόμενες υπό
του περιθωρίου 3635 θα εμπόδιζε:-

- (α) την απώλειαν ή διασποράν του ραδιενεργού περιεχομέ-
νου, και
- (β) οιαδήποτε αύξησιν της προ της δοκιμής καταγραφείσης
ή υπολογισθείσης εις την εξωτερικήν επιφάνειαν ανώ-
τάτης ακτινοβολίας.

(I6) Η σχεδιασμένη για υγρά συσκευασία Τύπου Α
θα είναι, επιπροσθέτως, κατάλληλος να αντιμετωπίσει τους
όρους τους προβλεπομένους υπό του ανωτέρω περιθωρίου (I5)
εάν το κόλον υποβληθεί στις δοκιμές τις οριζόμενες στο πε-
ριθώριο 3636.

Εν τούτοις, οι δοκιμές αυτές δεν απαιτούνται
όταν αρκετό απορροφητικό υλικό απορροφά δύο φορές
τον όγκον του περιεχομένου του υγρού ευρίσκεται εντός του
συστήματος υποδοχέων (CONTAINMENT SYSTEM) και :

- (α) το απορροφητικό υλικό ευρίσκεται εντός του 360I
προστατευτικού καλύμματος ακτινοβολίας· ή (Συνεχίζεται)
- (β) το απορροφητικό υλικό ευρίσκεται εκτός του
προστατευτικού καλύμματος ακτινοβολίας, υπό
τον όρον ότι θα μπορεί να αποδειχθεί ότι εάν
το περιεχόμενο του υγρού απερροφείτο υπό του
απορροφητικού υλικού το προκύπτον επίπεδον
ακτινοβολίας εις την επιφάνειαν του κόλου δεν
θα υπερέβαινε τα 200 MREM/H (ωριαίως).

(I7) Η συσκευασία Τύπου Α η σχεδιασμένη για πεπιε-
σμένα ή μη πεπιεσμένα αέρια, θα εμποδίζει, επιπροσθέτως, με
απώλειαν ή διασποράν του ραδιενεργού περιερχομένου εάν
το κόλον υποβληθεί εις τις δοκιμές τις οριζόμενες στο
περιθώριο 3636. Συσκευασία σχεδιασθείσα για τρίτιο και
αργό-37, υπό αεριώδη μορφήν και για δράσιν μέχρι 200 Ci,
θα εξαιρείται του παρόντος όρου.

Γ.- ΒΑΣΙΚΟΙ ΠΡΟΣΘΕΤΟΙ ΟΡΟΙ ΓΙΑ ΚΟΛΑ ΤΥΠΟΥ Β(Υ) ΚΑΙ ΤΥΠΟΥ Β(Μ)

(I) Εκτός ως προβλέπεται εις περιθώριον 3603(I)(α)
και 3604(2) αντιστοίχως, τα κόλα Τύπου Β(Υ) και Τύπου 3602
Β(Μ) θα σχεδιάζονται ώστε να πληρούν τους πρόσθετους ό-
ρους τους οριζομένους για κόλα Τύπου Α εις περιθώριον
360I(I) έως (I5) συμπεριλαμβανομένων.

(2) Η συσκευασία θα είναι έτσι σχεδιασμένη ώστε εάν
υποβληθεί στις δοκιμές του περιθωρίου 3637 θα συγκρατούσε
αρκετήν ακτινοβολίαν εις τρόπον ώστε να εξασφαλίζεται ότι
το επίπεδον ακτινοβολίας εις I M από της επιφανείας του
κόλου δεν θα υπερβαίνει I REM/H (ωριαίως) εάν το κόλον

πρὶν εἶχε αρκετὸ ιρίδιο-192 ὥστε νὰ παραχθεῖ ἐπίπεδον ἀκτινοβολίας 10 MREM/H εἰς 1 M ἀπὸ τῆς ἐπιφανείας προ τῶν δοκιμῶν. (Συνεχίζεται)
 Οσῶς ἡ χρῆσις τῆς συσκευασίας πρόκειται νὰ περιορισθῇ εἰς συγκεκριμένα ραδιονουκλεΐδια, τὰ ραδιονουκλεΐδια αὐτὰ μποροῦν νὰ χρησιμοποιοῦνται ὡς πηγὴ παραπομπῆς (ἀναφορᾶς) ἀντὶ τοῦ ιρίδιο-192. Ἐπιπροσθέτως, ἐὰν ἡ συσκευή πρόκειται νὰ χρησιμοποιηθῇ γιὰ πομποὺς ουδετερονίων (NEUTRON EMITTERS), κατάλληλος πηγὴ παραπομπῆς (ἀναφορᾶς) εἰς ουδετερόνια θὰ πρέπει ἐπίσης νὰ χρησιμοποιεῖται. Δὲν απαιτεῖται ὅπως γίνεи ἀπαραιτήτως μέτρησις με δοκιμαστικὴν πηγὴν ἀκτινοβολίας ἀλλὰ ὅπως υπολογισμοὶ γίνουν ἐν σχέσει με τὴν ἐξεταζομένην συγκεκριμένην παραπομπὴν πηγῆς ἀκτινοβολίας.

Τύπου

(3) Τα κὸλα/B(U), καὶ Τύπου B(M) θὰ εἶναι ἔτσι σχεδιασμένα, κατασκευασμένα καὶ προετοιμασμένα γιὰ φόρτωσιν ὥστε, ὑπὸ συνθήκας περιβάλλοντος ὀριζομένης στὴν παράγραφον (4), νὰ ικανοποιοῦν (πληροῦν) τοὺς κατωτέρω ὁρους (α) καὶ (β):

- (α) Θερμότης παραγομένη ἐντὸς τοῦ κὸλου ὑπὸ τοῦ ραδιενεργοῦ περιεχομένου δὲν θὰ ἐπηρεάζει δυσμενῶς, ὑπὸ κανονικᾶς συνθήκας μεταφορᾶς (ὡς ἐδείχθη διὰ τῶν δοκιμῶν τοῦ περιθωρίου 3635), τὸ κὸλον κατὰ τοιοῦτον τρόπον ὥστε, τοῦτο νὰ μὴ πληροῖ τοὺς ἰσχύοντας ὁρους γιὰ υποδοχεῖς καὶ προστασίαν ἐὰν ἀφεθῇ ἀπαρακολούθητον διὰ χρονικὴν περίοδον μιᾶς εβδομάδος. Ἰδιαίτερη προσοχὴ θὰ δίδεσθαι ὅτις ἐπιδράσεις τῆς θερμότητος ποὺ μποροῦν:-

- (ι) να τροποποιήσουν την διευθέτησιν, την γεωμε- 3602
τρικήν μορφήν ή την φυσικήν κατάστασιν του (Συνεχίζε-
ραδιενεργού περιεχομένου ή, εάν το υλικόν ται)
κλεισθελ σε μπιτόνι ή δοχείον (π.χ. επενδεδυ-
μένα στοιχεία καυσίμου), να προκαλέσουν το
λυώσιμο του μπιτονιού, δοχείου ή υλικού·
- (ιι) να ελαττώσουν την αποτελεσματικότητα της
συσκευασίας δια διαφορικής θερμικής διαστολής
η ραγίσματος ή λυώσματος του προστατευτικού
κατα της ακτινοβολίας υλικού·
- (ιιι) εν συνδυασμῷ με την υγρασίαν να επιταχύνουν την
διάβρωσιν.
- (β) Η θερμοκρασία των προσιτών επιφανειών κόλου Τύπου
B(U), ή Τύπου B(M), δεν θα υπερβαίνει τους 50°C υπό
σκιάν εκτός εάν το κόλον μεταφερθελ ως πλήρες φορ-
τίον.
- (4) Εφαρμόζοντες την παράγραφον (3)(α) θα πρέπει:
- (α) η θερμοκρασία του περιβάλλοντος να είναι 38°C
- (β) η εις τον ήλιον έθεσις να είναι σύμφωνος
προς τον κατωτέρω Πίνακα I.
- Εφαρμόζοντες την παράγραφον (3)(β), προϋποτίθεται η
ύπαρξις του κατωτέρω όρου:
- Θερμοκρασία περιβάλλοντος 38°C.
- Προκειμένου περί κόλων Τύπου B(M) τα οποία πρόκειται
να μεταφερθούν αποκλειστικῶς μεταξύ οριζομένων χωρών, εναλ-
λακτικοί όροι μπορούν να γίνουν δεκτοί από συμφώνου μετά
των αρμοδίων αρχών των χωρών αυτών.

3602

(Συνεχίζεται)

ΠΙΝΑΞ Ι

ΣΤΟΙΧΕΙΑ ΕΚΘΕΣΕΩΣ ΕΙΣ ΤΟΝ ΗΛΙΟΝ

Σχήμα και επιφάνεια Έκθεσις εις ήλιον σε GCAL/CM^2
για 12 ώρες ημερησίως

Επίπεδοι επιφάνειαι μετα-
φερόμεναι οριζοντίως:

- βάσις ουδεμία

- λοιπά επιφάνειαι 800

Επίπεδοι επιφάνειαι μη-μετα-
φερόμεναι οριζοντίως:

- κάθε επιφάνεια 200 $\frac{\alpha}{\text{cm}^2}$

Κυρταί επιφάνειαι 400 $\frac{\alpha}{\text{cm}^2}$

$\frac{\alpha}{\text{cm}^2}$ Εναλλακτικώς, ημιτονοειδής συνάρτησις δύναται να χρησιμοποιηθεί, υιοθετούντες συντελεστήν απορροφήσεως και αδιαφορούντες δια τα αποτελέσματα πιθανής ανακλάσεως εκ γειτνιαζόντων αντικειμένων.

(5) Συσκευασία η οποία περιλαμβάνει θερμικήν προστασίαν με τον σκοπόν της ικανοποιήσεως των όρων της θερμικής δοκιμής της οριζομένης εις περιθώριον 3637(3) θα είναι έτσι σχεδιασμένη ώστε η τοιαύτη προστασία να παραμένει αποτελεσματική εάν η συσκευασία υποβληθεί εις τις δοκιμές τις οριζόμενες εως περιθώριον 3635 και περιθώριον 3637(2). Οποιαδήποτε τέτοια προστασία επί του εξωτερικού του κόλου θα καθίσταται αποτελεσματική έναντι συνθηκών κοινώς (συνήθως)

αντιμετωπιζομένων κατὰ τον κανονικόν χειρισμόν ή εις 3602
ατυχήματα και μη εμφανιζομένων εις τας ανωτέρω ανα- (Συνεχίζε-
φερομένας δοκιμάς, π.χ. σχίσιμον, κοπήν, ολίσθησιν, ται)
εκτριβήν ή ανώμαλον χειρισμόν.

Δ.- ΕΙΔΙΚΟΙ ΠΡΟΣΘΕΤΟΙ ΟΡΟΙ ΓΙΑ ΚΟΛΑ ΤΥΠΟΥ Β(Υ)

(Ι) Το κδλον θα είναι έτσι σχεδιασμένον ώστε, εάν
υπεβάλετο στις ανωτέρω αναφερόμενες δοκιμές:

- (α) θα περιώριζε, αναφορικώς με τις δοκιμές τις οριζό-
μενες στο περιθώριο 3635 την απώλειαν του ραδιενερ-
γού περιεχομένου εις όχι άνω των $A_2 \times 10^{-6}$ ωριαίως.
(β), θα περιώριζε, αναφορικώς με τις δοκιμές του περι-
θωρίου 3637, την συσσωρευθείσαν απώλειαν του ραδιε-
νεργού περιεχομένου εις όχι άνω των $A_2 \times 10^{-3}$ σε
χρονικήν περίοδον μίας εβδομάδος.

Οσάκις μίγματα διαφορετικών ραδιονουκλεϊδίων (RADIO-
NUCLIDES) υπάρχουν, θα ισχύουν οι όροι του περιθωρίου 369I.

Δια την (α) ανωτέρω, η εκτίμησις θα λάβει υπόψει τα
δρια της εξωτερικής μόλυνσεως, του περιθωρίου 365I. Δι' αμφο-
τερα τα (α) και (β) ανωτέρω, αι τιμαί A_2 ευγενών αερίων θα
είναι εκείναι της μη-πεπιεσμένης καταστάσεως.

(2) Η συμμόρφωσις προς τα επιτρεπόμενα δρια αφέσεως
της δράσεως δεν θα εξαρτάται ούτε από τα φίλτρα ούτε από
σύστημα μηχανικής φύξεως.

(3) Το κδλον δεν θα ενσωματώνει χαρακτηριστικόν το ο-
ποίον αποσκοπεί εις το να επιτρέπει συνεχή εξαερισμόν διαρ-
κούσης της μεταφοράς.

(4) Το κδλον δεν θα περιλαμβάνει σύστημα αναηουφίσεως

της πίεσεως εκ του συστήματος υποδοχέων (CONTAINMENT SYSTEM) το οποίο θα επέτρεπε την ελευθέρωσιν ραδιενεργών υλών εις το περιβάλλον υπό τους όρους των δοκιμών τους οριζομένους εις τα περιθώρια 3635 και 3637. 3603 (Συνεχίζεται)

(5) Οσάκις η ανωτάτη συνήθης λειτουργική πίεσις (βλέπε περιθώριον 2700(2)) του συστήματος υποδοχέων (CONTAINMENT SYSTEM) προστιθεμένη εις οιανδήποτε διαφορικήν πίεσιν κάτω της μέσης ατμοσφαιρικής πίεσεως της επιφανείας της θαλάσσης εις την οποίαν οιονδήποτε συστατικόν μέρος της συσκευασίας οριζόμενον ως τμήμα του συστήματος υποδοχέων μπορεί να υποβληθεί υπερβαίνει τα 0.35 KG/CM^2 , το συστατικόν τούτο μέρος θα είναι ικανόν να ανθέξει εις πίεσιν όχι μικροτέραν της μιας καί ημίσεος φοράς του αθροίσματος των πιέσεων αυτών· η έντασις της τελευταίας αυτής πίεσεως δεν θα είναι μεγαλύτερα του 75 ~~επα~~ εκατό της κατωτάτης αντοχής διαρροής (υλικού) και όχι μεγαλύτερα του 40 ~~επα~~ εκατό της μεγίστης αντοχής του συστατικού τούτου μέρους στην ανωτάτην αναμενομένην λειτουργικήν θερμοκρασίαν.

(6) Με το κδλον εις την ανωτάτην συνήθη λειτουργικήν πίεσιν (βλέπε περιθώριον 2700(2)) υποβαλλόμενον εις την θερμικήν δοκιμήν την οριζομένην εις το περιθώριον 3637(3), η πίεσις οιονδήποτε συστατικού μέρους της συσκευασίας οριζόμενου ως τμήματος του συστήματος υποδοχέων θα εμφανίζεται ως μη υπερβαίνουσα την πίεσιν η οποία αντιστοιχεί ^{εις} την κατωτάτην αντοχήν διαρροής του συστατικού τούτου μέρους εις την ανωτάτην θερμοκρασίαν εις την οποίαν θα ανεμένετο να φθάσει κατά την δοκιμήν.

(7) Το κέλυφος δεν θα έχει ανωτάτην συνθήκη (κανονικήν) 3603 λειτουργικήν πίεσιν (βλέπε περιθώριον 2700(2)) πλέον των (Συνεχίζεται) 7 KG/CM²(GAUGE).

(8) Η ανωτάτη θερμοκρασία οιασδήποτε επιφανείας ευχερώς προσιτής διαρκούσης της μεταφοράς του κελύφους δεν θα υπερβαίνει τους 82°C υπό σιάν υπό κανονικής συνθήκας μεταφοράς (βλέπε επίσης περιθώριο 3602(3)(β) ανωτέρω).

(9) Το σύστημα υποδοχών (CONTAINMENT SYSTEM) ενός κελύφους περιεχόντων υγρόν δεν θα εξασθενεί εάν το κέλυφος υποβληθεί εις θερμοκρασίαν -40°C υπό κανονικής συνθήκας μεταφοράς.

Ε.- ΠΡΟΣΘΕΤΟΙ ΟΡΟΙ ΓΙΑ ΚΟΛΑ ΤΥΠΟΥ Β(Μ)

3604

(I) Επιπροσθέτως των όρων του περιθωρίου 3602, τα κέλυφα Τύπου Β(Μ), όσον είναι πρακτικώς δυνατόν, θα πληρούν τους πρόσθετους ειδικούς όρους των κελύφων Τύπου Β(Υ) τους διδομένους εις το περιθώριον 3603.

(2) Κέλυφος του Τύπου Β(Μ) θα είναι έτσι σχεδιασμένον ώστε, εάν υπεβάλετο εις τας δοκιμάς τας αναφερομένας εις τον Πίνακα II θα απηγόρευε την απώλειαν του ραδιενεργού περιεχομένου εις όχι άνω των εν Πίνακι II οριζομένων ορίων δράσεως. Η εκπλήσις όσον αφορά τας δοκιμάς τας οριζομένας εις το περιθώριον 3635 θα λαμβάνει υπόψη τα εν περιθωρίω 365I αναφερόμενα όρια εξωτερικής μόλυνσεως.

ΠΙΝΑΞ ΙΙ.- ΟΡΙΑ ΔΡΑΣΕΩΣ (ΕΝΕΡΓΟΤΗΤΟΣ) ΔΙΑ ΤΗΝ

ΑΠΩΛΕΙΑΝ ΡΑΔΙΕΝΕΡΓΟΥ ΠΕΡΙΕΧΟΜΕΝΟΥ

ΕΚ ΤΩΝ ΚΟΛΩΝ ΤΥΠΟΥ Β(Μ)

3604

(Συνεχίζεται)

| Συνθήκαι | Κόλα Τύπου Β(Μ) μη-σχεδιασμένα δια συνεχή αερισμόν | Κόλα τύπου Β(Μ) ειδικώς σχεδιασμέ- να να επιτρέπουν συνεχή αερισμόν |
|---|---|--|
| Μετά τις δοκιμές του περιθωρίου 3635 | $A_2 \times 10^{-6}$ ωριαίως | $A_2 \times 5 \times 10^{-5}$ ωριαίως |
| Μετά τις δοκιμές του περιθωρίου 3637 | Κρυπτόν-85: 10 000 Ci σε I εβδομάδα Άλλα ραδιονουκλεΐ- δια: A_2 σε I εβδο- μάδα | Κρυπτόν-85: 10 000 Ci σε I εβδομάδα Άλλα ραδιονουκλεΐδια: A_2 σε I εβδομάδα |

Αι τιμαί A_2 αι χρησιμοποιούμεναι για ευγενή αέρια θα είναι για μη-πεπιεσμένη κατάσταση. Οσάκις μίγματα ραδιο-νουκλεϊδίων είναι παρόντα θα ισχύουν οι διατάξεις του περι-θωρίου 3691.

(3) Εάν η πίεση στο σύστημα υποδοχέων (CONTAINMENT SYSTEM) κόλου Τύπου Β(Μ) θα μπορούσε να καταλήξει σε ένταση υπερβαίνουσαν, υπό τας συνθήκας των δοκιμών των περιθωρίων 3635 και 3637, την κατωτάτην αντοχήν διάρροης οιοδήποτε κατασκευαστικού υλικού του συστήματος υποδοχέων (CONTAINMENT SYSTEM), στη θερμοκρασία στην οποία ανεμόνετο να φθάσει κατά τις δοκιμές, η συσκευασία θα είναι εφοδια-σμένη με σύστημα ανακουφίσεως της πίεσεως δια να εξασφα-

λίσθελ ότι δεν υπερβαίνεται η κατωτάτη αντοχή διαρροής.

3605-

3609

ΚΕΦΑΛΑΙΟΝ ΙΙ - ΔΙΑΣΠΑΣΤΕΣ ΥΛΕΣ

Α.- ΕΞΑΙΡΕΣΕΙΣ ΔΙΑΣΠΑΣΤΩΝ ΥΛΩΝ ΑΠΟ ΣΥΝΤΑΓΕΣ ΚΟΛΩΝ ΔΙΑ-
ΣΠΑΣΤΗΣ ΚΛΑΣΕΩΣ

Κόλα περιέχοντα ραδιενεργείς ύλες που είναι ε- 3610
πίσης διασπαστές ύλες εκτός δια τα αέρια τα οριζόμενα εις
(α) και (ζ) κατωτέρω, θα σχεδιάζονται κατά τρόπον σύμφωνον
προς τους όρους του παρόντος κεφαλαίου.

(α) Κόλα περιέχοντα ατομικώς όχι περισσότερα των
15 γραμ. ουρανίου-233, ουρανίου-235, πλουτονίου-238, πλου-
τονίου-239, πλουτονίου-241, ή 15 γραμ. οιοδήποτε συνδυα-
σμού των ραδιονουκλεϊδίων αυτών, εφ' όσον η κατωτάτη εξωτε-
ρική διάστασις του κόλου δεν είναι μικρότερη των 10 CM.
Οσάκις το υλικόν μεταφέρεται εις χύμα, τα όρια ποσοτήτων
θα ισχύουν δια το όχημα.

(β) Κόλα περιέχοντα μόνον φυσικόν ή εξασθενημένον
(DEPLETED) ουράνιον που έχει υποστεί ακτινοβολίαν σε θερ-
μούς αντιδραστήρες μόνον.

(γ) Κόλα περιέχοντα ομοιογενή υδρογονώδη διαλύματα
ή μίγματα πληρούντα τους όρους τους αναφερομένους στον Πί-
νακα ΙΙΙ. Όταν το υλικόν μεταφέρεται εις χύμα, οι περιορισμοί
ποσοτήτων θα ισχύουν δια το όχημα.

3610

(Συνεχίζεται)

ΠΙΝΑΞ ΙΙΙ.-

ΠΕΡΙΟΡΙΣΜΟΙ ΟΜΟΙΟΓΕΝΩΝ ΥΔΡΟΓΟΝΙΚΩΝ ΔΙΑΛΥΜΑΤΩΝ

Η ΜΙΓΜΑΤΩΝ

| Παράμετροι | Οποιοσδήποτε άλλες δια- | ^{235}U μόνον |
|--|---|------------------------|
| | σπαστές ύλες (συμπερι- λαμβανομένων των μιγμά- των) | |
| Κατωτάτη $H/X^{\alpha/}$ | 5200 | 5200 |
| Ανωτάτη συμπύκνωσης διασπαστού νουκλεΐδου σε G/L | 5 | 5 |
| Ανωτάτη μάζα διασπα- στού νουκλεΐδου σε G/κδλον | 500 | 800 $^{\beta/}$ |

$\alpha/$ Όπου H/X είναι ο λόγος του αριθμού των ατόμων υδρογόνου προς τον αριθμόν των ατόμων διασπαστού νουκλεΐδου.

$\beta/$ Με ανοχήν δια PU και ^{233}U όχι μεγαλύτεραν του I τοις εκατόν της μάζας του ^{235}U .

(δ) Κόλα περιέχοντα ουράνιον εμπλουτισμένον με ουράνιον-235 το ανώτατον I ετα εκατό κατά βάρος, και με ολικόν εις πλουτόνιον και ουράνιον-233 περιεχόμενον μέχρι του I ετα εκατό της μάζας ουρανίου-235, εφ' όσον, οι διασπαστές ύλες διανέμονται ομοιογενώς καθ' όλον το υλικόν. Επιπροσθέτως, εάν ουράνιον-235 είναι παρόν υπό μεταλλικήν μορφήν ή υπό μορφήν οξειδίου, δεν θα σχηματίζει δικτύωμα εντός του κδλου.

(ε) Κόλα περιέχοντα οιοσδήποτε διασπαστές ύλες 36ΙΟ
εφ' όσον δεν περιέχουν άνω των 5 γραμ. διασπαστών υλών (Συνεχίζεται)
σε οιονδήποτε όγκον ΙΟ-λιτρών. Οι ύλες θα συσκευάζον-
ται σε κόλα τα οποία θα διατηρούν τους περιορισμούς επί
της διανομής των διασπαστών υλών διαρκούσης της κανονικής
μεταφοράς.

((στ) Κόλα περιέχοντα ατομικώς όχι άνω του Ι ΚG
ολικού πλουτονίου, εκ του οποίου όχι περισσότερον του
20 ~~εκατ~~ εκατό κατά μάζα μπορεί να αποτελείται από πλου-
τόνιον-239, πλουτόνιον-24Ι, ή οποιονδήποτε συνδυασμόν των
ραδιονουκλειδίων αυτών.

(ζ) Κόλα περιέχοντα υγρά διαλύματα νιτρικού ουρα-
νίου εμπλουτισμένα εις ουράνιον-235 μέχρι το ανώτατον
2 ~~εκατ~~ εκατό κατά βάρος, με ανοχήν δια πλουτόνιον και
ουράνιον-233 μέχρι του 0.Ι ~~εκατ~~ εκατό της μάζης ουρανί-
ου-235.

Τα κόλα θα είναι επίσης σύμφωνα με τα λοιπά οι-
κεία τμήματα της παρούσης Προσθήκης.

Β.- ΓΕΝΙΚΟΙ ΟΡΟΙ/ΔΙΑΤΑΞΕΙΣ ΠΥΡΗΝΙΚΗΣ ΑΣΦΑΛΕΙΑΣ

(Ι) Όλες οι διασπαστές ύλες θα συσκευάζονται 36ΙΙ
και φορτώνονται κατά τοιούτον τρόπον ώστε να μην είναι δυ-
νατόν να φθάσουν εις σημείον κρισιμότητος υπό οιασδήποτε
δυναμένας να προβλεφθούν συνθήκας μεταφοράς. Ειδικώτερον,
αι κατωτέρω απρόβλεπτοι περιπτώσεις θα λαμβάνονται υπόψη:-

(α) διαρροή ύδατος εντός ή εκτός των κόλων

(β) η απώλεια της αποδοτικότητος ενσωματωμένων
απορροφητών ή μετριάστών νετρονίων

- (γ) δυνατή διάταξις του περιεχομένου σε περισ- 36II
σότερο ενεργούς σειρές, είτε εντός του κό- (Συνεχίζεται
λου είτε σαν αποτέλεσμα απωλειών εκ του κό-
λου·
- (δ) ελάττωσις των χώρων μεταξύ κόλων ή περιεχο-
μέχου·
- (ε) κόλα βυθιζόμενα στο ύδωρ ή θαπτόμενα στο χιόνι·
- (στ) γενική αύξησις της δραστηκότητος λόγω αλλαγών
στη θερμοκρασία·

(2) Επιπροσθέτως, για ακτινοβολούν πυρηνικόν καύσιμον
(IRRADIATED NUCLEAR FUEL) ή μη καθοριζόμενες (απροσδιόριστες)
διασπαστέες ύλες θα υπάρχουν οι παρακάτω προϋποθέσεις:-

- (α) Ακτινοβολούν πυρηνικόν καύσιμον δια το οποίον
ο βαθμός ακτινοβολίας δεν είναι γνωστός και
του οποίου η δραστηκότης μειούται όταν καεί
θα θεωρείται ως μη ακτινοβολούν για τον έλεγ-
χον του σημείου κρισιμότητος. Εάν η δραστηκό-
της του αυξηθεί όταν καεί, θα θεωρείται ως ακτι-
νοβολούν μέχρι του σημείου της ανωτάτης δρα-
στηκότητος. Η δραστηκότης του πυρηνικού καυ-
σίμου δια το οποίο ο βαθμός ακτινοβολίας εί-
ναι γνωστός μπορεί να εκτιμηθεί καταλλήλως.
- (β) Για απροσδιόριστες διασπαστέες ύλες όπως κατά-
λοιπα ή παλιοσίδερα των οποίων ο εμπλουτισμός,
η μάζα, η συμπύκνωσις, ο λόγος επιβραδύνσεως
ή η πυκνότης είναι άγνωστα ή δεν μπορούν να
εξακριβωθούν, η προϋπόθεσις θα είναι ότι κάθε

παράμετρος η οποία δεν είναι γνωστή έχει την 36II τιμήν η οποία δίδει την ανωτάτη δραστηνότητα (Συνεχίζεται)
υπό αξιοπίστους συνθήκας.

(3) Κόλα διασπαστών υλών, εκτός ως προβλέπεται εις περιθώριον 36IO, θα ταξινομούνται ως κάτωθι:-

- (α) Κλάσεις Διασπαστών Υλών I: κόλα τα οποία είναι πυρηνικώς ασφαλή οιοιδήποτε αριθμού και οιασδήποτε διατάξεως υφ'όλας τας προβλεπομένης συνθήκας μεταφοράς.
- (β) Κλάσεις Διασπαστών Υλών II: κόλα τα οποία, εις περνωρισμένον αριθμόν, είναι πυρηνικώς ασφαλή σε οιοιδήποτε διάταξη υφ'όλας τας προβλεπομένης συνθήκας μεταφοράς.
- (γ) Κλάσεις Διασπαστών Υλών III: κόλα τα οποία είναι πυρηνικώς ασφαλή υφ'όλας τας προβλεπομένης συνθήκας μεταφοράς έννεκεν ειδικών προφυλάξεων, ή ειδικών διοικητικών ή λειτουργικών ελέγχων επιβληθέντων κατά την μεταφοράν της αποστολής.

I/ Εφαρμόζοντες τα στοιχεία σημείου κρισιμότητας (CRITICALITY DATA), τα ληφθέντα είτε κατόπιν υπολογισμού είτε πειραματικώς, επί του διακένου κρισιμότητας των μεταφερομένων κόλων, θα πρέπει να υπάρχει ανοχή χωριστά για οιοιδήποτε ανακρίβεια των στοιχείων ή αβεβαιότητα αναφορικώς με την ισχύ των.

Γ.- ΕΙΔΙΚΑΙ ΔΙΑΤΑΞΕΙΣ ΓΙΑ ΚΟΛΑ ΔΙΑΣΠΑΣΤΩΝ ΥΛΩΝ

ΚΛΑΣΕΩΣ Ι

(1) Κάθε κόλον Διασπαστών Υλών Κλάσεως Ι θα είναι 36I2 έτσι σχεδιασμένο ώστε εάν υπεβάλετο στις δοκιμές τις οριζόμενες στο περιθώριο 3635:-

- (α) το νερό δεν θα διέρρεε εντός ή εκτός ολουδή-ποτε εξαρτήματος του κόλου εκτός εάν το νερό διέρρεε εις, ή διέρρεε εκ, του τμήματος αυτού, εις τον βέλτιστον προβλεπόμενον βαθμόν, ως προϋπόθεσις για τους σκοπούς του περιθωρίου 36I4(I)· και
- (β) η διαμόρφωσις του περιεχομένου και η γεωμετρία του συστήματος υποδοχέων (CONTAINMENT SYSTEM) δεν θα ετροποποιείτο κατά τρόπον ώστε να αυξάνεται η δραστηκότης σημαντικώς.

(2) Κόλα Διασπαστών Υλών Κλάσεως Ι θα ικανοποιούν τα κριτήρια της πυρηνικής ασφαλείας τα οριζόμενα στα περιθώρια 36I3 και 36I4.

I.- Για το ατομικό κόλον εξεταζόμενον μεμονομένως

- (I) Οι κάτωθι όροι θα θεωρούνται ως δεδομένοι:- 36I3
- (α) το κόλον είναι "κατεστραμμένον" (προς τον σκοπόν αυτόν "κατεστραμμένον" θα εννοεί την εκτιμηθείσαν ή επιδειχθείσαν κατάστασιν του κόλου εάν τούτο υπεβλήθη είτε στις δοκιμές τις οριζόμενες στα περιθώρια 3635 και 3637(I), έως (3), τις ακολουθούμενες από τις δοκιμές τις οριζόμενες στο περιθώριο 3638, είτε στις δοκιμές τις οριζό-

μενες στα περιθώρια 3635 και 3637(4), οποιος- 3613
δήποτε συνδυασμός είναι πιο περιοριστικός. (Συνεχίζε-
ται)
και

- (β) το νερό μπορεί να διαρρέει εις ή έξω από όλους
τους κενούς χώρους του κόλου συμπεριλαμβανομέ-
νων των εντός του συστήματος υποδοχέων (CONTAIN-
MENT SYSTEM) τοιούτων, εκτός του ότι, οσάκις το
σχέδιον του κόλου ενσωματώνει ειδικά χαρακτηρι-
στικά για να αποφευχθεί η διαρροή του ύδατος
εις ή έξω από ωρισμένους κενούς χώρους ακόμη και
ως αποτέλεσμα ανθρωπίνου σφάλματος, η έλλειψις
διαρροής μπορεί να θεωρηθεί ως δεδομένη εν σχέ-
σει με τους κενούς τούτους χώρους. Τέτοια ειδικά
χαρακτηριστικά μπορούν να περιλαμβάνουν είτε:-

(I) πολλαπλούς υψηλού επιπέδου φραγμούς νερού,
ο καθένας των οποίων θα παρέμενε στεγανός
εάν το κόλον υπεβάλετο στους συνδυασμούς
των δοκιμών των οριζομένων στην παράγραφον
(I)(α)· είτε

(II) υψηλού βαθμού ποιοτικός έλεγχος της παραγω-
γής και συντηρήσεως της συσκευασίας, μαζί
με ειδικές δοκιμές για να καταδειχθεί το
κλείσιμον κάθε κόλου προ της φορτώσεως.

(2) Το κόλον θα είναι δευτερογενώς απροσφαλές (SUB-CRITICAL)
δυνάμει καταλλήλου περιθωρίου^{2/} υπό τας συνθήκας της παραγρά-
φου (I), των φυσικών και χημικών χαρακτηριστικών λαμβανομέ-
νων υπόψει, συμπεριλαμβανομένης οιασδήποτε αλλαγής των χαρα-

κτηριστικών αυτών τα οποία θα μπορούσαν να προκύψουν υπό 3613
τας συνθήκας της παραγράφου (I), και με τους όρους επι- (Συνεχίζε-
βραδύνσεως (MODERATION) και ανακλάσεως ως ορίζονται κατω-
τέρως:

2/ Π.χ., εάν η μάζα διασπαστής ύλης είναι μία κατάλ-
ληλος παράμετρος για έλεγχο, κατάλληλο περιθώριο θα αντι-
προσωπεύετο δια περιορισμού της μάζης εις 80 ~~ετα~~ εκατό
της μάζης εκείνης η οποία θα ήτο ακροσφαλής (CRITICAL) σε
παρόμοιο σύστημα.

(α) με τις ύλες εντός του συστήματος υποδοχέων
(CONTAINMENT SYSTEM):

(I) η πλέον δραστική διαμόρφωσις και επιβρά-
δυνσις (MODERATION) που είναι δυνατόν να
προβλεφθούν υπό τας συνθήκας της παραγρά-
φου (I)·

(II) τελεία πλήρους ύδατος ανάκλασις του συστή-
ματος υποδοχέων (CONTAINMENT SYSTEM) ή
τοιαύτη μεγαλύτερα ανάκλασις του συστήματος
υποδοχέων ως ήθελε επιπροσθέτως παρασχεθεί
υπό του περιβάλλοντος την συσκευασίαν υλι-
κού, και, επί πλέον,

(β) εάν οιονδήποτε τμήμα των υλών διαφύγει από το
σύστημα υποδοχέων (CONTAINMENT SYSTEM) υπό τας συνθήκας της
παραγράφου (I):

(I) η πλέον δραστική διαμόρφωσις και επιβράδυν-
σις που θεωρείται πιστευτή·

(II) τελεία πλήρους ύδατος ανάκλασις των υλών.

2.- Για αποστολές ενδς ή περισσοτέρων κόλων

(I) Οιοσδήποτε αριθμός μη κατεστραμμένων κόλων ενδς 3614 σχεδίου οιασδήποτε διατάξεως θα είναι δευτερευόντως ακροσφαλής (SUB-CRITICAL), για τον σκοπόν αυτόν με τον όρον "μη κατεστραμμένον" θα νοείται η κατάσταση στην οποία τα κόλα έχουν σχεδιασθεί να παρουσιασθούν για μεταφορά.

(2) 250 τέτοια κόλα όταν (είναι) "κατεστραμμένα" θα είναι δευτερευόντως ακροσφαλή (SUB-CRITICAL) εάν συσσωρευθούν ομού με οποιανδήποτε διάταξιν και (είναι) στενώς ανακλώμενα σε όλες τις πλευρές της σωρού υπό του ισοδυναμού ύδατος (δια τον σκοπόν αυτόν με τον όρον "κατεστραμμένον" θα νοείται η εκτιμηθείσα ή επιδειχθείσα κατάστασις του κόλου εάν είχε τούτο υποβληθεί είτε στις δοκιμές τις οριζόμενες στα περιθώρια 3635 και 3637(I) έως (3), ακολουθούμενες από εκείνες του περιθωρίου 3638, είτε στις δοκιμές τις οριζόμενες στα περιθώρια 3635 και 3637(4), οποιοσδήποτε των συνδυασμών είναι περισσότερον περιοριστικός). Υδρογονική επιβράδυνσις (MODERATION) 3/ μεταξύ κόλων, και διαρροή ύδατος εντός ή εκτός των κόλων συμφώνως προς τα αποτελέσματα της δοκιμής θα εικάζεται μέχρι του σημείου που καταλήγει στη μεγαλύτερα δραστηκότητα.

3/ Η υδρογονική επιβράνδυνσις μπορεί να θεωρηθεί ότι αποτελείται είτε από ομοιόμορφον στρώμα ύδατος πλήρους πυκνότητος περιβάλλοντος κάθε κόλον είτε από ύδωρ καταλλήλου πυκνότητος ομοιογενώς διεσπαρμένου μεταξύ των κόλων.

3.- Παραδείγματα σχεδίων κόλων απαιτούντων πολύπλευρον έγκρισιν

Παράδειγμα I

Ο υπολογισμός θα βασισθεί επί των κάτωθι προϋ- 36I5
ποθέσεων:-

(α) Κάθε ένα κόλον θα συμμορφούται προς τα κριτήρια των περιθωρίων 36I2 και 36I3.

(β) Το κόλον, είτε κατεστραμμένον είτε μη κατεστραμμένον θα είναι τέτοιο ώστε να προστατεύει το διασπαστόν περιεχόμενον από θερμικά νετρόνια.

(γ) Όταν μία παράλληλος δέσμη νετρονίων έχουσα φάσμα ενεργείας ως ορίζεται στον Πίνακα IV προσπίπτει ^{οιανδήποτε} με/γωνίαν επί μη κατεστραμμένου κόλου ο παράγων πολλαπλασιασμού επιφανείας για επιθερμικά νετρόνια, τ.έ. ο λόγος του αριθμού των επιθερμικών νετρονίων των εγκαταλειπόντων το κόλον προς τον αριθμόν των επιθερμικών νετρονίων των εισερχομένων εις το κόλον, θα είναι ολιγώτερος του ενός, και το φάσμα ενεργείας των νετρονίων τα οποία εκπέμπονται υπό του κόλου σε άπειρο σειρά δεν θα είναι εντονώτερον (σκληρότερον) εκείνου του παρεπίμποντος νετρονίου.

(δ) Το σχέδιον του κόλου θα συμμορφούται προς τα κριτήρια του περιθωρίου 36I4(2).

4.- Παραδείγματα σχεδίων κόλων απαιτούντων μονομερή έγκρισιν

Παράδειγμα I

(I) Η συσκευασία θα είναι έτσι κατασκευασμένη ώστε το 36I6
διασπαστόν περιεχόμενον να περιβάλεται από στρώμα υλικού

ικανού να απορροφήσει όλα τα παρεπίμπτοντα θερμικά νε- 3616
 τρώνια 4/ και το απορροφητικό τούτο στρώμα νετρονίων (Συνεχίζε-
 περιβληθεί ακολουθώντας από ξύλον πάχους τουλάχιστον 10.2 CM ται)
 έχοντας κατώτατον περιεχόμενον υδρογόνου 5.5 ~~ατμ~~ εκατό
 κατά βάρος, εις τρόπον ώστε η κατωτάτη εξωτερική διάστα-
 σεις υπεράνω του ξύλου να είναι 30.5 CM.

ΠΙΝΑΞ IV - ΦΑΣΜΑ ΕΝΕΡΓΕΙΑΣ ΝΕΤΡΟΝΙΩΝ α/

| Ενέργεια νετρονίου | Κλάσματα νετρονίων |
|--------------------|-------------------------|
| E | με ενέργειαν κάτω του E |
| 11.0 MeV | 1.000 |
| 2.4 MeV | 0.802 |
| 1.1 MeV | 0.590 |
| 0.55 MeV | 0.460 |
| 0.26 MeV | 0.373 |
| 0.13 MeV | 0.319 |
| 43 KeV | 0.263 |
| 10 KeV | 0.210 |
| 1.6 KeV | 0.156 |
| 0.26 KeV | 0.111 |
| 42 eV | 0.072 |
| 5.5 eV | 0.036 |
| 0.4 eV | 0 |

α/ Το φάσμα είναι το επιθερμικόν τμήμα του φάσματος ισορρο-
 πίας του αναδυομένου εκ κόλων ενσωματούντων ξύλον πάχους 5 CM
 σε ακροσφαλή σειρά τοιούτων κόλων.

4/ Το στρώμα τούτο μπορεί να αποτελείται από κάρμιον πάχους τουλάχιστον 0.38 MM ισοδύναμον προς 0.325 γραμ. κάρμιου ανά CM².

(2) Η συσκευασία θα είναι έτσι κατασκευασμένη 36I6
ώστε όταν "κατεστραμένη" (για τον σκοπόν αυτόν "κατα- (Συνεχίζεται)
στραμένη" θα έχει την έννοϊαν την διδομένην στο περι-
θώριο 36I3(I)) το διασπαστόν περιεχόμενον θα παραμένει
περιβαλλόμενον από το απορροφητικόν στρώμα νετρονίων, το
απορροφητικόν στρώμα νετρονίων θα παραμένει περιβαλλόμενον
από το ξύλον, και το ξύλον δεν θα χαθεί σε βαθμό ώστε να ε-
λαττωθεί το πάχος του υπολοίπου ξύλου κάτω των 9.2 CM
ή ελαττωθεί ή κατωτάτη εξωτερική διάσπασις υπεράνω του υπο-
λοίπου ξύλου σε ολιγώτερο των 28.5 CM.

(3) Το περιεχόμενον δεν θα υπερβαίνει την επιτρεπτή
μάζα των διασπαστών υλών την εικονιζομένην στους Πίνακες
V έως XIII η οποία είναι σύμφωνος προς: (α) την φύσιν των
υλών· (β) την ανωτάτην επιβράδυνσιν· και (γ) την ανωτάτην
διάμετρον (ή δγκον), ο οποίος/οποία θα μπορούσε να προκύψει
εάν το κέλον ή το "κατεστραμένον" (δια τον σκοπόν αυτόν
ο όρος "κατεστραμένον" θα έχει την έννοιαν την διδομένην
στο περιθώριο 36I3(I)).

Σημείωσις:- Λεπτομερής υπολογισμός για δεδομένο σχέδιον
κέλου συμφώνως προς την μέθοδον την εκτιθεμέ-
νην στο περιθώριο 36I5 μπορεί να δώσει ολι-
γώτερον περιοριστικές τιμές εκείνων των τιμών
των Πινάκων V έως XIII.

Προσθήκη Α.6.-

ΠΙΝΑΞ Ψ

ΥΔΑΤΩΔΗ ΔΙΑΛΥΜΑΤΑ ΘΕΩΡΙΟΥΧΟΥ ΟΥΡΑΝΙΑΙΟΥ^{α/} Η ΝΙΤΡΙΚΟΥ ΟΥΡΑΝΙΑΙΟΥ^{α/}Επιτρεπτή μάζα ουρανίου ανά κέλον ως συνάρτησις της πυκνότητος
του ξύλου της συσκευασίαςI.- Περιορισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού
δοχείου

| | |
|---|--|
| Διάμετρος εσωτερικού δοχείου μη υπερβαίνου- σα (CM) | Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM ³ και όχι μικροτέρα των (G/CM ³) |
| | 0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 1.0 1.1 1.15 1.2 1.25 |

KG ουρανίου ανά κέλον

| | |
|-------------|--|
| 10.16 | Ουδέν όριον |
| Ουδέν όριον | 0.084 0.120 0.157 0.193 0.231 0.267 0.301 0.335 0.370 0.400 0.456 0.478 0.498 |

2.- Περιορισμένη κατά ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

| | |
|--|--|
| Όγκος εσωτερικού δοχείου μη υπερβαίν- ων (I) | Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM ³ και όχι μικροτέρα των (G/CM ³) |
| | 0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 1.0 1.05 1.1 1.15 1.2 1.25 |

KG ουρανίου ανά κέλον

2
3
κλπ.
Ουδέν όριον

Αριθμός: ως ο Πίνακας

α/ Ουράνιο το οποίον δεν περιλαμβάνει U²³³ και όχι περισσότερο
των 93^I/20/o U²³⁵ κατά βάρος.

Προσθήκη Α.6

ΠΙΝΑΞ VI

ΜΗ-ΥΔΡΟΓΟΝΙΚΑΙ ΕΝΩΣΕΙΣ ΟΥΡΑΝΙΟΥ (α) Η ΜΙΓΜΑΤΑ ΣΤΑ ΟΠΟΙΑ Η ΣΥΜΠΥ-
ΚΝΩΣΙΣ ΤΟΥ ΟΥΡΑΝΙΟΥ-235 ΔΕΝ ΥΠΕΡΒΑΙΝΕΙ ΤΑ 4.8 G/CM^3 (β)

(Συμπεριλαμβανομένου UNMODERATED URANIUM METAL (μετάλλου ουρα-
νίου) εμπλουτισμού ουρανίου-235 μη υπερβαίνοντος το 25 τοις ε-
κατόν κατά βάρος))

Επιτρεπτή μάζα ουρανίου ανά κόλον ως συνάρτησις της πυκνότητος
του ξύλου της συσκευασίας

I.- Περιορισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού
δοχείου

Διάμετρος εσωτερικού Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM^3
δοχείου μη υπερβαίνου- και όχι μικροτέρα 0.6 G/CM^3
σα (CM)

KG ουράνιον ανά κόλον

IO.I6

Ουδέν όριον

Ουδέν όριον

0.69

2.- Περιορισμένη κατά ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM^3
δοχείου μη υπερβαί- και όχι μικροτέρα των (G/CM^3)
νων (I):

0.65 0.7 0.75 0.8 0.85 0.9

KG ουρανίου ανά κόλον

3

4 κλπ.

Ακολουθούν αριθμοί

Ουδέν όριον

- (α) Ουράνιον το οποίον/περιλαμβάνει U^{233} και όχι περισσότερον των $93^{1/2}$ τοις εκατόν U^{235} κατά βάρος.
- (β) Μίγματα περιέχοντα βηρύλλιο ή δευτέριο αποκλείονται και η μάζα του άνθρακος δεν θα υπερβαίνει πέντε φορές την εγκριθείσα μάζαν ουρανίου.

Προσθήκη Α.6

ΠΙΝΑΞ VII

ΜΗ-ΥΔΡΟΓΟΝΙΚΑΙ ΕΝΩΣΕΙΣ ΟΥΡΑΝΙΟΥ/ Η ΜΙΓΜΑΤΑ ΣΤΑ ΟΠΟΙΑ Η ΣΥΜΠΥΚΝΩΣΙΣ ΤΟΥ ΟΥΡΑΝΙΟΥ-235 δεν υπερβαίνει τα 9.6 G/CM^3 β/

(Συμπεριλαμβανομένου UNMODERATED URANIUM METAL (μετάλλου ουρανίου) εμπλουτισμού ουρανίου-235 μη υπερβαίνοντος το 50 τοις εκατόν κατά βάρος.))

Επιτρεπτή μάζα ουρανίου ανα κόλον ως συνάρτησις της πυκνότητος του ξύλου της συσκευασίας

I.- Περιορισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου

Διάμετρος εσωτερικού Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM^3 δοχείου μη υπερβαίνου- και όχι μικροτέρα των (G/CM^3) σα (CM)

0.6 0.65 κλπ. αριθμοί

KG ουρανίου ανά κόλον

Αριθμοί 7.5 κλπ. =

Ουδέν όριον

Ουδέν όριον

Ουδέν όριον

Ουδέν όριον

Ουδέν όριον

2.- Περιορισμένη κατά ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM^3
 δοχείου μη υπερβαίν- και όχι μικρότερα των (G/CM^3)
 νων (I) 0.65 0.7 0.75 0.8 0.85 0.9 0.95 1.0

3
 4 κλπ.- Ακολουθούν αριθμοί
 Ουδέν όριον

- α/ Ουράνιον το οποίον δεν περιλαμβάνει U^{233} και όχι περισσό-
 τερο των $93\frac{1}{2}\%$ U^{235} κατά βάρος
- β/ Μίγματα περιέχοντα βηρύλλιο ή δευτέριο αποκλείονται και η
 μά-ζα του άνθρακος δεν θα υπερβαίνει πέντε φορές την εγκρι-
 θέι-σα μά-ζα του ουρανίου.

Προσθήκη Α.6

ΠΙΝΑΞ VIII

ΟΥΡΑΝΙΟΝ "UNMODERATED URANIUM" α/ ΜΕΤΑΛΛΟ

Επιτρεπτή μά-ζα ουρανίου ανά κόλον ως συνάρτησις της πυκνότητος
του ξύλου της συσκευασίας

I.- Περιωρισμένη κατά ανώτατον εσωτερικήν διάμετρον εσωτερικού
 δοχείου

Διάμετρος εσωτερικού Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25
 δοχείου μη υπερβαίνου- G/CM^3 και όχι μικρότερα των (G/CM^3)
 σα τα (CM) 0.6 0.65 κλπ.

KG ουρανίου ανά κόλον

αριθμοί Ουδέν όριον
 Ουδέν όριον
 Ουδέν όριον

2.- Περιορισμένη κατά ανώτατον εσωτερικόν όγκον εσωτερικού δο-
χείου

Όγκος εσωτερικού Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM^3
δοχείου μη υπερβαί- και όχι μικροτέρα των (G/CM^3)
νων (I) 0.6 0.65 κλπ.
KG ουρανίου ανά κόλον

2

3 κλπ.-

Ουδέν όριον

Ουδέν όριον $\beta/$

α/ Ουράνιον το οποίον δεν περιλαμβάνει U^{233} και όχι περιδοότερο
των $93\text{I}/20/0 \text{ U}^{235}$ κατά βάρος

β/ Αυτές οι αυξημένες μάζες έχουν εφαρμογήν οσάντις οι διασπαστές
ύλες είναι υπό μορφήν συμπαγών μεταλλικών τεμαχίων ζυγι-
ζόντων όχι κάτω των 2 KG το καθένα και ελευθέρων/ από εισέχου-
σών επιφανειών.

Προσθήκη Α.6

ΠΙΝΑΞ ΙΧ

ΕΝΩΣΕΙΣ ΟΥΡΑΝΙΟΥ^{α/} Η ΜΙΓΜΑΤΑ ΣΤΑ ΟΠΟΙΑ Η ΣΥΜΠΥΚΝΩΣΙΣ ΤΟΥ ΟΥΡΑΝΙΟΥ
ΔΕΝ ΥΠΕΡΒΑΙΝΕΙ ΤΑ $\frac{26.44}{\text{CM}^3}$
H/U ≠ 1.41

Επιτρεπτή μάζα ουρανίου ανά κόλον ως συνάρτησις της πυκνότητος
του ξύλου της συσκευασίας

I.- Περιορισμένη κατά ανωτάτην εσωτερικὴν διάμετρον εσωτερικοῦ
δοχείου

| | |
|--|--|
| Διάμετρος εσωτερικοῦ δοχείου μη υπερβαίνου- σα τα (CM) | Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM ³ καὶ ὀχι μικροτέρα των (G/CM ³) 0.6 0.65 κλπ.- |
|--|--|

KG ουρανίου ανά κόλον

| | |
|-----------|-------------------------|
| 6 | αριθμοί |
| 6.5 κλπ.- | Ουδέν ὄριον |
| | Ουδέν ὄριον |
| | Ουδέν ὄριον.. |

2.- Περιορισμένη κατ' ανώτατον εσωτερικόν ὄγκον εσωτερικοῦ δοχείου

| | |
|---|--|
| Όγκος εσωτερικοῦ δοχείου μη υπερβαί- νων (Ι). | Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM ³ καὶ ὀχι μικροτέρα των (G/CM ³) |
|---|--|

KG ουρανίου ανά κόλον

| | |
|-------------|---------------|
| 2 | αριθμοί |
| 3 κλπ.- | ..... |
| Ουδέν ὄριον | |

α/ Ουράνιον το οποίον δεν περιλαμβάνει U²³³ καὶ ὀχι περισσότερο
των 93^I/2 τοις εκατόν U²³⁵ κατά βάρος.

Προσθήκη Α.6

ΠΙΝΑΞ Χ

ΜΗ-ΥΔΡΟΓΟΝΙΚΑΙ ΕΝΩΣΕΙΣ ΠΛΟΥΤΩΝΙΟΥ Η ΜΙΓΜΑΤΑ ΣΤΑ ΟΠΟΙΑ Η ΣΥΜΠΥΚΝΩ-
~~ΣΗ~~ ΤΟΥ ΠΛΟΥΤΩΝΙΟΥ-239 ΔΕΝ ΥΠΕΡΒΑΙΝΕΙ τα 10 G/CM³α/

Επιτρεπτή μάζα πλουτωνίου ανά κόλον ως συνάρτησις της πυκνότητος
του ξύλου της συσκευασίας.-

I.- Περιορισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού
 δοχείου

Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα τα I.25
 G/CM³ και όχι μικροτέρα των (G/CM³)
 α/ τα (CM) 0.6 0.65 κλπ.-

KG πλουτωνίου ανά κόλον

| | |
|-------------|---------------------------------|
| 6 | Ουδέν δριον |
| 6.5 | αριθμοί Ουδέν δριον |
| 7 | Ουδέν δριον |
| 7.5 | Ουδέν δριον |
| 10 | ..... |
| Ουδέν δριον | ..... |

2.- Περιορισμένη κατ' ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού δο- Πυκνότης ξύλου μη υπερβαίνουσα τα I.25
 χείου μη υπερβαίνων G/CM³ και όχι μικροτέρα των (G/CM³)
 (I) 0.6 0.65 0.7 0.75 0.8

KG πλουτωνίου ανά κόλον

| | |
|-------------|---------------|
| 3 | |
| 4 κλπ.- | αριθμοί |
| Ουδέν δριον | |

α/ Μίγματα περιέχοντα βηρύλλιο και δευτέριο αποκλείονται και η μάζα του άνθρακος δεν θα υπερβαίνει το I/I0 της εγκριθείσης μάζας πλουτωνίου.

Προσθήκη Α.6

ΠΙΝΑΞ ΧΙ

ΠΛΟΥΤΩΝΙΟΝ "UNMODERATED PLUTONIUM" ΜΕΤΑΛΛΟ

Επιτρεπτή μάζα πλουτωνίου ανά κέλον ως συνάρτησις της πυκνότητος του ξύλου της συσκευασίας.

1.- Περιορισμένη κατ' ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου

| Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα τα (CM) | Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM ³ και όχι μικροτέρα των (G/CM ³) | | | | | |
|--|---|-------|-------|-------|-------|-------|
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 |
| | KG πλουτωνίου ανά κέλον | | | | | |
| 4 | 3.20 | ..... | ..... | ..... | ..... | ..... |
| 10 | 3.20 | 3.60 | 3.90 | 4.2 | 4.4 | 4.5 |
| Ουδέν δριον | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 | 0.405 |
| Ουδέν δριον ^{α/} | 3.20 | 3.60 | 3.90 | 4.2 | 4.4 | 4.5 |

2.- Περιορισμένη κατ' ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

| Όγκος εσωτερικού δοχείου μη υπερβαίνων (I) | Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM ³ και όχι μικροτέρα των (G/CM ³) | | | | | |
|--|---|-------|-------|-------|-------|-------|
| | 0.6 | 0.65 | 0.7 | 0.75 | 0.8 | 0.85 |
| | KG πλουτωνίου ανά κέλον | | | | | |
| 3 | 3.20 | 3.60 | 3.90 | 4.2 | 4.4 | 4.5 |
| 4 | 3.20 | 3.60 | 3.84 | 3.84 | 3.84 | 3.84 |
| κλπ.- | ..... | ..... | ..... | ..... | ..... | ..... |
| Ουδέν δριον | ..... | ..... | ..... | ..... | ..... | ..... |
| Ουδέν δριον ^{α/} | ..... | ..... | ..... | ..... | ..... | ..... |

α/ Αυτές οι αυξημένες μάζες έχουν εφαρμογήν οσάντις οι διασπαστές ύλες είναι υπό μορφήν συμπαγών μεταλλικών τεμαζίων ζυγίζοντων όχι κάτω των 2 KG το καθένα και ελευθέρων από εισέχουσες επιφάνειες.

Πρόσθετη Α.6

ΠΙΝΑΞ XII

ΦΩΣΕΙΣ ΠΛΟΥΤΩΝΙΟΥ Η ΜΙΓΜΑΤΑ ΣΤΑ ΟΠΟΙΑ Η ΣΥΜΠΥΚΝΩΣΗ ΤΟΥ ΠΛΟΥΤΩ-

ΝΙΟΥ ΔΕΝ ΥΠΕΡΒΑΙΝΕΙ τα $\frac{26.56}{\text{H/PU} \times 1.35}$ G/CM^3

Επιτρεπτή μάζα πλουτωνίου ανά κδλον ως συνάρτησις της πυκνότητος
του ξύλου της συσκευασίας

I.- Περιορισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου:

| | |
|--|--|
| Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα τα (CM) | Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3) |
| | 0.6 0.65 0.7 κλπ.- |

KG πλουτωνίου ανά κδλον

| | |
|-------------|-------------------|
| 4 | Ουδέν δριον |
| 5 | Ουδέν δριον |
| 6 κλπ.- | αριθμοί |
| Ουδέν δριον | ..... |

2.- Περιορισμένη κατ' ανώτατον εσωτερικόν δγκον εσωτερικού δοχείου

| | |
|--|--|
| Όγκος εσωτερικού δοχείου μη υπερβαίνων (I) | Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3) |
|--|--|

0.6 0.65 0.7 κλπ.-

KG πλουτωνίου ανά κδλον

| | |
|-------------|------------------------------------|
| 2 | 0.152 0.309 0.52 0.80 κλπ. |
| 3 | 0.047 0.133 0.247 0.380 κλπ.- |
| 4 | 0.022 0.076 0.095 0.133 κλπ.- |
| 5 | 0.022 0.053 0.085 0.118 κλπ.- |
| 7 | 0.022 0.053 0.084 0.114 κλπ.- |
| Ουδέν δριον | 0.022 0.053 0.084 0.114 κλπ.- |

Προσθήκη Α.6

ΠΙΝΑΞ ΧΙΙΙ

ΥΔΑΤΩΔΗ ΔΙΑΛΥΜΑΤΑ ΝΙΤΡΙΚΟΥ ΟΥΡΑΝΙΟΥ-233 Η ΦΘΟΡΙΟΥΧΟΥ ΟΥΡΑ-
ΝΙΟΥ-233

Επιτρεπτή μάζα ουρανίου ανά κέλον ως συνάρτησις της πυκνότητος
του ξύλου συσκευασίας

Ι.- Περιορισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού
δοχείου

Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα (CM) Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM³ και όχι μικροτέρα των (G/CM³) 0.6 0.65 0.7 κλπ.-

KG ουρανίου ανά κέλον

| | |
|-------------|-------------------------|
| 9 | ουδέν δριον |
| 9.5 | ουδέν δριον |
| 10 | ουδέν δριον .. |
| ουδέν δριον | αριθμοί |

2.- Περιορισμένη κατ'ανώτατον εσωτερικόν δγκον εσωτερικού δοχείου

Όγκος εσωτερικού δοχείου μη υπερβαίνων (Ι) Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM³ και όχι μικροτέρα των (G/CM³) 0.6 0.65 0.7 κλπ.-

KG ουρανίου ανά κέλον

| | |
|-------------|-------------------------------|
| 2 | 0.152 0.309 0.475 κλπ.- |
| 3 | 0.085 0.133 0.180 κλπ.- |
| 4 | 0.085 0.109 0.133 κλπ.- |
| 5 | 0.035 0.076 0.114 κλπ.- |
| 7 | 0.035 0.073 0.109 κλπ.- |
| ουδέν δριον | 0.035 0.067 0.100 κλπ.- |

Προσθήκη Α.6

3617

- ΕΙΔΙΚΑΙ ΔΙΑΤΑΞΕΙΣ ΓΙΑ ΚΟΛΑ ΔΙΑΣΠΑΣΤΩΝ ΥΛΩΝ ΚΛΑΣΕΩΣ ΙΙ

(Ι) Κάθε κόλον Διασπαστών Υλών Κλάσεως ΙΙ θα σχεδιάζεται κατά τοιούτον τρόπον ώστε εάν υπεβάλετο στις δοκιμές τις οριζόμενες στο περθώριο 3635:

(α) Ουδέ ο όγκος ουδέ οιοσδήποτε χώρος βάσει του οποίου η πυρηνική ασφάλεια δια την εφαρμογήν του περιθωρίου 3619(α) εξετιμήθη, θα υφίστατο μείωσιν άνω του 5 ~~έτσι~~ εκατό, και η κατασκευή του κόλου δεν θα επέτρεπε την είσοδον κύβου 10 CM.

(β) Το ~~περί~~ δεν θα διέρρεε εντός ή εκτός οιοσδήποτε εξαρτήματος του κόλου εκτός εάν το ~~νερό~~ διέρρεε εις, ή διέρρεε εκ, του τμήματος αυτού, εις τον βέλτιστον προβλεπόμενον βαθμόν ως προϋπόθεσις δια την εκτίμησιν του επιτρεπομένου αριθμού δια την εφαρμογήν του περιθωρίου 3619(α).

(γ) Η διαμόρφωσις του περιεχομένου και η γεωμετρία του συστήματος υποδοχέων (CONTAINMENT SYSTEM) δεν θα ετροποποιείτο κατά τρόπον ώστε να αυξάνεται η δραστηκότης σημαντικώς.

(2) Κόλα Διασπαστών Υλών Κλάσεως ΙΙ θα ικανοποιούν τα κριτήρια της πυρηνικής ασφαλείας τα περιγραφόμενα εις τα περθώρια 3618 και 3619.

I.- Το ατομικόν κόλον εξεταζόμενον μεμονωμένως

3618

(Ι) Οι κάτωθι όροι λαμβάνονται ως δεδομένοι:-

(α) το κόλον είναι "κατεστραμμένον" (δια του όρου "κατεστραμμένον" θα νοείται η εκτιμηθείσα ή επιδειχθείσα

κατάστασις του κόλου εάν έχει υποβληθεί είτε 3618
στις δοκιμές τις οριζόμενες στα περιθώρια (Συνεχί-
3635 και 3637(I) έως (3), ακολουθούμενες από ζεται)
της δοκιμές του περιθωρίου 3638 είτε στις δοκι-
μές τις οριζόμενες στα περιθώρια 3635 και 3637
(4), οποιοσδήποτε συνδυασμός είναι περισσότερο
περιοριστικός)* και

- (β) το *νερό* μπορεί να διαρρέει εις ή έξω από όλους
τους κενούς χώρους του κόλου συμπεριλαμβανομένων
των εντός του συστήματος υποδοχών (CONTAINMENT
SYSTEM) τολούτων, εκτός του ότι, οσάκις το σχέ-
διον του κόλου ενσωματώνει ειδικά χαρακτηριστι-
κά για να αποφευχθεί η διαρροή του *νερού* εις ή
έξω από ωρισμένους κενούς χώρους ακόμη και ως
αποτέλεσμα ανθρωπίνου σφάλματος, η έλλειψις διαρ-
ροής μπορεί να θεωρηθεί ως δεδομένη εν σχέσει με
τους κενούς τούτους χώρους. Τέτοια ειδικά χαρα-
κτηριστικά μπορούν να περιλαμβάνουν είτε:-

- (I) πολλαπλούς υψηλού επιπέδου φραγμούς *νερού*
ο καθένας των οποίων θα παρέμενε στεγανός
εάν το κόλον υπεβάλετο στους συνδυασμούς
ρων δοκιμών των οριζόμενων στην παράγραφον
(I)(α)* είτε

- (II) υψηλού βαθμού ποιοτικός έλεγχος της παραγω-
γής και συντηρήσεως της συσκευασίας, μαζί
με ειδικές δοκιμές για να καταδειχθεί το
κλείσιμον κάθε κόλου προ της φορτώσεως.

(2) Το κέλον θα είναι δευτερεύοντως ακροσφαλές 3618
(SUB-CRITICAL) δυνάμει καταλλήλου περιθωρίου (βλέπε (Συνεχίζεται)
σημείωσιν 2) υπό τας συνθήκας τας οριζόμενας εις την
παραγράφον (I), των φυσικών και χημικών χαρακτηριστικών
λαμβανομένων υπόψη, συμπεριλαμβανομένης οιασδήποτε αλ-
λαγής των χαρακτηριστικών αυτών τα οποία θα μπορούσαν
να προκύψουν υπό τας συνθήκας της παραγράφου (I), και με
τους δρους επιβραδύνσεως (MODERATION) και ανακλάσεως ως
ορίζονται κατωτέρω

(α) με τις ύλες εντός του συστήματος υποδοχέων
(CONTAINMENT SYSTEM):

(I) η πλέον δραστική διαμόρφωσις και επιβρά-
δυνσις (MODERATION) που είναι δυνατόν
να προβλεφθούν υπό τας συνθήκας της παρα-
γράφου (I)·

(II) τελεία πλήρους ύδατος ανάκλασις του συστή-
ματος υποδοχέων ως ήθελεν επιπροσθέτως παρα-
σχεθεί υπό του περιβάλλοντος την συσκευασίαν
υλικού, και, επί πλέον,

(β) εάν οιονδήποτε τμήμα των υλών διαφύγει από το
σύστημα υποδοχέων (CONTAINMENT SYSTEM) υπό τας συνθήκας της
παραγράφου (I)·

(I) η πλέον δραστική διαμόρφωσις και επιβραδύν-
σις που θεωρείται πιστευτή·

(II) τελεία πλήρους ύδατος ανάκλασις των υλών.

2.- Αποστολαί ενός ή πλειόνων κόλων

Ο "επιτρεπόμενος αριθμός" θα εξάγεται δι'έκαστον 3619 σχέδιον κόλου Διασπαστών Υλών Κλάσεως II, κατά τρόπον ώστε:

(α) πέντε φορές ο επιτρεπόμενος αριθμός μη κατεστραμένων κόλων θα είναι δευτερευόντως ακροασφαλής εάν συσσωρευθούν ομού σε οποιαδήποτε διάταξιν χωρίς τίποτε θεωρουμένης ως δεδομένης της κλειστής ανακλάσεως εφ'όλων των μεταξύ των κόλων. Για τον σκοπόν αυτόν με τον όρον "μη πλευρών της σωρού υπό ισοδυνάμου ύδατος. κατεστραμένον" θα νοείται η κατάσταση στην οποία τα κόλα έχουν σχεδιασθεί να παρουσιασθούν για μεταφορά.

(β) δύο φορές ο επιτρεπόμενος αριθμός των τοιούτων κόλων όταν είναι κατεστραμένα θα είναι δευτερευόντως ακροασφαλής (SUB-CRITICAL) εάν συσσωρευθούν με οποιανδήποτε διάταξιν και είναι στενώς ανακλώμενα σε όλες τις πλευρές της σωρού υπό του ισοδυνάμου ύδατος (δια τον σκοπόν αυτόν με τον όρον "κατεστραμένον" θα νοείται η εκτιμηθείσα ή επιδειχθείσα κατάστασις του κόλου εάν είχε τούτο υποβληθεί είτε στις δοκιμές τις οριζόμενες στα περιθώρια 3635 και 3637(I) έως (3), ακολουθούμενες από εκείνες του περιθωρίου 3638, είτε στις δοκιμές τις οριζόμενες στα περιθώρια 3635 και 3637(4), οποιοσδήποτε των συνδυασμών είναι περισσότερο περιοριστικός)* υδρογονικά επιβραδύνσεις (MODERATIONS)^{3/} μεταξύ κόλων, και διαρροή ύδατος εντός ή εκτός των κόλων συμφώνως προς τα αποτελέσματα της δοκιμής θα εικάζεται μέχρι του σημείου που καταλήγει στη μεγαλύτερα δραστικότητα.

3.- Παραδείγματα σχεδίων κόλων μη απαιτούντων την έγκρισιν

αρμοδίας αρχής

Παράδειγμα Ι (απαιτούν πολύπλευρον έγκρισιν 3620 φορτώσεως). Κόλα δια Διασπαστές Ύλες Κλάσεως ΙΙ δεν απαιτούν την έγκρισιν του σχεδίου του κόλου υπό αρμοδίας αρχής, εφ' όσον τηρούνται οι κατωτέρω όροι:-

(α) Συσκευασία:- η ασφάλεια κρισιμότητας των αποστολών αυτών δεν εξαρτάται εκ της ακεραιότητας της συσκευασίας. Λάθε συσκευασία η οποία πληροί τους λοιπούς οικείους όρους της Κλάσεως ΙVβ εν σχέσει με μη-διασπαστά ραδιενεργά χαρακτηριστικά δύναται, επομένως, να χρησιμοποιηθεί.

(β) Περιεχόμενον - μέταλλο ουρανίου, ενώσεις ή και μίγματα:-

το περιεχόμενον οιασδήποτε αποστολής αποτελουμένης εκ του "επιτρεπομένου αριθμού" των κόλων δεν θα υπερβαίνει την επιτρεπτήν μάζα του ουρανίου-235 την αναγραφομένην εις τον Πίνακα ΧΙV ανά αποστολήν ως συνάρτησιν εμπλουτισμού δι' ύλης ικανοποιούσας (πληρούσας) τους κατωτέρω όρους:-

(Ι). Δεν θα πρέπει να υπάρχει ουράνιον-235.

(ΙΙ) Δεν θα πρέπει να υπάρχουν βυρήλλιο ή υδρογονικόν υλικόν εμπλουτισμένον με δευτέριον.

(ΙΙΙ) Η ολική μάζα του υπάρχοντος γραφίτου δεν θα υπερβαίνει 150 φορές την ολική μάζα του ουρανίου-235.

(ΙV) Δεν θα πρέπει να υπάρχουν μίγματα δια-

σπαστών υλών με ύλες που έχουν υψηλό- 3620
 τέραν πυκνότητα υδρογόνου της του υ- (Συνεχί-
 δατος, π.χ., μερικά έλαια υδρογονανθρά- ζεται)
 κων. Τούτο δεν θα αποκλείει την χρήση
 πολυαιθυλενίου δια συσκευασίας ή περι-
 τύλιγμα.

ΠΙΝΑΞ ΧΙΥ.- ΕΠΙΤΡΕΠΤΗ ΜΑΖΑ ΟΥΡΑΝΙΟΥ-235

ΑΝΑ ΑΠΟΣΤΟΛΗΝ

Εμπλουτισμός ουρανίου εις βάρος 3620
 στα εκατό ουρανίου-235 μη γραμμαρίων ουρανίου-235
 υπερβαίνον

| | |
|-----|-----|
| 93 | 160 |
| 75 | 168 |
| 80 | 176 |
| 40 | 184 |
| 30 | 192 |
| 20 | 203 |
| 15 | 224 |
| 11 | 240 |
| 10 | 256 |
| 9.5 | 262 |
| 9 | 270 |
| 8.5 | 276 |
| 8 | 284 |
| 7.5 | 294 |
| 7 | 300 |
| 6.5 | 312 |
| 6 | 324 |
| 5.5 | 340 |
| 5 | 360 |
| 4.5 | 380 |
| 4 | 400 |
| 3.5 | 440 |

Εμπλουτισμός ουρανίου εις βάρος Επιτρεπτή μάζα ανά αποστολήν
 εις εκατόν ουρανίου-235 μη γραμμαρίων ουρανίου-235
 υπερβαίνον

(Σ υ ν έ χ ε ι α)

| | |
|------|------|
| 3 | 500 |
| 2.5 | 600 |
| 2 | 820 |
| 1.5 | 1360 |
| 1.35 | 1600 |
| 1 | 3400 |
| 0.92 | 6000 |

(γ) Περιεχόμενον - μέταλλο ουρανίου, ενώσεις ή και μίγ-
ματα μη δημιουργούντα κιγκλίδα (LATTICE): το περιεχόμενον
 οιασδήποτε αποστολής αποτελουμένης εκ του επιτρεπομένου α-
 ριθμού κόλων δεν θα υπερβαίνει την επιτρεπτήν μάζα ουρανίου-
 235 την αναφερομένην εις τον Πίνακα XV ανά αποστολήν ως
 συνάρτησιν του εμπλουτισμού διά ύλες πληρούσας τους κάτωθι
 όρους:-

- (I) Δεν θα υπάρχει ουράνιον-233.
- (II) Δεν θα υπάρχουν βερύλλιον και υδρογονικόν
 υλικόν εμπλουτισμένον εις δευτέριον.
- (III) Η υπάρχουσα ολική μάζα του γραφίτου δεν θα
 υπερβαίνει την ολικήν μάζα του ουρανίου-235.
- (IV) Δεν θα υπάρχουν μίγματα διασπαστών υλών με
 ύλες που έχουν πυκνότητα υδρογόνου υψηλοτέ-
 ραν της του ύδατος, π.χ., μερικά έλαια υδρο-
 γονανθράκων. Τούτο δεν αποκλείει την χρήσιν
 πολυαιθυλενίου δια συσκευασίαν ή περιτύλιγμα.

(V) Οι διασπαστές ύλες θα διανέμονται ο- 3620
μοιογενώς εις ολόκληρον το περιεχόμε- (Συνεχίζε-
νον. Επιπροσθέτως, οι ύλες δέ- ται)
θα σχηματίζουν διάταξιν κυκλίδος εντός
του κόλου.

ΠΙΝΑΞ XV.- ΕΠΙΤΡΕΠΤΗ ΜΑΖΑ ΟΥΡΑΝΙΟΥ-235

ΑΝΑ ΑΠΟΣΤΟΛΗΝ

| Εμπλουτισμός ουρανίου εις βάρος στα εκατό ουρανίου-235 μη υπερβαίνον | Επιτρεπτή μάζα ανά αποστολήν γραμμάρων ουρανίου-235 |
|--|--|
| 4 | 420 |
| 3.5 | 460 |
| 3 | 560 |
| 2.5 | 740 |
| 2 | 1200 |
| 1.5 | 2800 |
| 1.35 | 4000 |

(δ) Περιεχόμενον - μέταλλον ουρανίου ή και πλουτωνίου,
ενώσεις ή και μίγματα: οι ύλες θα πληρούν τους κάτωθι όρους:

(I) Δεν θα υπάρχουν βηρύλλιον και υδρογονικόν υλικόν
εμπλουτισμένον με δευτέριον.

(II) Η υπάρχουσα ολική μάζα του γραφίτου δεν θα
υπερβαίνει 150 φορές την ολική μάζα του ουρανί-
ου και πλουτωνίου.

(III) Δεν θα υπάρχουν μίγματα διασπαστών υλών με ύλες
που έχουν πυκνότητα υδρογόνου υψηλοτέρα της
του ύδατος, π.χ., μερικά έλαια υδρογονανθράκων,
κλπ.. Τοότο δεν αποκλείει την χρήση πολυαιθυ-
λενίου δια συσκευασίαν ή περιτύλιγμα.

Η ολική μάζα των διασπαστών υλών ανά αποστολήν θα είναι 3620

τέτοια ώστε:-

(Συνεχίζεται)

$$\frac{(\text{γραμμ.}) }{I60} {}^{235}\text{U} \quad + \quad \frac{(\text{γραμμ.}) }{90} \text{PU} \quad + \quad \frac{(\text{γραμμ.}) }{I00} {}^{233}\text{U}$$

δεν είναι μεγαλύτερα της I

(ε) Επιτρεπόμενος αριθμός:- ο επιτρεπόμενος αριθμός δια συγκεκριμένον κδλον της προδιαγραφής αυτής θα εξαρτάται εκ του πραγματικού περιεχομένου και θα είναι ίσον προς το όριον διασπαστής μάζας ανά αποστολήν διηρημένον δια της υπάρχουσας εις το κδλον πραγματικής διασπαστής μάζας. Στη περίπτωση των μικτών νουκλεϊδίων της (δ.) ανωτέρω, ο επιτρεπόμενος αριθμός είναι:

$$\frac{I60}{235\text{U} + I.6 \times 233\text{U} + I.778 \times \text{PU}}$$

όπου τα 235U , 233U και PU είναι οι αριθμοί των γραμμαρίων των 235U , 233U και PU που υπάρχουν εις το κδλον. Οσάκις το κδλον σχηματίζει τμήμα μικτής αποστολής θα πρέπει να τηρούνται οι όροι της σημειώσεως I του περιθωρίου 2700(2).

(στ) Η φόρτωση θα υπόκειται εις μόνόπλευρον έγκρισιν.

Ε.- ΕΙΔΙΚΑΙ ΔΙΑΤΑΞΕΙΣ ΔΙΑ ΚΟΛΑ ΔΙΑΣΠΑΣΤΩΝ ΥΛΩΝ ΚΛΑΣΕΩΣ III

Τα κδλα διασπαστών υλών Κλάσεως III πρέπει 362I να πληρούν τους γενικούς όρους του περιθωρίου 36II και θα εγκρίνονται συμφώνως προς τα περιθώρια 3674 και 375.

I.- Παραδείγματα σχεδίων κδλων απαιτούντων πολύπλευρον έγκρισιν

Παράδειγμα I (απαιτούν πολύπλευρον έγκρισιν της φορτώσεως)

Κόλα της κατωτέρω προδιαγραφής απαιτούν μόνον 3622
μόνοπλευρον έγκρισιν του σχεδίου του κόλου εφ' όσον πλη-
ρούν τους κάτωθι όρους:-

(α) Ο αριθμός των κόλων οιασδήποτε μιάς αποστολής
θα είναι έτσι περιορισμένος ώστε:-

(I) δύο φορές ο αριθμός αυτός των μη κατεστρα-
μένων κόλων θα είναι δευτερευόντως ακρο-
ασφαλής (SUB-CRITICAL) εάν συσσωρευθούν
ομού σε οιαδήποτε διάταξιν με τίποτε μετα-
ξύ των κόλων, δεδομένης της κλειστής ανα-
κλάσεως εφ' όλων των πλευρών της σωρού υπό
του ισοδυνάμου ύδατος· δια τον σκοπόν αυτόν
δια του όρου "μη κατεστραμένον" θα νοείται
η κατάστασις εις την οποίαν τα κόλα έχουν
σχεδιασθεί να παρουσιαστούν προς φόρτωσιν·
και

(II) ο αριθμός αυτός των κόλων όταν (είναι) αυτά
"Κατεστραμένα" θα είναι δευτερευόντως ακρο-
ασφαλής (SUB-CRITICAL) εάν συσσωρευθούν ομού
σε οιαδήποτε διάταξιν και στενώς ανακλώνται
εφ' όλων των πλευρών της σωρού υπό του ισοδυ-
νάμου ύδατος (δια τον σκοπόν αυτόν, δια του
όρου "κατεστραμένον" θα νοείται η εκτιμηθεί-
σα ή επιδειχθείσα κατάστασις εκάστου κόλου
εάν τούτο είχε υποβληθεί είτε εις τας δοκιμάς
τας οριζομένας στα περιθώρια 3635 και 3637(I)
έως (3) ακολουθημένας υπό των δοκιμών του

περιθώριου 3638 ή των δοκιμών των οριζομένων 3622
στα περιθώρια 3635 και 3637(4), οποιοσδήποτε (Συνεχίζεται)
συνδυασμός είναι περισσότερο περιοριστικός).

Υδρογονικά επιβραδύνσεις 3/ μεταξύ κόλων, και
διαρροή νερού εντός ή εκτός των κόλων συμφώνως
προς τα αποτελέσματα της δοκιμής θα εικάζονται
(θεωρούνται ως δεδομένα) μέχρι του σημείου που
καταλήγει στη μεγαλύτερα δραστηριότητα.

(β) Η φόρτωση των κόλων αυτών θα ενεργείται μόνον
κατόπιν ενεργειών εγκριθείσων υπό των αρμοδίων αρχών συμφώ-
νων προς το περιθώριον 3675, εις τρόπον ώστε να αποφεύγε-
ται η φόρτωση, μεταφορά ή αποθήκευσις των κόλων αυτών μετ'
άλλων κόλων ραδιενεργού υλικού.

2.- Παραδείγματα σχεδίου κόλου διασπαστής ύλης μη απαιτούν- τος έγκρισιν της αρμοδίας αρχής

Παράδειγμα I (απαιτούν πολύπλευρον έγκρισιν της φορτώσεως).

Κόλα της κατωτέρω προδιαγραφής για διασπαστές ύλες 3623
Κλάσεως III δεν απαιτούν έγκρισιν του σχεδίου του κόλου υπό
της αρμοδίου αρχής εφ' όσον πληρούνται οι κάτωθι όροι:-

(α) Το κόλον έχει ήδη εγκριθεί ως κόλον Διασπαστής
Ύλης Κλάσεως II και ο αριθμός οποιοσδήποτε αποστολής δεν υπερ-
βάλνει δύο φορές τον επιτρεπόμενον αριθμόν δια την έγκρισιν
(κόλου) Διασπαστής Ύλης Κλάσεως II.

(β) Η φόρτωση των κόλων αυτών θα ενεργείται μόνον
κατόπιν ενεργειών εγκριθείσων υπό των αρμοδίων αρχών συμφώ-
νων προς το περιθώριον 3675, εις τρόπον ώστε να αποφεύγεται
η φόρτωση, μεταφορά ή αποθήκευσις των κόλων αυτών μετ' άλλων

κόλων Διασπαστών Υλών Κλάσεως II ή Κλάσεως III. Παραφελγ- 3623
 κατα τοιούτων ενεργειών είναι:- (Συνεχί-
 ζεται)

(I) ουδέν φέρον ένδειξιν κόλον ραδιενεργού ύλης
 μπορεί να μεταφέρεται στο αυτό όχημα με την
 αποστολήν, και

(II) οιαδήποτε μεταφορά θα ενεργείται απ' ευθείας εις
 τον παραλήπτην άνευ οιασδήποτε ενδιαμέσου κατά
 την διαμετακόμισιν αποθηκεύσεως· ή

έλεγχος θα επιβάλλωνται, δια της παροχής συνοδείας,
 ώστε να αποφεύγεται η στοιβάσις των κόλων
 της αποστολής μετά ή κατά μήκος οιασδήποτε άλλων
 κόλων ραδιενεργών υλών μετά από ατύχημα, ή οποτε-
 δήποτε άλλοτε.

Η συνοδεία θα ταξιδεύει με χωριστόν όχημα.

Παράδειγμα II (απαιτούν πολύπλευρον έγκρισιν της φορ- 3624
 τώσεως)

Κόλα Διασπαστών Υλών Κλάσεως III δεν απαιτούν την έγκρι-
 σιν του σχεδίου του κόλου υπό της αρμοδίου αρχής εφ' όσον τη-
 ρούνται οι κάτωθι όροι:-

(α) Συσκευασία:- η ασφάλεια κρισιμότητος των αποστολών
 αυτών δεν εξαρτάται εκ της ακεραιότητος της συσκευασίας. Οια-
 δήποτε συσκευασία η οποία συμμορφούται προς τας λοιπάς οικείας
 διατάξεις της παρούσης Προσθήκης μπορεί, όθεν, να χρησιμοποιεί-
 ται, εφ' όσον δεν ενσωματώνει προστατευτικόν κάλυμμα εκ μολύ-
 βδου πάχους άνω των 5 CM, βολφραμίου ή ουρανίου.

(β) Περιεχόμενον - μέταλλον ουρανίου, ενώσεις ή και
 μίγματα:- το περιεχόμενον οιασδήποτε αποστολής δεν

θα υπερβαίνει την επιτρεπτήν μάζα ουρανίου-235 την αναφε- 3624
ρμένην εις τον Πίνακα XVI ανά αποστολήν ως συνάρτισιν (Συνεχί-
ζεται)
του εμπλουτισμού για όλες πληρούσας τους κατωτέρω όρους:-

- (I) Δεν θα υπάρχει ουράνιον-233.
 - (II) Δεν θα υπάρχουν βηρύλλιον και υδρογονικόν πλικόν εμπλουτισμένον με δευτέριον.
 - (III) Η υπάρχουσα ολική μάζα του γραφίτου δεν θα υπερβαίνει 150 φορές την ολικήν μάζα ουρανίου-235.
 - (IV) Δεν θα υπάρχουν μίγματα διασπαστών υλών με όλες που έχουν πυκνότητα υδρογόνου υψηλοτέραν της τοιαύτης του ύδατος, π.χ., μερικά έλαια υδρογονανθράκων. Τούτο δεν αποκλείει την χρήσιν πολυαιθυνίου δια συσκευασίαν ή περιτύλιγμα.
-

ΠΙΝΑΞ ΧVI.- ΕΠΙΤΡΕΠΤΗ ΜΑΖΑ ΟΥΡΑΝΙΟΥ-235

ΑΝΑ ΑΠΟΣΤΟΛΗΝ

3624

----- (Συνεχίζεται)
 Εμπλουτισμός Ουρανίου εις βά- Επιτρεπτή μάζα ανά απο-
 ροστώα εκατό ουρανίου-235 στολήν γραμμάτων Ουρα-
 μη υπερβαίνον νίου-235

| | |
|------|-------|
| 93 | 400 |
| 75 | 420 |
| 60 | 440 |
| 40 | 460 |
| 30 | 480 |
| 20 | 520 |
| 15 | 560 |
| 11 | 600 |
| 10 | 640 |
| 9.5 | 655 |
| 9 | 675 |
| 8.5 | 690 |
| 8 | 710 |
| 7.5 | 730 |
| 7 | 750 |
| 6.5 | 780 |
| 6 | 810 |
| 5.5 | 850 |
| 5 | 900 |
| 4.5 | 950 |
| 4 | 1000 |
| 3.5 | 1100 |
| 3 | 1250 |
| 2.5 | 1500 |
| 2 | 2050 |
| 1.5 | 3400 |
| 1.35 | 4000 |
| 1 | 8500 |
| 0.92 | 15000 |

(γ) Περιεχόμενον - μέταλλο ουρανίου, ενώσεις ή/και 3624
μίγματα μη σχηματίζοντα κιγκλίδα (LATTICE):- Ο Πίναξ (Συνεχίζεται)
 XVII δίδει την επιτρεπτήν μάζα του ουρανίου-235 ανά
 αποστολήν ως συνάρτησιν εμπλουτισμού, για όλες πληρού-
 σας τους κάτωθι όρους:-

- (I) Δεν θα υπάρχει ουράνιον-233.
- (II) Δεν θα υπάρχουν βηρύλλιο και υδρογονικόν
 υλικόν εμπλουτισμένον με δευτέριον.
 (υπάρχουσα)
- (III) Η παρούσα/ολική μάζα του γραφίτου δεν θα
 υπερβαίνει τις 150 φορές την ολικήν μάζα του
 ουρανίου-235.
- (IV) Δεν θα υπάρχουν μίγματα διασπαστών υλών με
 όλες που έχουν πυκνότητα υδρογόνου υψηλοτέ-
 ραν της τοιαύτης του ύδατος, π.χ., μερικά
 έλαια υδροφονανθράκων. Τούτο δεν αποκλείει
 την χρήσιν πολυαιθυλενίου δια συσκευασίαν ή
 περιτύλιγμα.
- (V) Οι διασπαστές όλες θα κατανέμονται ομοιογενώς
 εις ολόκληρον το περιεχόμενον. Επιπροσθέτως,
 οι όλες δεν θα σχηματίζουν διάταξιν κιγκλίδος
 (LATTICE ARRANGEMENT) εντός του κελου.

ΠΙΝΑΞ XVII.- ΕΠΙΤΡΕΠΤΗ ΜΑΖΑ ΟΥΡΑΝΙΟΥ-235 ΑΝΑ ΑΠΟΣΤΟΛΗΝ

Εμπλουτισμός ουρανίου εις βάρος Επιτρεπτή μάζα ανα αποστολήν
 τοις εκατόν ουρανίου-235 μη χιλιογράμμων ουρανίου-235
 υπερβαίνον

| | |
|------|------|
| 4 | I.05 |
| 3.5 | I.15 |
| 3 | I.4 |
| 2.5 | I.8 |
| 2 | 3 |
| I.5 | 7 |
| I.35 | 10 |

(δ) Περιεχόμενον - μέταλλο ουρανίου ή και πλουτωνίου, ενώσεις ή και μίγματα: οι ύλες θα πληρούν τους κάτωθι όρους:-

- (I) Δεν θα υπάρχει βηρύλλιον και υδρογονικόν υλικόν εμπλουτισμένον με δευτέριον.
- (II) Η ολική μάζα του υπάρχοντος γραφίτου δεν θα υπερβαίνει τις 150 φορές την ολικήν μάζα του ουρανίου και πλουτωνίου.
- (III) Δεν θα υπάρχουν μίγματα διασπαστών υλών με ύλες που έχουν πυκνότητα υδρογόνου υψηλοτέραν της τοιαύτης του ύδατος, π.χ., μερικά έλαια υδρογονανθράκων. Τούτο δεν αποκλείει την χρήσιν πολυαιθυλενίου δια συσκευασίαν ή περιτύλιγμα.

Η ολική μάζα διασπαστών υλών δι' αποστολήν θα είναι τέτοια ώστε:

$$\frac{^{235}\text{U} \text{ (γραμμάρια)}}{400} + \frac{\text{PU} \text{ (γραμμ.)}}{225} + \frac{^{233}\text{U} \text{ (γραμμ.)}}{\text{-----}} \text{ δεν θα ελ-}$$

ναι μεγαλύτερα της I.

(ε) Όροι μεταφοράς:- οι κατωτέρω διοικητικοί έλεγχοι θα εφαρμόζονται καθ' όλην την μεταφοράν της αποστολής:-

- (I) η ποσότης των υλών μιάς αποστολής δεν θα υπερβαίνει την ποσότητα την οριζομένην εις (β), (γ) ή (δ) ανωτέρω·
- (II) η μεταφορά θα γίνεται απ' ευθείας εις τον παραλήπτην, άνευ οιασδήποτε ενδιαμέσου κατά την διαμετακίνεσιν αποθηκεύσεως.

(δτ) Η φόρτωση θα υπόκειται εις πολύπλευρον έγκρισιν.

3625-

3629

ΚΕΦΑΛΑΙΟΝ ΙΙΙ - ΔΙΑΔΙΚΑΣΙΑΙ ΕΛΕΓΧΟΥ ΚΑΙ ΕΠΙΘΕΩΡΗΣΕΩΣ

Α.- ΕΠΙΔΕΙΞΙΣ ΣΥΜΜΟΡΦΩΣΕΩΣ ΠΡΟΣ ΤΟΥΣ ΟΡΟΥΣ ΕΛΕΓΧΟΥ

(Ι) Η επίδειξις της συμμορφώσεως προς τους δ- 3630
ρους ελέγχου του παρόντος κεφαλαίου μπορεί να πραγματο-
ποιηθεί δι' οιασδήποτε των μεθόδων των αναφερομένων κατω-
τέρω ή δια συνδυασμού τούτων.

(α) Εκτέλεσις ελέγχων με πρωτότυπα ή δείγματα της
συσκευασίας η οποία συνήθως παρουσιάζεται προς μεταφοράν,
οπότε το περιεχόμενον της συσκευασίας δια τον έλεγχον θα
προσποιείται (SIMULATE) όσον είναι περισσότερον πρακτικώς
δυνατόν το αναμενόμενον κανονικόν ραδιενεργόν περιεχόμενον.

(β) Αναφορά εις προηγουμένας ικανοποιητικώς επιδε-
ξεις ομοίας επαρκώς φύσεως.

(γ) Εκτέλεσις ελέγχων με μοντέλα (πρότυπα) καταλλήλου
κλίμακος ενσωματούντα τα χαρακτηριστικά εκείνα τα οποία εί-
ναι σημαντικά εν σχέσει με το υπό έρευνα στοιχείον, οσάνκις
η μηχανική πέτρα έχει καταδείξει ότι τα αποτελέσματα των τοι-
ούτων ελέγχων είναι κατάλληλα δια σκοπούς σχεδίου. Οσάνκις
χρησιμοποιείται μοντέλο (πρότυπο) κλίμακος, η ανάγκη της
ρυθμίσεως ωρισμένων παραμέτρων ελέγχου, ως η διάμετρος διεισ-
δόσεως (PENETRATOR DIAMETER) ή το φορτίο συμπίεσεως, θα λαμ-
βάνεται υπόψη.

(δ) Υπολογισμός, ή δικαιολογημένον επιχείρημα, οσάνκις
οι διαδικασίαι υπολογισμού και οι παράμετροι, συμφωνείται

μεγάλως, ότι είναι αξιόπιστοι ή συντηρητικοί.

3630

(2) Αναφορικώς με τους αρχικούς όρους δια τους (Συνεχί-
ζεται)
ελέγχους του παρόντος κεφαλαίου εκτός εκείνων των περι-

θωρών 3637(4) έως 3639, η επίδειξις της συμμορφώσεως θα βασισθελ επί της υποθέσεως ότι το κόλον είναι ~~σε~~ ισορροπία (ισορροπημένον) ~~σε~~ θερμοκρασίαν περιβάλλοντος 38°C. *Αναφορικά* με τον θερμικόν έλεγχον, οι συνέπειαι της ηλιακής ακτινοβολίας μπορούν να αγνοούνται προ και διαρκούντος του ελέγχου αλλά θα λαμβάνωνται υπόψη κατά την μεταγενεστεράν εκτίμησιν των αποτελεσμάτων του ελέγχου.

B.- ΕΛΕΓΧΟΙ ΣΥΣΚΕΥΑΣΙΑΣ

I.- Αριθμός υποβληθησομένων εις έλεγχον δειγμάτων

Ο αριθμός των δειγμάτων που πρόκειται *πράγματι* 3631 να υποβληθούν εις τους ελέγχους πρέπει να αναφέρεται εις τον αριθμόν των συσκευασιών του τύπου τούτου αι οποσαι πρόκειται να γίνουν, εις την συχνότητα χρήσεως και την δαπάνην. Τα αποτελέσματα των ελέγχων ενδέχεται να αναγκαιούν αύξησιν του αριθμού των δειγμάτων προς αντιμετώπισιν των όρων των διαδικασιών του ελέγχου ~~σε~~ σχέσιν με την ανωτάτην ζημίαν.

2.- Προετοιμασία δειγματος δια τον έλεγχον

(I) Άπαντα τα δείγματα θα εξετάζονται προ του ε- 3632 λέγχου δια την αναγνώρισιν (εξακρίβωσιν) και καταχώρησιν βλαβών ή ζημιών συμπεριλαμβανομένων των κάτωθι:-

- (α) εκτροπής εκ των προδιαγραφών ή των σχεδίων·
- (β) ελαττώμάτων κατά την κατασκευήν·

- (γ) διαβρώσεως ή ετέρας φθοράς· και 3632
- (δ) παραμορφώσεως των χαρακτηριστικών. (Συνεχίζεται)

(2) Το σύστημα υποδοχέων (CONTAINMENT SYSTEM) της συσκευασίας θα καθορίζεται σαφώς.

(3) Τα εξωτερικά χαρακτηριστικά του δειγματος θα αναγνωρίζωνται (εξακριβοούνται) σαφώς εις τρόπον ώστε η

αναφορά να μπορεί να γίνεται απλώς και σαφώς εις ιοινδή-
ποτε τμήμα του τολούτου δελγματος.

3.- Έλεγχος της ακεραιότητος του υποδοχέως (CONTAINMENT) και του προστατευτικού καλύμματος (SHIELDING)

Μετὰ από οιοινδήποτε των εφαρμοστέων ελέγχων των 3633 οριζομένων εις τα περιθώρια 3635 έως 3637, θα καταδεικνύεται περαιτέρω ότι η ακεραιότης του υποδοχέως (CONTAINMENT), ή του υποδοχέως και του προστατευτικού καλύμματος, διετηρήθη εις τον βαθμόν τόν προβλεπόμενον υπό των περιθωρίων 3601(15) έως (17), 3602(2), 3603(1) και 3604(2) δια την υπό έλεγχον συσκευασίαν.

4.- Στόχος των ελέγχων ρίψεως (DROP TESTS) των οριζομένων υπό των περιθωρίων 3635(4), 3636(2), 3637(2) και 3641(1)

Ο στόχος θα είναι επίπεδος, οριζοντία επιφάνεια 3634 τοιαύτης φύσεως ώστε οιαδήποτε αύξησις της αντιστάσεώς της εις μετατόπισιν ή παραμόρφωσιν θε πρόσκρουσιν του δελγματος δεν θα ηύξανε σημαντικώς την ζημίαν του δελγματος.

5.- Έλεγχοι καταδεξέως της ικανότητος(της) αντοχής εις τας κανονικάς συνθήκας μεταφοράς

(1) Οι έλεγχοι είναι:- έλεγχος βε'εκτοξεύσεως νερού, έλεγχος δι'ελευθέρας ρίψεως (FREE DROP TEST), έλεγχος 3635 συμπίεσεως, και έλεγχος διεισδύσεως. Πρωτότυπα του κδλου θα υποβάλωνται εις τον έλεγχον ελευθέρας ρίψεως, τον έλεγχον συμπίεσεως και τον έλεγχον διεισδύσεως, προηγουμένης θε κατά περίπτωση του ελέγχου δια ψεκάσεως (εκτοξεύσεως) νερού. Ένα πρωτότυπον μπορεί να χρησιμοποιείται δι'όλους τους ελέγχους, υπό τον όρον ότι θα τηρούνται οι όροι της παραγράφου (2).

(2) Το χρονικόν διάστημα μεταξύ της περατώσεως του ελέγχου δια ψεκασμού (εκτοξεύσεως) νερού και του επομένου ελέγχου θα είναι τοιούτον ώστε το νερό να διεισδύσει εις τον ανώτατον βαθμόν, χωρίς αισθητόν στέγνωμα του εξωτερικού του δείγματος. Ελλείψει οιασδήποτε περί του αντιθέτου αποδείξεως, το χρονικόν τούτο διάστημα θα θεωρείται ότι είναι περίπου δύο ώρες εάν το ψέκασμα (εκτοξευσεις) του νερού εφαρμοσθεί εκ τεσσάρων κατευθύνσεως ταυτοχρόνως.

Ουδέν χρονικόν διάστημα θα διαρρέει, εάν το ψέκασμα του νερού εφαρμοσθεί από τις μεθ. για από τις τεσσάρων κατευθύνσεις διαδοχικά.

(3) Έλεγχος δι' εκτοξεύσεως (ψεκασμού) νερού :-

Οιοσδήποτε έλεγχος δι' εκτοξεύσεως (ψεκασμού) νερού θα θεωρείται ικανοποιητικός εφ' όσον :-

(α) το ποσόν (ποσότης) του νερού ανά μονάδα εδαφικής περιοχής είναι περίπου ισοδύναμος με ρυθμόν βροχοπτώσεως 5 CM ωριαίως.

(β) το νερό προσκρούει εις το δείγμα με γωνίαν περίπου 45° εκ του οριζοντίου.

(γ) το διανέμεται κατά προσέγγισιν ομοιομόρφως, 3635 δπώ επλ βροχοπτώσεως, εις ολόκληρον την επιφάνειαν του (Συνεχίζεται) δείγματος με την κατεύθυνσιν του ψεκασμού.

(δ) η διάρκεια του ψεκασμού είναι τουλάχιστον μία ώρα.

(ε) η διάταξις της συσκευασίας είναι τοιαύτη ώστε αι συνέπειαι να αναμένωνται να είναι αι πλέον αυστηραί δια τα υπό έρευνα χαρακτηριστικά, και το δείγμα να υποστηρίζεται κατά τρόπον ώστε να μη είναι βουτηγμένο στο

(4) Έλεγχος δι' ελευθέρως ρίψεως :- Το δείγμα θα ρίπτεται εις τον στόχον κατά τρόπον ώστε να υφίσταται την ανωτάτην ζημίαν σε σχέση με τα υπό έλεγχον χαρακτηριστικά ασφαλείας.

(α) Το ύψος της ρίψεως μετρούμενον εκ του κατωτάτου σημείου του κόλου μέχρι της άνω επιφανείας του στόχου θα είναι ως τούτο ορίζεται εις τον Πίνακα ΧVIII.

ΠΙΝΑΞ ΧVIII.- ΑΠΟΣΤΑΣΙΣ ΕΛΕΥΘΕΡΑΣ-ΡΙΨΕΩΣ ΓΙΑ ΚΟΛΑ

| Βάρος Κόλου (KG) | | Απόστασις Ελευθέρας Ρίψεως (M) |
|------------------------|--------|-----------------------------------|
| κάτω των | 5.000 | 1.2 |
| 5.000 έως | 10.000 | 0.9 |
| 10.000 έως | 15.000 | 0.6 |
| 15.000 και μεγαλύτερον | | 0.3 |

(β) Για κόλα Διασπαστών Υλών Κλάσεως II, η ελευθέρα ρίψις η οριζομένη ανωτέρω θα έπεται ελευθέρας ρίψεως ~~μπο~~ ύψους 0.3 M ~~από κάθε γωνία ή, προκειμένου περί κυλινδρικού κόλου από κάθε ένα από τα τέταρτα~~ ^{τα} ~~κάθε~~ χείλους (RIM).

(γ) Για ορθογώνια κόλα από υνοσανίδα ή ξύλο μη υπερβαίνοντα τα 50 KG εις βάρος, χωριστόν δείγμα θα υποβάλλεται ~~εις~~ ^{επὶ} ελευθέραν ρίψιν ~~για~~ ^{τα} ~~κάθε~~ γωνίαν ~~από~~ ^{απὸ} ύψους 0.3 M.

(δ) Για κυλινδρικά κόλα από υνοσανίδα μη υπερβαίνοντα τα 100 KG εις βάρος, χωριστόν δείγμα θα υποβάλλεται εις ελευθέραν ρίψιν ~~απὸ~~ ^{απὸ} ~~κάθε~~ ^{τα} ~~ένα από τα τέταρτα~~ ^{απὸ} ~~κάθε~~ χείλους (RIM) ~~εξ~~ ^{απὸ} ύψους 0.3 M.

(5) Έλεγχος συμπίεσεως:- το δείγμα θα υποβάλλεται, επί χρονικὴν περίοδον 24 ωρών, εις φορτίον συμπίεσεως ίσιν προς το μεγαλύτερον των κάτωθι:-

(α) του ισοδυνάμου των 5 φορών το βάρος του πραγματικού κόλου·

(β) του ισοδυνάμου των 1300 KG/M² πολλαπλασιαζομένου

επί της κατακορύφου προβεβλημένης επιφανείας του κόλου.

Το φορτίον θα εφαρμόζεται ομοιομόρφως επί των δύο αντιθέτων πλευρών του δείγματος, η μία των οποίων θα είναι η βάση επί της οποίας το κόλον θα λιστατο κανονικώς.

(6) Έλεγχος διεισδύσεως:- το δείγμα θα τοποθετηθεί επί ακάμπτου, επιπέδου, οριζοντίου επιφανείας η οποία δεν θα μετακινείται σημαντικώς κατά την διεξαγωγή του ελέγχου.

(α) Ράβδος διαμέτρου 3.2 CM με ημισφαιρικό άκρον και ζυγίζουσα 6 KG θα ρίπτεται και κατευθύνεται να πέσει, με τον επιμήκη άξονα αυτής καθέτως, εις το κέντρον του ασθενέστερος τμήματος του δείγματος, εις τρόπον ὥστε, εάν διεισδύσει αρκούντως μακράν, θα κτυπήσει το αγγεῖον υποδοχής (CONTAINMENT VESSEL). Η ράβδος δεν θα παραμορφούται σημαντικά εκ της εκτελέσεως του ελέγχου.

(β) Το ύψος ρίψεως της ράβδου μετρούμενον εκ του κάτω άκρου αυτής μέχρι της άνω επιφανείας του δείγματος θα είναι 1 M. (Συνεχίζεται)

6.- Πρόσθετοι έλεγχοι δια συσκευασίαν Τύπου Α προοριζομένην δια υγρά και αέρια

(I) Χωριστά δείγματα θα υποβάλλονται εις έκαστον των κατωτέρω ελέγχων εκτός εάν μπορεί να καταδειχθεί ότι ένας έλεγχος είναι αυστηρότερος για το περί ου πρόκειται δείγμα από τον άλλον, οπότε ένα δείγμα θα υποβάλλεται εις τον αυστηρότερον έλεγχον.

(2) Έλεγχος Ελευθέρας Ρίψεως:- το δείγμα θα πέφτει στον στόχον ώστε να υφίσταται την ανωτάτη ζημία σε σχέση με τον υποδοχέα. Το ύψος της πτώσεως μετρούμενον από το κάτω μέρος του δείγματος μέχρι της άνω επιφανείας του στόχου θα είναι

(γ) Έλεγχος Διεισδύσεως:- το δείγμα θα υποβάλεται εις τον έλεγχον τον οριζόμενον ~~ε~~^{το} περιθώρι~~ο~~^α 3635(6) εκτός τού ότι το ύψος της πτώσεως θα αυξάνεται εις 1.7 M εκ του 1 M που οριζε~~ται~~^ε ~~ε~~^{το} περιθώρι~~ο~~^α 3645(6)(β).

7.- Έλεγχοι καταδείξεως της ικανότητος αντοχής εις τας κατά την μεταφοράν συνθήκας ατυχήματος

(Ι) Το δείγμα θα υποβάλεται εις τα σωρευτικά αποτελέσμα- 3637
τα των μηχανικών ελέγχων των οριζομένων ~~ε~~^ετ^η παράγραφ^ο (2)
και του θερμικού ελέγχου του οριζομένου ~~ε~~^ετ^η παράγραφ^ο (3)
κατά την σειράν αυτήν. Χωριστόν δείγμα θα υποβάλεται στο
αποτέλεσμα του ελέγχου εμβυθίσεως ύδατος (WATER IMMERSION)
της παραγράφου (4).

~~(2)~~ Μηχανικός Έλεγχος:- ο έλεγχος θα αποτελείται εκ 3637
δύο ρίξεων εις στόχον. Η σειρά με την οποίαν το δείγμα (Συνεχίζε-
ται)
υποβάλεται εις τας δύο ρίψεις θα είναι τέτοια ώστε, με
το πέρας του μηχανικού ελέγχου, το δείγμα να έχει υποστεί
τέτοιαν ζημίαν η οποία θα οδηγήσει εις την ανωτάτην ζημίαν
του θερμικού ελέγχου ο οποίος ακολουθεί.

(α) Δια την ρίψιν Ι, το δείγμα θα πέσει στον στόχον κατά
τρόπον ώστε να υποστεί την ανωτάτην ζημίαν, και το ύψος της
πτώσεως ~~μετρούμεν^ο~~ εκ του κατωτάτου σημείου του δείγματος
μέχρι της άνω επιφανείας του στόχου θα είναι 9 M.

(β) Δια την ρίψιν ΙΙ, το δείγμα θα πέσει στον στόχον κατά
τρόπον ώστε να υποστεί την ανωτάτην ζημίαν, και το ύψος της
πτώσεως ~~μετρούμεν^ο~~ εκ του προβλεπομένου σημείου της κρούσεως
του δείγματος μέχρι της άνω επιφανείας του στόχου θα είναι
1 M. Ο στόχος στη περίπτωση αυτή θα είναι το άνω άκρον στε-
ρεάς εκ μαλακού χάλυβος ράβδος κυκλικής τομής, διαμέτρου

15 CM \pm 0.5 CM. Η επιφάνεια του στόχου θα είναι επίπεδος και οριζοντίως με τα άκρα της στρογγυλευόμενα εις ακτίνα όχι μεγαλύτεραν των 6 MM. Η ράβδος θα έχει ανάμπτως συναρμολογηθεί καθέτως επί του στόχου του περιγραφομένου εις περιθώριον 3634 και θα είναι μήκους 20 CM εκτός εάν μακρυτέρα ράβδος θα προεκάλει μεγαλύτεραν ζημίαν· στη περίπτωση αυτή, ράβδος καταλλήλου μήκους δια να προκαλέσει την ανωτάτην ζημίαν θα χρησιμοποιείται.

(3) Θερμικός Έλεγχος:- οιοσδήποτε θερμικός έλεγχος θα θεωρείται ικανοποιητικός, εφ' όσον η επί του δείγματος θερμική ροή (HEAT FLUX) είναι μικρότερα εκείνης που θα προέκυπτε εκ της καύσεως επί 30 λεπτά ολοκλήρου του δείγματος εις 3637 περιβάλλον ακτινοβολίας εξ 800°C με συντελεστήν εκπομπής (EMISSION COEFFICIENT) τουλάχιστον 0.9. Διὰ σκοπούς υπολογισμού, η απορροφητικότητα της επιφανείας θα είναι είτε η τιμή εκείνη την οποίαν το κόλον ενδέχεται να αναμένεται να κατέχει εάν εξετίθετο εις το πύρ ή 0.8, οιασδήποτε τούτων όθσης μεγαλύτερας. Επιπροσθέτως, οσάκις είναι σημαντικόν, εισαγωγή θερμότητος επαφής (CONVECTIVE HEAT INPUT) θα συμπεριλαμβάνεται επί τη βάσει αέρος περιβάλλοντος εις 800°C διαρκούσης της τριανταλέπτου χρονικής περιόδου. Μετά την παύσιν της εισαγωγής εξωτερικής θερμότητος εις το δείγμα.

(α) το δείγμα δεν θα ψυχθεί τεχνητώς μέχρι της παρελεύσεως ετέρων τριών ωρών ή μέχρις ότου καταδειχθεί ότι ολόκληρος η εσωτερική θερμοκρασία έχει αρχίσει να πέφτει, οιοσδήποτε τούτων ήθελε συμβεί ενωρίτερον, και

(β) οιαδήποτε καύσις υλικών του δείγματος θα επιτρέπεται επί τριών ωρών μετά την παύσιν της εξωτερικής θερμάνσεως του δείγματος εκτός εάν λήξει φυσιολογικά ενωρίτερον.

(4.) Έλεγχος Εμβυθίσεως στο νερό, το δείγμα θα εμβυθίζεται από στήλην νερού τουλάχιστον 15 M επί χρονικήν περίοδον όχι μικρότερην των οκτώ ωρών. Δια τους σκοπούς του ελέγχου, εξωτερική πίεσις νερού από 1.5 KG/CM² (GAUGE) θα λαμβάνεται υπόψη για την αντιμετώπισιν των δρών αυτών.

8.- Έλεγχος εσωτερικής διαρροής νερού (WATER IN-LEAKAGE)
για κόλα περιέχοντα διασπαστές ύλες

(1) Κόλα πλην των κόλων Διασπαστών Υλών Κλάσεως I ή 3638 Κλάσεως II και οιαδήποτε κόλα δια τα οποία η εσωτερική ή εξωτερική διαρροή νερού (WATER IN-LEAKAGE OR OUT-LEAKAGE) καθ' ό μέτρον καταλήγει εις την μεγαλύτερα δραστηκότητα υπήρξε δεδομένη για τους σκοπούς εκτιμήσεως τους αναφερομένους εις τα περιθώρια 3614(2) και 3619(β) θα εξαιρούνται του ελέγχου.

(2) Προτού το δείγμα υποβληθεί εις τον έλεγχον της εσωτερικής (προς τα έσω) διαρροής του νερού (WATER IN-LEAKAGE TEST) τον οριζόμενον κατωτέρω, τούτο θα υποβληθεί εις τους ελέγχους των περιθωρίων 3637(2) και (3).

(3) Το δείγμα θα εμβυθίζεται υπό στήλην νερού τουλάχιστον 0.9 M επί χρονικήν περίοδον όχι μικρότερην των οκτώ ωρών και δια την ανωτάτην αναμενομένην διαρροήν. Δια τον έλεγχον αυτόν θερμοκρασία περιβάλλοντος εκ 38°C δεν απαιτείται.

9.- Έλεγχοι ακεραιότητας υποδοχέως και προστατευτικού καλύμματος (CONTAINMENT AND SHIELDING)

Πάσα μέθοδος ελέγχου ή επιθεωρήσεως μπορεί να χρησι-3639
μοποιηθεί προς καθορισμόν του εάν οι δροι του παρόντος Κεφαλαίου έχουν τηρηθεί μετά την υποβολήν του δείγματος εις τους ελέγχους των περιθωρίων 3635 έως 3637, υπό τον δρον

ὅτι ἡ μέθοδος δύναται νὰ ἐπιδειχθῇ δια τὴν εκπλήρωσιν τῶν ὁρῶν τῶν περιθωρίων 3601 ἕως 3604.

Γ.- ΕΛΕΓΧΟΙ ΓΙΑ ΕΙΔΙΚΟΥ ΤΥΠΟΥ ΡΑΔΙΕΝΕΡΓΕΙΟΥΣ ΥΛΕΣ

Ι.- Γενικά

(Ι) Οἱ ἐλέγχοι εἶναι:- ἐλέγχος κρούσεως, ἐλέγχος ἐπι- 3640
κρούσεως, ἐλέγχος κάμψεως καὶ ἐλέγχος θερμότητος.

(2) Δείγματα (στερεές ραδιενεργεῖς ὕλες ἢ κάψουλες) 3640
υποβαλλόμενα εἰς ἐλεγχον θὰ ετοιμάζωνται ὅπως αὐτές (Συνεχίζε-
ται)
κανονικῶς παρουσιάζονται γιὰ μεταφορὰ. Οἱ ραδιενεργεῖς
ὕλες θὰ αντιγράφωνται ὅσον εἶναι πρακτικῶς περισσότερον
δυνατόν.

(3) Διαφορετικὸν δεῖγμα μπορεῖ νὰ χρησιμοποιηθῇ γιὰ
καθένα ἀπὸ τοὺς ἐλέγχους.

(4) Το δεῖγμα δὲν θὰ σπάει ἢ θρυμματίζεται ὅταν υπο-
βληθῇ εἰς κρούσιν, ἐπικρουσιν ἢ ἐλεγχον κάμψεως.

(5) Το δεῖγμα δὲν θὰ λιώνει ἢ διαχωρίζεται ὅταν υποβλη-
θῇ εἰς τὸν ἐλεγχον θερμότητος.

(6) Μετὰ ἀπὸ κάθε ἐλεγχον, ἐκτίμησις δι' ὕλσεως (φιλ-
τραρίσματος) θὰ ἐκτελεῖται ἐπὶ τοῦ δείγματος δια μεθόδου
ὀχι ὀλιγώτερον ευπαθοῦς τῶν μεθόδων τῶν αναφερομένων εἰς
τὸ περιθώριον 3642.

2.- Μέθοδοι Ἐλέγχου

364I

(Ι) Μέθοδος Κρούσεως:- Το δεῖγμα θὰ πέσει εἰς ^{τον} στόχον
ἀπὸ ὕψους 9 M. Ο στόχος θὰ εἶναι ὅπως καθορίζεται εἰς περι-
θώριον 3634.

(2) Μέθοδος Ἐπικρούσεως:- Το δεῖγμα θὰ τοποθετηθῇ
ἐπάνω σὲ φύλλο ἀπὸ μὲλυνδο το ὁποῖον υποστηρίζεται ἀπὸ
μὲν λεία στερεὰ ἐπιφάνεια καὶ κτυπάται ἀπὸ τὴν ἐπίπεδο
ὀψη μίας χαλύβδινης ράβδου (βέργας) ὥστε νὰ παραχθῇ ἐπὶ-

κρουσις ισοδύναμος με εκείνην που προκύπτει από ελευθέραν ρίψιν (πτώσιν) 1.4 KG από 1 M. Η επίπεδος όψις της ράβδου θα είναι διαμέτρου 25 MM με τα άκρα στρογγυλευμένα σε ακτίνα 3 MM \pm 0.3 MM. Ο μόλυβδος, αριθμού σκληρότητας 3.5 έως 4.5 της κλίμακος VICKERS και πάχους όχι μεγαλύτερου των 25 MM, θα καλύπτει επιφάνειαν μεγαλύτεραν εκείνης που καλύπτει το δείγμα. Νέα επιφάνεια μολύβδου θα χρησιμοποιείται για κάθε επίκρουση. Η ράβδος θα κτυπά το δείγμα με τρόπον ώστε να προκαλεί την ανωτάτην ζημίαν.

(3) Έλεγχος Κάμψεως:- Ο έλεγχος έχει εφαρμογήν μόνον επί μακρών, λεπτών πηγών με κατώτατον μήκος 10 CM και αναλογίαν μήκους και κατωτάτου πλάτους όχι μικροτέραν των 10. Το δείγμα θα σφιχθεί στερεά σε οριζόντια θέση εις τρόπον ώστε το ήμισυ του μήκους του να προεξέχει της όψεως του σφιγκτήρος. Η διάταξις του δείγματος θα είναι τέτοια ώστε το δείγμα να υποστεί την ανωτάτην ζημίαν όταν το ελεύθερό του άκρον κτυπηθεί από την επίπεδο όψιν της χαλύβδινης ράβδου. Η ράβδος θα κτηπύσει το δείγμα εις τρόπον ώστε να παραχθεί επίκρουσις ισοδύναμος με εκείνην που προκύπτει εξ ελευθέρου κατακορύφου πτώσεως 1.4 KG από 1 M. Η επίπεδος επιφάνεια της ράβδου θα είναι διαμέτρου 25 MM με τα άκρα στρογγυλευμένα σε ακτίνα 3 MM έως \pm 0.3 MM.

(4) Έλεγχος Θερμότητας:- Το δείγμα θα θερμανθεί στον αέρα σε θερμοκρασία 800°C και θα κρατηθεί στη θερμοκρασία αυτή για χρονική περίοδο 10 λεπτών και ακολούθως θα επιτραπεί να ψυχθεί.

364I
(Συνεχί-
ζεται)

3. Μέθοδοι Εκτιμήςεως Διυλίσσεως (Φιλτραρίσματος) (LEACHING ASSESSMENT METHODS)

(I) Για αδιάλυτες (INDISPERSIBLE) στερεές ύλες: 3642

(α) Το δείγμα θα βυθίζεται επί επτά ημέρες στο νερό σε θερμοκρασία περιβάλλοντος. Το νερό θα έχει pH 6 έως 8, και ανωτάτη αγωγιμότητα $10 \mu\text{S}/\text{CM}$ εις 20°C . 3642

(β) Το νερό μαζί με το δείγμα θα θερμανθούν ακολού- (συνεχίζεται)
θως εις θερμοκρασίαν $50^\circ \pm 5^\circ\text{C}$ και διατηρηθούν εις την θερμοκρασίαν αυτήν επί τέσσερες ώρες.

(γ) Θα καθορισθεί ακολούθως η δράσις του νερού.

(δ) Το δείγμα ακολούθως θα αποθηκευθεί επί επτά ημέρες τουλάχιστον εις σταθερόν αέρα υγρασίας όχι κάτω των 90
67% εκατό εις 30°C .

(ε) Το δείγμα ακολούθως θα βυθισθεί σε νερό της αυτής προδιαγραφής ως εν (α) ανωτέρω και το νερό μαζί με το δείγμα θα θερμανθούν εις $50^\circ\text{C} \pm 5^\circ\text{C}$ και διατηρηθούν εις την θερμοκρασίαν αυτήν επί τέσσερες ώρες.

(στ) Θα καθορισθεί ακολούθως η ενέργεια (δράσις) του

Αι δράσεις (ενέργειαι) αι καθοριζόμεναι εν (γ) και (στ) ανωτέρω δεν θα υπερβαίνουν τα $0.05 \mu\text{Cl}$.

(2) Για καψουλαρισμένες ύλες (ENCAPSULATED SUBSTANCES):-

(α) Το δείγμα θα βυθισθεί σε νερό σε θερμοκρασία περιβάλλοντος. Το νερό θα έχει pH 6-8 με ανωτάτην αγωγιμότητα $10 \mu\text{S}/\text{CM}$. Το νερό και το δείγμα θα θερμανθούν εις θερμοκρασίαν $50^\circ\text{C} \pm 5^\circ\text{C}$ και διατηρηθούν εις την θερμοκρασίαν αυτήν επί τέσσερες ώρες.

(β) Θα καθορισθεί ακολούθως η ενέργεια (δράσις) του νερού.

(γ) Το δείγμα ακολούθως θα αποθηκευθεί επί επτά τουλάχιστον ημέρες σε σταθερό (ήρεμο, ακίνητο) αέρα σε θερμοκρασία όχι μικρότερη των 30°C.

(δ) Επαναλάβετε (α).

(ε) ~~Πα~~ καθορισθεί ακολούθως η ενέργεια (δράσεις) του νερού.

3642

(Συνεχίζεται)

Αι ενέργειαι (δράσεις) αι καθοριζόμεναι εν (β) και (ε) ανωτέρω δεν θα υπερβαίνουν τα 0.05μCi.

Δ.- ΟΡΟΙ ΕΠΙΘΕΩΡΗΣΕΩΣ ΥΠΟ ΕΚΠΑΗΡΩΣΙΝ ΠΡΟ ΤΗΣ ΠΡΩΤΗΣ ΧΡΗΣΕΩΣ ΚΑΙ ΠΡΟ ΕΚΑΣΤΗΣ ΦΟΡΤΩΣΕΩΣ ΣΥΓΚΕΚΡΙΜΕΝΩΝ ΤΥΠΩΝ ΚΟΛΩΝ

Ι.- Προ της πρώτης χρήσεως

Προ της πρώτης χρήσεως οιοδήποτε κόλου, οι κά- 3643 τωθι δροι θα πληρούνται υπό του αποστολέως:-

(α) Για κάθε κόλον τύπου B(U) και τύπου B(M), θα εξασφαλίζεται ότι η αποδοτικότητα του προστατευτικού του καύματος και υποδοχέως, και, οσάκις αναγκαιοί, τα χαρακτηριστικά της μεταφοράς θερμότητας, είναι εντός των ~~ιεχουσίων~~ ή των οριζόμενων δια το εγκριθέν σχέδιον ορίων.

(β) Εάν η πίεσις σχεδίου (DESIGN PRESSURE) του συστήματος υποδοχέων (CONTAINMENT SYSTEM) υπερβαίνει τα 0.35 KG/CM² (GAUGE), θα εξασφαλίζεται ότι το σύστημα υποδοχέων (CONTAINMENT SYSTEM) κάθε κόλου συμφωνεί με τους όρους του εγκριθέντος σχεδίου τους διέποντας την ικανότητα του συστήματος να διατηρεί την ακεραιότητά του υπό πίεσιν.

(γ) Οσάκις, δια την συμμόρφωσιν προς τα κριτήρια πυρηνικής ασφαλείας, δηλητήρια νετρονίου ειδικώς συμπεριλαμβάνονται ως συστατικά μέρη της συσκευασίας βασικώς

· δια τον σκοπόν τούτον, έλεγχοι θα εκτελούνται προς επι-
· βεβαίωσιν της παρουσίας και διανομής των δηλητηρίων τούτων.

2η ~~Προ~~ εκάστης φορτώσεως

Πριν από ~~αυτή~~ φόρτωση οιοδήποτε κόλου, θα τηρούν- 3644
ται οι κάτωθι όροι υπό του αποστολέως:-

(α) Κόλα Τύπου B(U) και Τύπου B(M), θα κρατούνται μέχρις
ότου υπάρξει αρκετά στενή προσέγγισις των συνθηκών ισορρο-
πίας προς κατάδειξις της συμμορφώσεως προς τους δια την φόρ-
τωσιν όρους θερμοκρασίας και πιέσεως εκτός εάν εξαίρεσις
~~από των όρων~~ τούτων έτυχεν μονοπλεύρου (ετεροβαρούς) εγκρί-
σεως.

(β) Θα εξασφαλίζεται ότι ετηρήθησαν όλοι οι όροι οι καθο-
ριζόμενοι εις τα πιστοποιητικά εγκρίσεως.

(γ) Θα εξασφαλίζεται ~~βε~~ εξετάσει ή ~~με~~ κατάλληλους ελέγ-
χους ότι όλα τα κλεισίματα (πώματα), βαλβίδες και λοιπά α-
νοίγματα (οπαί) του συστήματος υποδοχών (CONTAINMENT
SYSTEM) δια των οποίων το ραδιενεργόν περιεχόμενον ενδέχε-
ται να διαφύγει, είναι κανονικώς κλεισμένα και, οσάκις α-
παιτείται, σφραγισμένα με ^{σπιν} V τρόπον εγέναν οι επιδείξεις των
περιθωρίων 3603(I) και 3604(2).

(δ) Θα εξασφαλίζεται ότι αι διατάξεις του περιθωρίου
3600(5), αναφορικώς με τας συνδέσεις ανυψώσεως έχουν τηρη-
θεί.

3645-

3649

ΠΙΝΑΞ IV.- ΕΛΕΓΧΟΙ ΓΙΑ ΜΕΤΑΦΟΡΑ ΚΑΙ ΑΠΟΘΗΚΕΥΣΗ ΥΠΟ ΔΙΑΜΕΤΑΚΟ-
ΜΙΣΙΝ (IN TRANSIT)

A.- ΜΙΚΤΗ ΣΥΣΚΕΥΑΣΙΑ

Κόλον περιέχον ραδιενεργείς ύλες δεν πρέπει να 3650
περιέχει οιαδήποτε άλλα είδη εκτός από τέτοια είδη και έγ-
γραφα τα οποία είναι απαραίτητα για τη χρήση των ραδιενε-
ργών υλών. Τέτοια είδη μπορούν να συμπεριληφθούν, υπό τον ό-
ρον ότι δεν θα υπάρξει αλληλεπίδραση μεταξύ των και της
συσκευασίας ή του περιεχομένου η οποία θα εμείωνε την ασφάλεια του κόλου.

B.- ΜΗ-ΩΡΙΣΜΕΝΗ ΡΑΔΙΕΝΕΡΓΟΣ ΜΟΛΥΝΣΙΣ

Η μη-ωρισμένη ραδιενεργός μόλυνση επί οιασδήποτε 3651
εξωτερικής επιφανείας του κόλου θα διατηρείται όσο είναι
πρακτικώς δυνατόν χαμηλή και ουδέποτε διαρκούσης της κανο-
νικής μεταφοράς θα υπερβαίνει τα επίπεδα τα οριζόμενα εις τον
Πίνακα XIX. Το επίπεδον της μη-ωρισμένης ραδιενεργού μόλυνσε-
ως μπορεί να καθορισθεί δια καθαρίσματος (σκουπίσματος)
εκτάσεως 300 cm² της προκείμενης επιφανείας δια της
χειρός με διηθητικόν χάρτην, ή στουπί από βαμβάκι-μαλλί ή
με οποιοδήποτε άλλο υλικό ομοίας φύσεως.

Κόλα χρησιμοποιηθέντα δια την μεταφοράν ραδιενε-
ργών υλών όπως υποστάν ακτινοβολίαν καύσιμον, θα εξετάζων-
ται βία να καθορισθεί εάν η ενέργεια (ενεργότητα) μπορεί
να διυλισθεί στην επιφάνεια, π.χ. δια της βροχής. Η συχνό-
της τοιαύτης εκτιμήσεως θα σχετίζεται με το ενδεχόμενον η
ραδιενεργός μόλυνσις να έχει απορροφηθεί από την επικάλυψιν
της επιφανείας, ειδικώτερον της βαφής (χρώματος). Οσάκις

Ενέργεια ενδέχεται να διυλισθεί στην επιφάνεια του 365I
 κόλου, η συνεχιζομένη χρήση του τριούτου κόλου θα υπο- (Συνεχιζε-
 κείται εις την εκτίμηση ασφαλείας ακτινοβολίας γενομέ- ται)
 νην υπό του αρμοδίου προσώπου.

ΠΙΝΑΧ ΧΙΧ.- ΑΝΩΤΑΤΑ ΕΠΙΤΡΕΠΤΑ ΕΠΙΠΕΔΑ

ΜΗ-ΩΡΙΣΜΕΝΗΣ ΡΑΔΙΟΕΝΕΡΓΟΥ ΜΟΛΥΝΣΕΩΣ

Υψη προκαλούσα την μόλυνσιν Ανώτατον Επιτρεπτόν Επίπεδον
 (βλέπε Σημείωσιν α/ (μCi/cm²)

Φυσικόν και υποστάν εξασθάνη-
 σιν ουράνιον και φυσικόν θό-
 ριον και μόνον

10⁻³

Βήτα και γάμα πομποί οι χαμηλής
 τοξικότητος άλφα πομποί οριζό-
 μενοι εις την Σημείωσιν β/

κάτωτέρω

10⁻⁴

Όλοι οι λοιποί άλφα πομποί

10⁻⁵

Σημειώσεις:- α/ Τα ανωτέρω επίπεδα είναι επιτρεπτά όταν
 υπολογίζονται επί οιασδήποτε εκτάσεως
 300 cm² οιασδήποτε τμήματος της επιφανείας.

β/ Χαμηλής τοξικότητος άλφα πομποί:-

Ουράνιον-235 ή ουράνιον-238* θόριον 232*
 θόριον-228 και θόριον-230 όταν διαλύεται
 εις ειδικήν ενεργότητα της αυτής σειράς
 με εκείνην του φυσικού ουρανίου και φυσι-
 κού θορίου* ραδιονουκλεΐδια με ημισείαν
 ζωήν κάτω των 10 ημερών.

ΚΑΤΗΓΟΡΙΕΣ

3652

Κόλα και υποδοχείς (CONTAINERS) (δοχεία) (μεγάλα και μικρά) θα είναι της μίας των κάτωθι τριών κατηγοριών:-

1.- Κατηγορία I-ΛΕΥΚΗ

(1) Κόλα:- Όταν το επίπεδον ακτινοβολίας το προερχόμενον εκ του κόλου οποτεδήποτε διαρκούσης της κανονικής μεταφοράς δεν υπερβαίνει τα 0.5 MREM/H (ωριαώς) εις οιονδήποτε τρόπον επί της εξωτερικής επιφανείας του κόλου, και το κόλον δεν ανήκει εις Κλάσιν II ή III Διασπαστών Υλών. 3653

(2) Υποδοχείς (δοχεία) (CONTAINERS):- Όταν περιέχουν κόλα ραδιενεργών υλών ουδέν των οποίων είναι κατηγορίας μεγαλύτερας της Κατηγορίας I-ΛΕΥΚΗΣ.

2.- Κατηγορία II-ΚΙΤΡΙΝΗ

(1) Κόλα:- Όταν το όριον του επιπέδου ακτινοβολίας του περιθωρίου 3653(I), υπερβαίνεται, ή το κόλον ανήκει εις την Κλάσιν II Διασπαστών Υλών, υπό τον όρον ότι:- 3654

(α) το επίπεδον ακτινοβολίας το προερχόμενον εκ του κόλου οποτεδήποτε διαρκούσης της κανονικής μεταφοράς δεν υπερβαίνει τα 50 MREM/H (ωριαώς) εις οιονδήποτε τρόπον επί της εξωτερικής επιφανείας του κόλου· και

(β) ο δείκτης μεταφοράς οποτεδήποτε διαρκούσης της κανονικής μεταφοράς δεν υπερβαίνει το 1.0.

(2) Υποδοχείς (δοχεία) (CONTAINERS):- Όταν ο δείκτης μεταφοράς του υποδοχέως (δοχείου, CONTAINER) οποτεδήποτε διαρκούσης της μεταφοράς δεν υπερβαίνει το 1.0, και όταν δεν περιέχει κόλα Κλάσεως III Διασπαστών Υλών.

Β.- Κατηγορία III-KITPINH

(I) Κόλα:- Όταν *καθίσταται* των δύο ορίων του περιθώ- 3655
 ρίου 3654(I) υπερβαίνεται, ή όταν το κόλον ανήκει εις
 την Κλάσιν II ή Κλάσιν III Διασπαστών Υλών, ή όταν το κό-
 λον μεταφέρεται υπό ειδικήν διάταξιν, υπό τον όρον ότι:-

(α) το επίπεδον ακτινοβολίας το προερχόμενον εκ του
 κόλου οποτεδήποτε διαρκούσης της κανονικής μεταφοράς δεν
 υπερβαίνει τα 200 MREM/H (ωριαώς) εις οιονδήποτε τρόπον
 επί της εξωτερικής επιφανείας του κόλου, εκτός του ότι,
 δια φορτώσεις πλήρους φορτίου υπό τας συνθήκας τας οριζο-
 μένας εις περιθώριον 3659(7), το ανώτατον επιτρεπτόν επί-
 πεδον θα είναι 1000 MREM/H (ωριαώς)* και

(β) ο δείκτης μεταφοράς οποτεδήποτε διαρκούσης της
 κανονικής μεταφοράς δεν υπερβαίνει τα 10 εκτός εάν το κό-
 λον μεταφέρεται ως πλήρες φορτίον.

(2) Υποδοχείς (δοχεία, CONTAINERS):- όταν ο δείκτης
 μεταφοράς του υποδοχέως (δοχείου, CONTAINER), οποτεδήποτε
 διαρκούσης της κανονικής μεταφοράς, υπερβαίνει τα 1.0, ή
 όταν ο υποδοχεύς (δοχείον, CONTAINER) μεταφέρει κόλα ανή-
 κοντα εις Κλάσιν III Διασπαστών Υλών, ή όταν μεταφέρεται
 υπό ειδικήν διάταξιν.

Δ.- ΕΤΙΚΕΤΤΕΣ ΚΑΙ ΕΝΔΕΙΞΕΙΣ (βλέπε Προσθήκην Α.9)

(I) *Κάθε* κόλον και υποδοχεύς (δοχείον, CONTAINER) 3656
 (μεγάλο και μικρό) θα φέρει τουλάχιστον δύο ετικέττες οι
 οποίες θα είναι σύμφωνες με τα μοντέλα 6Α, 6Β ή 6Γ της
 Προσθήκης Α.9 αναλόγως με την κατηγορίαν (βλέπε περιθώ-
 ρια 3652 έως 3655) του κόλου ή υποδοχέως (δοχείου, CON-
 TAINER) τούτου.

(2) Οι ετικέττες θα τοποθετούνται εις δύο αντίθετες 3656
~~πλευρές~~ εξωτερικού του κόλου, ή εις το εξωτερικόν (Συνεχι-
και των τεσσάρων πλευρών του υποδοχέως (CONTAINER). ζεται)

(3) Οι ετικέττες θα είναι συμπληρωμένες ως κάτωθι
κατά σαφή και ανεξίτηλον τρόπον:-

(α) δίπλα στη λέξη "περιεχόμενον" θα σημειούνται το
ραδιονουκλεΐδιο ή η ύλη η παρουσία της οποίας αποτελεί
τον κύριον κίνδυνον εν περιπτώσει βλάβης του κόλου (π.χ.:
στρόντιον -90, υποβληθέν εις ακτινοβολίαν ουράνιον, ρα-
διενεργόν ISA)·

(β) δίπλα στη λέξη "ενέργεια (δραστηκότητας)" θα γρά-
φεται η δραστηκότης σε CURIES·

Σημειώσεις: Η δραστηκότης αυτή μπορεί επίσης να εκφρασθεί
εις μικρο, μιλλι ή κιλοκιουρί υπό τον όρον ~~ότι το~~ πρόθεμα
μικρο, μιλλι και κιλο γράφονται ολογράφως·

(γ) επιπροσθέτως των Αριθμών μοντέλου 6B και 6Γ θα
γράφεται ο δείκτης μεταφοράς με όσο το δυνατόν μεγαλυτέ-
ρους αριθμούς εις το δια τον σκοπόν αυτόν πλαίσιον.

(4) ~~Κάθε~~ κόλον μικρού βάρους υπερβαίνοντος τα 50 KG
θα έχει το μικρό βάρος αυτού ευκρινώς και ανεξιτήλως ση-
μειωμένον εις το εξωτερικόν του κόλου.

(5) ~~Κάθε~~ κόλον το οποίον συμφωνεί με σχέδιον συ-
σκευασίας Τύπου Α θα είναι ευκρινώς και ανεξιτήλως δημειω-
μένον εις το εξωτερικόν του κόλου με "Τύπος Α".

(6) ~~Κάθε~~ κόλον το οποίον συμφωνεί με σχέδιον εγ-
κεκριμένον δυνάμει των περιθωρίων 3672 έως 3674 θα σημει-
ούται ευκρινώς και ανεξιτήλως εις το εξωτερικόν του κόλου

με το αναγνωριστικόν σύμβολον το καθορισθέν δια το σχέ-
διον τούτου υπό της αρμοδίου αρχής και, στη περ
σχεδίου κώλου Τύπου B(U) ή Τύπου B(M), με "Τύπος
ή "Τύπος B(M)".

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(Συνέχ-
ζεται)

(7) ¹⁹ ~~κατά~~ κώλον το οποίον συμφωνεί με ~~σχεδίου~~
κώλου Τύπου B(U) ή Τύπου B(M) θα φέρει εις το εξωτερικόν
του δοχείου το οποίον αντέχει εις τις επιδράσεις του πυρός
και του ~~νερού~~ ευκρινώς σημειωμένον ~~με~~ σφραγίδος ~~ανά-~~
γλύφω ή ~~με~~ ~~άλλο~~ ~~μέσω~~ ανθεκτικώς εις τας επιδράσεις του
πυρός και του ~~νερού~~ το σύμβολον του τριφυλλίου το εικονι-
ζόμενον εις τις ετικέττες των μοντέλων 6A έως 6Γ.

Ε.- ΑΠΟΣΠΑΣΙΣ (ΔΙΑΧΩΡΙΣΜΟΣ) ΡΑΔΙΕΝΕΡΓΩΝ ΥΛΩΝ

Κόλα της Κατηγορίας II-KITPINΗΣ ή III-KITPINΗΣ 3657

θα αποσπώνται (διαχωρίζονται) κατά την μεταφοράν ή την
αποθήκευσιν από κόλα τα οποία φέρουν ετικέττα με την λέ-
ξιν "FOTQ" κατά τας αποστάσεις ασφαλείας τας διδομένας
εις τον πίνακα του περιθωρίου 240 00I της Προσθήκης Β.4.

ΣΤ.- ΑΠΟΘΗΚΕΥΣΙΣ ΥΠΟ ΔΙΑΜΕΤΑΚΟΜΙΣΙΝ (IN TRANSIT)

(I) Κόλα ραδιενεργών υλών δεν θα αποθηκεύονται 3658
πλησίον επικινδύνων εμπορευμάτων μετά των οποίων μικτή
φόρτωσις απαγορεύεται (βλέπε περιθώριον 2700(3)).

(2) Ο αριθμός των κώλων και δοχείων (CONTAINERS)
Κατηγορίας II-KITPINΗΣ και Κατηγορίας III-KITPINΗΣ των
αποθηκευομένων εις οιαδήποτε μίαν αποθήκην (αποθηκευτι-
είδων
κόν χώρον), ως χώρος/υπό διαμετακίμεισιν (TRANSIT AREA),
ακράτον κέντριον, ή υπόστεγον, θα είναι τόσον περιορισμέ-
νος ώστε το ολικόν άθροισμα των δεικτών μεταφοράς ολουδή-

ποτέ επί μέρους ομάδος τοιούτων κόλων ή δοχείων (CONTAINERS) δεν υπερβαίνει τα 50. Ομάδες τοιούτων κόλων και δοχείων (CONTAINERS) θα αποθηκεύονται κατά τρόπον ώστε να τηρείται κενός χώρος τουλάχιστον 6 μέτρων από τους άλλους ομίλους (ομάδες) τοιούτων κόλων ή δοχείων (CONTAINERS).

(3) Οσάκις έλεγχος συσσωρευθέντων κόλων πραγματοποιείται αναφερόμενος εις ερυθρές ταινίες σημειούμενες επί των ετικεττών δεν θα υπάρχουν περισσότερα των 50 Κατηγορίας II-KITPINΗΣ ή 5 Κατηγορίας III-KITPINΗΣ κόλα εις οιαδήποτε μίαν ομάδα κόλων. Οσάκις υπάρχουν κόλα αμφοτέρων των κατηγοριών, ένα κόλον Κατηγορίας III-KITPINΗΣ θα λαμβάνεται ως ισοδύναμον με δέκα Κατηγορίας II-KITPINΗΣ κόλα.

(4) Εκτός της περιπτώσεως κόλων Διασπαστών Υλών Κλάσεως II ή Κλάσεως III, οι περιορισμοί του περιθωρίου 3658(2) δεν ισχύουν δια κόλα σημειούμενα "RADIOACTIVE (ΡΑΔΙΕΝΕΡΓΟΝ) LSA" και περιέχοντα ύλην χαμηλής ειδικής δραστηριότητος ή κόλα σημειούμενα "RADIOACTIVE (ΡΑΔΙΕΝΕΡΓΟΝ) LLS" και περιέχοντα στερεάν ραδιενεργόν ύλην χαμηλού επιπέδου όταν διατηρούνται εις συμπαγή στοιβάσαν ή εντός υποδοχείων (CONTAINERS).

(5) Ανάμειξις διαφόρων ειδών κόλων, συμπεριλαμβανομένων κόλων Διασπαστών Υλών Κλάσεως I με κόλα Διασπαστών Υλών Κλάσεως II, επιτρέπεται.

Z.- ΜΕΤΑΦΟΡΑ

I.- Κόλα

(I) Τα κόλα θα φορτώνονται κατά τέτοιο τρόπο στα οχήματα ώστε να μη μπορούν να μετακινούνται επικινδύνως,

αναποδογυρίζουν ή πέφτουν.

3659

(2) Υπό τον όρον ότι ο μέσος όρος της επιφανειακής θερμικής ροής δεν υπερβαίνει τα 15W/M^2 , και ότι το περίεφορτίον δεν είναι σε σάκκους, το κόλον μπορεί να μεταφερθεί μεταξύ συσκευασμένου γενικού φορτίου άνευ οιοδήποτε ειδικών περί στοιβασίας διατάξεων εκτός ως ήθελεν ειδικώς ζητηθεί υπό της αρμόδου αρχής εις κατάλληλον πιστοποιητικόν. Εάν η θερμική ροή υπερβαίνει τα 15W/M^2 το κόλον πρέπει να μεταφερθεί ως πλήρες φορτίον.

(3) Κόλα Κατηγοριών I-ΛΕΥΚΗ, II ή III-ΚΙΤΡΙΝΗ δεν πρέπει να μεταφέρονται εντός διαμερισμάτων καταλαμβανομένων υπό επιβατών, εκτός εκείνων τα οποία φυλάσσονται δια μεταφορείς/συνοδούς ειδικώς εξουσιοδοτημένους να συνοδεύσουν τα τολαύτα κόλα.

(4) Η ανάμιξις διαφόρων ειδών κόλων, συμπεριλαμβανομένων των κόλων Διασπαστών Υλών Κλάσεως I με κόλα Διασπαστών Υλών Κλάσεως II, επιτρέπεται.

(5) Η συσσώρευσις κόλων και υποδοχέων (δοχείων, CONTAINPERS) θα ελέγχεται ως κάτωθι:-

(α) Δι' αμφοτέρα τα κόλα και υποδοχείς (δοχεία, CONTAINERS), ο αριθμός των κόλων και CONTAINERS θα είναι έτσι περιορισμένος ώστε το συνολικόν άθροισμα των δεικτών μεταφοράς εις οιονδήποτε όχημα δεν θα υπερβαίνει τα 50. Όσάκις ο έλεγχος αυτός των κόλων πραγματοποιείται δι' αναφοράς εις τας ερυθράς ταινίας τας σημειούμενας επί των κόλων βλέπε περιθώριον 3658(3).

(β). Στη περίπτωση πλήρων φορτίων τα όρια της παρά-

γράφου (5)α) θα έχουν εφαρμογήν, υπό τον όρον ότι το επί- 3659
πεδον ακτινοβολίας υπό κανονικής συνθήκας μεταφοράς δεν (Συνεχί-
υπερβαίνει τα 200 MREM/H (ωριαίως) εις οιονδήποτε σημείον ζεται)
επί, και 10 MREM/H (ωριαίως) εις 2M εκ της εξωτερικής επι-
φανείας/υποδοχέως ή οχήματος. Δι' αποστολές Διασπαστών Υλών
Κλάσεως II ή III, ή μίγμάτων αυτών, το πλήρες φορτίον δεν
θα περιλαμβάνει περισσότερα του επιτρεπομένου αριθμού κόλα
(βλέπε σημειωσιν εις περιθώριον 2700).

(6) Οχήματα και μεγάλοι υποδοχείς (CONTAINERS)
μεταφέροντα κόλα ή δοχεία φέροντα ετικέττες M₀ ντέλων 6A,
6B ή 6Γ, ή μεταφέροντα αποστολές πλήρους φορτίου οιονδή-
ποτε ραδιενεργών υλών θα εκθέτουν την επιγραφήν του περι-
θωρίου 240 ΟΙΟ της Προσθήκης Β.4 επί του εξωτερικού εκάστης
των δύο πλαγίων πλευρών και του οπισθίου τοιχώματος στη
περίπτωση οχήματος.

(7) Στη περίπτωση πλήρων φορτίων το επίπεδον ακτι-
νοβολίας δεν θα υπερβαίνει:-

(α) τα 1000 MREM/H (ωριαίως) εις οιονδήποτε σημείον
της εξωτερικής επιφανείας οιονδήποτε κόλου, υπό τον όρον
ότι:-

- (1) το όχημα είναι εφωδιασμένον με κλεισίμον/το (καλύπτρα)
οποίον διαρκούσης της μεταφοράς, εμποδίζει
την πρόσβασιν εις μη εξουσιοδοτημένα πρόσωπα
εις το εσωτερικόν του κλεισίματος (της καλύπτρας)·
- (2) έχουν γίνει προβλέψεις δια την ασφάλειαν των
κόλων, ώστε η θέσις των εντός του οχήματος
να παραμένει ωρισμένη διαρκούσης της κανονικής
μεταφοράς·

(ιιι) δεν υπάρχουν εργασίες φορτώσεως ή εκφορτώ- 3659
σεως μεταξύ της ενάρξεως και λήξεως της (συνεχίζε-
μεταφοράς. ται)

Υπό άλλας συνθήκας, το επίπεδον ακτινοβολίας εις οιον-
δήποτε σημειον επί της εξωτερικής επιφανείας του κδλου
δεν θα υπερβαίνει τα 200 MREM/H (ωριαίως).

(β) τα 200 MREM/H (ωριαίως) εις οιονδήποτε σημει-
ον επί της εξωτερικής επιφανείας του οχήματος ή του με-
γάλου CONTAINER, συμπεριλαμβανομένων των άνω και κάτω
επιφανειών, και, προκειμένου περί ανοικτού οχήματος εις
οιονδήποτε σημειον επί των καθέτων επιπέδων των προεκτει-
νομένων (προεξεχόντων) εκ των εξωτερικών άκρων του οχήμα-
τος, επί της άνω επιφανείας του φορτίου, και επί της κάτω
εξωτερικής επιφανείας του οχήματος και

(γ) τα 10 MREM/H (ωριαίως) εις οιονδήποτε σημειον
2M εκ των καθέτων επιπέδων των αντιπροσωπευομένων υπό
των εξωτερικών πλευρικών επιφανειών του οχήματος ή μεγά-
λου CONTAINER, και, εάν το φορτίον μεταφέρεται εντός ανοι-
κτού οχήματος εις οιονδήποτε σημειον 2M εκ των καθέτων επι-
πέδων των προεξεχόντων εκ των εξωτερικών άκρων του οχήματος.

(8) (α) Το επίπεδον ακτινοβολίας εις οιαδήποτε
κανονικώς κατειλημμένην θέσιν οχήματος δεν θα υπερβαίνει
τα 2 MREM/H (ωριαίως) διαρκούσης της μεταφοράς. Υπό τοιαύ-
τας συνθήκας ο μεταφορέυς θα εξασφαλίζει ότι ο οδηγός ή
οιονδήποτε συνοδευον προσωπικόν, δεν θα περιλαμβάνει πε-
ρισσοτέραν ακτινοβολίαν των 0.5 REM. εις οιαδήποτε 12-μηνον
περίοδον. Διατηρούντες τας κατωτάτας αποστάσεις τας ανα-

γγραφομένης εις τον πίνακα του περιθωρίου 240 000 της 3659
 Προσθήκης Β.4, ακόμη και ελλείψει προστατευτικού καλύμ- (Συνεχί-
 ματος, θα θεωρούνται ως διατηρούμενα εντός του ορίου ζεται)
 των 2 MREM/H (ωριαίως).

(β.) Εναλλακτικώς της (α) ανωτέρω, ο μεταφορέας
 μπορεί να θέσει σε λειτουργία πρόγραμμα εργασίας εγνε-
 κριμένον υπό της αρμοδίας αρχής δια του οποίου στοιχεία
 δέον να τηρούνται υπ' αυτού δια τους χρόνους τους δαπανη-
 θέντας υπό προσώπων ταξειδευόντων εις τα οχήματά του και
 τα επίπεδα ακτινοβολίας εις τα οποία τα πρόσωπα αυτά
 υποβάλλονται, εις τρόπον ώστε ουδέν πρόσωπον να λαμβάνει
 μεγαλύτεραν δόσιν των 375 MREM εις οιονδήποτε ημερολογια-
 κόν τρίμηνον.

2.- Βυτιοφόρα (TANK VEHICLES)

Χαμηλής-ειδικής-δραστηκότητας ύλες, ISA (I), 3660
 του περιθωρίου 2703, παραρτήματος/πίνακος 5, πλην του
 εξαφθοριούχου ουρανίου και υλών υποκριμένων εις στιγμι-
 αλαν ανάφλεξιν, μπορούν να μεταφέρονται με βυτιοφό-
 ρα συμφώνως προς τους όρους της Προσθήκης Β.Ια.

3.- TANK-CONTAINERS

Χαμηλής ειδικής-δραστηκότητας ύλες, ISA (I), 366I-
 του περιθωρίου 2703, παραρτήματος/πίνακος 5, συμπερι-
 λαμβανομένου του φυσικού ή εξασθενημένου εξαφθοριούχου
 ουρανίου, μπορούν να μεταφέρονται εντός TANK-CONTAINERS
 (Δεξαμενο-Υποδοχέων) συμφώνως προς τους όρους της Προσθή-
 κης Β.Ιβ.

3662-
 3669

ΚΕΦΑΛΑΙΟΝ V.- ΔΙΟΙΚΗΤΙΚΑΙ ΔΙΑΤΑΞΕΙΣ

Έγκρισις υπό των αρμοδίων αρχών δεν απαιτείται 3670
 για σχέδια κδλων για ύλες αποσπελλόμενες δυνάμει των Πα-
 ραρτημάτων/Πινάκων I έως 4 και, υπό τον όρον ότι το πε-
 ριεχόμενον δεν είναι διασπαστές ύλες απαιτούσαι έγκρισιν
 συμφώνως προς το περιθώριον 3674, δια σχέδια κδλων για
 ύλες αποσπελλόμενες δυνάμει των Παραρτημάτων/Πινάκων
 5 έως 8.

Α.- ΕΓΚΡΙΣΙΣ ΕΙΔΙΚΟΥ ΤΥΠΟΥ ΡΑΔΙΕΝΕΡΓΩΝ ΥΛΩΝ

(I) Οιονδήποτε σχέδιον δι' ειδικού τύπου ραδιενεργείας 367I
 ύλες, με την εξαίρεσιν των υλών των οριζομένων εις τα
 Παραρτήματα/Πίνακας 3 και 4, θά απαιτεί μονόπλευρον (ετε-
 ροβαρή) έγκρισιν. Η αίτησις δι' έγκρισιν θα περιλαμβάνει:-

(α) λεπτομερή περιγραφήν των υλών ή, προκειμένου
 περί κάψουλας, του περιεχομένου· ειδική μνεία θα γίνεται
 αμφοτέρων των φυσικών και χημικών καταστάσεων·

(β) λεπτομερή δήλωσιν του σχεδίου οιασδήποτε χρη-
 σιμοποιηθησομένης κάψουλας, συμπεριλαμβανομένων πλήρων
 μηχανικών σχεδίων και πινάκων υλικών και μεθόδων κατα-
 σκευής, που πρόκειται να χρησιμοποιηθούν·

(γ) δήλωσιν των ελέγχων οι οποίοι έχουν γίνει
 ως και των αποτελεσμάτων αυτών, ή αποδείξεων βασιζομέ-
 νων επί μεθόδων υπολογισμού δια να καταδειχθεί ότι οι
 ύλες είναι ικανές να αντιμετωπίσουν τους ελέγχους, ή ε-
 τέρων αποδείξεων κατά τας οποίας αι ειδικού τύπου ρα-
 διενεργείας ύλες πληρούν τους όρους και τας διατάξεις της
 παρούσης Προσθήκης.

(2) Η αρμοδία αρχή θα καθιερώσει πιστοποιητικόν αναφέρον ότι το εγκριθέν σχέδιον πληροί τον ορισμό των ειδικού τύπου ραδιενεργών υλών τον οριζόμενον εις το περιθώριον 2700(2) και θα δίδει εις το σχέδιον τούτο σύμβολον αναγνώρισεως. Το πιστοποιητικόν θα καθορίζει τας λεπτομερείας των ραδιενεργών υλών. 367I (Συνεχίζεται)

B.- ΕΓΚΡΙΣΙΣ ΣΧΕΔΙΩΝ ΚΟΛΩΝ

I.- Έγκρισις σχεδίων κόλων Τύπου B(U) (συμπεριλαμβανομένων των σχεδίων δια κόλα Διασπαστών Υλών Κλάσεως I, Κλάσεως II και Κλάσεως III τα οποία υπόκεινται επίσης εις το περιθώριον 3674)

(I) Οιονδήποτε σχέδιον κόλου Τύπου B(U) προερχόμενον εκ χώρας μέρους της ADR θα εγκρίνεται υπό της αρμοδίας αρχής της χώρας ταύτης· εάν η χώρα ένθα το κόλον εσχεδιάσθη δεν είναι (συμπληθέν) μέλος της ADR, η μεταφορά είναι δυνατή υπό τον όρον ότι:- 3672

(α) πιστοποιητικόν έχει χορηγηθεί υπό της χώρας αυτής, ορίζον ότι το κόλον πληροί τις τεχνικές διατάξεις της ADR, και ότι το πιστοποιητικό τούτο προσυπογράφεται υπό της αρμοδίας αρχής της πρώτης χώρας ADR εις την οποίαν φθάνει η αποστολή·

(β) εάν ουδέν πιστοποιητικόν έχει χορηγηθεί, το σχέδιον κόλου εγκρίνεται υπό της αρμοδίας αρχής της πρώτης χώρας ADR εις την οποίαν έφθασε η αποστολή·

(2) Η αίτησις ~~για~~ έγκριση θα περιλαμβάνει:-

(α) λεπτομερή περιγραφήν του προτεινομένου περιε-

χομένου με ειδικήν αναφοράν εις τας φυσικὰς και χημικὰς 3672
καταστάσεις αυτού και την φύσιν της εκπεμπομένης ακτινοβολίας. (Συνεχίζεται)

(β) λεπτομερή δήλωσις του σχεδίου, συμπεριλαμβανομένων πλήρων μηχανικών σχεδίων και πινάκων υλικών και μεθόδων κατασκευής που πρόκειται να χρησιμοποιηθούν.

(γ) δήλωσιν των ελέγχων οι οποίοι έχουν γίνει και των αποτελεσμάτων αυτών, ή αποδείξεων βασιζομένων επί μεθόδων υπολογισμού ή άλλων αποδείξεων ότι το σχέδιον του κόλου είναι κατάλληλον για να αντιμετωπίσει τις διατάξεις των περιθωρίων 3602 και 3605.

(δ) τας προτεινομένας οδηγίας λειτουργίας και συντηρήσεως για την χρήση του κόλου, ειδικώτερον, προκειμένου περί κόλων που ενδέχεται να βυθισθούν εις μολυσμένα λιμνοστάσια, τας ενσωματωμένας διατάξεις προς εξασφάλισιν ότι η επιφάνεια του κόλου δεν εμολύνθη άνω των επιτρεπομένων επιπέδων.

(ε) εάν το κόλον ^{είναι} σχεδιασθεί να έχει ανωτάτην κανονικήν λειτουργικήν πρῆσιν πλέον των 1.0 KG/CM² (GAUGE), η αίτησις δια την έγκρισιν θα αναφέρει, ειδικώτερον, εν σχέσει με τα υλικά της κατασκευής του συστήματος υποδοχέων (CONTAINMENT SYSTEM), τας προδιαγραφάς, τα ληφθησόμενα δείγματα και τους ενεργηθησομένους ελέγχους.

(στ) οσάκις το προτεινόμενον περιεχόμενον είναι καύσιμον υποβληθέν εις ακτινοβολίαν (IRRADIATED FUEL), ο αιτών θα αναφέρει και δικαιολογεί οιανδήποτε υπόθεσιν (οιονδήποτε δεδομένον) ιτην ανάλυσιν της ασφαλείας που σχετίζεται με τα χαρακτηριστικά του καυσίμου.

3672
(5) οιασδήποτε ειδικής διατάξεις στοιβάσεως απαιτείται (Συνεχίζεται)
για να εξασφαλισθεί ο ασφαλής διασκεδασμός της
θεωρητότητας εκ του κόλου* θα λαμβάνεται υπόψη ο τύπος
του οχήματος ή του CONTAINER (βλέπε περιθώριον 368I(I)(α)).

(η) δυναμένην να αναπαράχθελ εικονογράφησις όχι μεγαλύτεραν των 21 CM X 30 CM, εικονίζουσαν την κατασκευήν του κόλου.

(3) Η αρμοδία αρχή θα καθιερώνει πιστοποιητικόν αναφέρον ότι το εγκριθέν σχέδιον πληροί τις διατάξεις των κόλων Τύπου B(U) (βλέπε περιθώρια 3677 και 3678).

2.- Έγκρισις σχεδίου κόλων Τύπου B(M) (συμπεριλαμβανομένων των σχεδίων δια κόλα Διασπαστών Υλών Κλάσεως I, Κλάσεως II και Κλάσεως III τα οποία επίσης υπόκεινται εις το περιθώριον 3674)

(I) Έκαστον σχέδιον κόλου τύπου B(M) θα αναγκαιοί πολυ- 3673 πλευρον έγκρισιν.

(2) Η αίτησις δι' έγκρισιν σχεδίου κόλου Τύπου B(M) θα περιλαμβάνει, επιπροσθέτως των πληροφοριών των απαιτούμενων υπό του περιθωρίου 3672(2) δια κόλα Τύπου B(U):-

(α) κατάστασιν των προσθέτων ειδικών εκείνων διατάξεων δια κόλα Τύπου B(U) των οριζομένων εις το περιθώριον 3603 με τας οποίας το κόλον δεν συμφωνεί.

(β) οιασδήποτε προτεινομένους συμπληρωματικούς λειτουργικούς ελέγχους 5/ δια να ρυθμισθούν αι αναγραφόμεναι εις (α) ανωτέρω ελλείψεις και

(γ) δήλωσιν σχετικήν με οιασδήποτε διαδικασίαν φορτώσεως, μεταφοράς, εκφορτώσεως, ή χειρισμού.

(δ) τις ανώτατες και κατώτατες συνθήκες του περι- 3673
βάλλοντος (θερμοκρασία, ηλιακή ακτινοβολία) οι οποίες (Συνεχι-
ζεται)
αναμένονται να αντιμετωπισθούν διαρκούς της μεταφοράς
και οι οποίες έχουν ληφθεί υπόψη εις το σχέδιον.

(3) Η αρμοδία αρχή θα καθιερώσει πιστοποιητικόν ανα-
φέρον ότι το εγκριθέν σχέδιον κόλου πληροί τις διατάξεις
τις διέπουσες τα κόλα Τύπου B(M) (βλέπε περιθώρια 3677
έως 3679).

3.- Έγκρισις σχεδίου κόλων Διασπαστών Υλών Κλάσεως I,
Κλάσεως II και Κλάσεως III

(I) Σχέδια κόλων συμμορφούμενα προς τα παραδείγματα 3674
των περιθωρίων 3620, 3623, ή 3624 δεν θα απαιτούν περαι-
τέρω εγκρίσεις της αρμοδίας αρχής.

(2) Σχέδια κόλων συμμορφούμενα προς τα παραδείγματα
των περιθωρίων 3616 και 3622 θα απαιτούν μονόπλευρον
(ετεροβαρή) έγκρισιν.

(3) Όλα τα λοιπά σχέδια κόλων θα απαιτούν πολύπλευρον
έγκρισιν.

(4) Η αίτησις δια την έγκρισιν θα περιλαμβάνει όλες
τις πληροφορίες που είναι απαραίτητες δια να εξακριβώσει
η αρμοδία αρχή ότι το σχέδιον πληροί τις διατάξεις των
περιθωρίων 3610 έως 3624.

(5) Η αρμοδία αρχή θα καθιερώσει πιστοποιητικόν (βλέπε
περιθώρια 3677 έως 3679) αναφέρον ότι το εγκριθέν σχέδιον
κόλου πληροί τις διατάξεις των περιθωρίων 3610 έως 3624.

Γ.- ΕΓΚΡΙΣΙΣ ΦΟΡΤΩΣΕΩΝ

(I) Πολύπλευροι εγκρίσεις φορτώσεων θα απαιτούνται δια 3675

Κόλα/+

3675

(α) Κόλα Τύπου B(M) ειδικώς σχεδιαζόμενα να επι-
πρόκειν συνεχή εξαερισμόν.

(β) Κόλα Τύπου B(M) περιέχοντα ραδιενεργείς ύλες
με δραστηνότητα μεγαλύτεραν των $3 \times 10^3 A_I$ ή $3 \times 10^3 A_2$,
ως ενδεικνύται, ή $3 \times 10^4 Ci$, οιασδήποτε τούτων ούσης μι-
κροτέρας.

5/ (Σελίς Μεταφράσεως I45):- Δηλαδή, λειτουργι-
κοί έλεγχοι διαρκούσης της μεταφοράς οι οποίοι δεν προ-
βλέπονται ως ρουτίνα υπό της παρούσης Προσθήκης αλλά
θεωρούνται απαραίτητοι δια να εξασφαλίζεται η ασφάλεια
του κόλου διαρκούσης της μεταφοράς, όπως ανθρωπίνη επέμ-
βασις ή μετρήσεις θερμοκρασίας ή πιέσεως ή ήια περιοδι-
κόν εξαερισμόν. Οι έλεγχοι αυτοί θα λαμβάνουν επίσης υπόψη
την δυνατότητα απροσδοκήτου καθυστέρησης.

(γ) Κόλα Διασπαστών Υλών Κλάσεως II συμμορφούμε-
να προς το περιθώριον 3620.

(δ) Κόλα Διασπαστών Υλών Κλάσεως III.

Εν τούτοις, η αρμοδία αρχή δύναται να εξουσιοδοτήσει μετα-
φοράν εις ή δια της χώρας αυτής, άνευ εγκρίσεως της φορτώ-
σεως, ή ειδική προβλέψη περιεχομένη εις την έγκρισή
της του σχεδίου.

(2) Η αλτήσις διά την έγκρισιν της φορτώσεως θα περι-
λαμβάνει:-

(α) την χρονικήν περίοδον, την σχετικήν με την

φορτώσειν, δια την οποίαν επιδιώκεται η έγκρισις·

3675

(β) το πραγματικόν περιεχόμενον, τον τύπον του οχήματος και την πιθανήν ή προτεινομένην διαδρομήν· και

(Συνεχίζεται)

(γ) πως αι ειδικαί προφυλάξεις και οι ειδικοί διοικητικοί και λειτουργικοί έλεγχοι οι αναφερόμενοι εις τα πιστοποιητικά σχεδίων κόλων τα εκδοθέντα δυνάμει των περιθωρίων 3673 και 3674, πρόκειται να τεθούν ~~σε~~ ισχύ.

(3) ~~Μία~~ ^{Μία} εγκρίσει της φόρτωσης, η αρμόδια αρχή θα εκδώσει πιστοποιητικόν (βλέπε περιθώρια 3677 έως 3679).

(4) Τα πιστοποιητικά κόλων και φορτώσεων μπορούν να συνδυάζονται σε ένα πιστοποιητικό.

Δ.- ΕΓΚΡΙΣΙΣ ΜΕΤΑΦΟΡΑΣ ΔΙ' ΕΙΔΙΚΗΣ ΕΝΕΡΓΕΙΑΣ

(ΤΑΚΤΟΠΟΙΗΣΕΩΣ/ΔΙΕΥΘΕΤΗΣΕΩΣ)

(Ι) Αποστολή ραδιενεργών υλών η οποία δεν πληροί όλες τις ισχύουσες διατάξεις της παρούσης Προσθήκης θα μετα- 3676 φέρεται μόνον δι' ειδικής ενεργείας (τακτοποιήσεως/διευθετήσεως), η οποία πάντοτε απαιτεί πολύπλευρον έγκρισιν.

Αι ειδικαί ενέργειαι θα είναι κατάλληλοι δια να εξασφα-
λί^δζεται/το γενικόν επίπεδον ασφαλείας της μεταφοράς είναι τουλάχιστον ισοδύναμον με εκείνο που θα παρείχετο εάν είχαν τηρηθεί όλα αι ισχύουσαι διατάξεις της παρούσης Προσθήκης.

(2) Η αίτησις δια την έγκρισιν θα περιλαμβάνει τας πληροφορίας τας απαιτούμενας δυνάμει των περιθωρίων 3672

έως 3675 και επίσης:-

3676

(α) δήλωσιν των απόψεων δια τας οποίας, και των λόγων <sup>(Συνεχί-
ζεται)</sup> διατί, η φόρτωση δεν δύναται να γίνει ~~με~~ πλήρη συμφωνία με τας ισχύουσας διατάξεις της παρούσης Προσθήκης· και

(β) δήλωσιν οιασδήποτε ειδικών προφυλάξεων ή ειδικών διοικητικών ή λειτουργικών ελέγχων οι οποίοι δέον να ληφθούν διαρκούσης της μεταφοράς ~~για~~ την ρύθμιση της αδυναμίας αντιμετώπισης των ισχυουσών διατάξεων της παρούσης Προσθήκης.

(3) ~~Ουδείς~~ εγκρίθει η, ειδική ενέργεια (τακτοποίηση/διευθέτηση), η αρμοδία αρχή θα εκδώσει πιστοποιητικόν (βλέπε περιθώρια 3677 έως 3679).

Ε.- ΠΙΣΤΟΠΟΙΗΤΙΚΑ ΕΓΚΡΙΣΕΩΣ ΑΡΜΟΔΙΑΣ ΑΡΧΗΣ

Ι.- Σύμβολα αναγνώρισεως (αναγνωριστικά σύμβολα)
της Αρμοδίας Αρχής

(Ι) ~~Κάθε~~ πιστοποιητικόν εγκρίσεως εκδοθέν υπό της 3677 αρμοδίας αρχής θα αναγνωρίζεται δι' αναγνωριστικής ενδειξεως.

Η ένδειξις θα είναι του κάτωθι γενικευμένου τύπου:-

Σύμβολον εθνικότητος της χώρας 6/ /Κωδικός

Αριθμός/Τύπος

(α) Ο αριθμός θα εκχωρείται υπό της αρμοδίας αρχής, και θα είναι μοναδικός και ειδικός αναφορικώς με το συγκεκριμένον σχέδιον ή φόρτωσιν. Η ένδειξις αναγνώρισεως της εγκρίσεως της φορτώσεως θα καθορίζεται σαφώς με το αναγνωριστικόν σύμβολον εγκρίσεως του σχεδίου του κόλου.

(β) Οι κατωτέρω κωδικοποιημένοι τύποι θα χρησιμοποιούνται με την με την αναγραφομένην σειράν προς καθο-

ρισμότητων τύπων των εκδοθέντων πιστοποιητικών εγκρί-

3677

σεως:

(Συνεχίζεται)

Σχέδιον κόλου Τύπου Α (καθώς και δια κόλον κλάσεως διασπαστής ύλης)

B(U) Σχέδιον κόλου Τύπου B(U)

B(M) Σχέδιον κόλου Τύπου B(M)

F Σχέδιον κόλου κλάσεως διασπαστής ύλης

S Έγκρισις ύλης ειδικού τύπου

T Φόρτωσης

X Ειδική Ενέργεια (Τακτοποιήσεως/Διευθετήσεως).

(2) Οι ανωτέρω κωδικοποιημένοι τύποι θα ισχύουν ως κάτωθι:-

(α) ~~Κάθε~~ πιστοποιητικόν και ~~κάθε~~ κόλο

θα φέρει την κατάλληλον ένδειξιν αναγνώρισεως την αποτελούμενην εκ των εν παραγράφω (I) προβλεπομένων συμβόλων εκτός του ότε δια τα κόλα θα εμφανίζεται μόνον ο ισχύων κωδικοποιημένος τύπος σχεδίου του κόλου μετα την δευτέραν κλάθετον, ήτοι, τα "S", "T" και "X" δεν θα εμφανίζονται εις την επί του κόλου ένδειξιν αναγνώρισεως. Όταν έχουν συνδυασθεί η έγκρισις του σχεδίου του κόλου και η έγκρισις της φορτώσεως, οι ισχύοντες κωδικοποιημένοι τύποι δεν χρειάζεται να επαναλαμβάνονται. Π.χ.:-

A/I32/B(M)F:- Κόλον κλάσεως Διασπαστής Ύλης Τύπου

B(M) εγκεκριμένον υπό της Αυστρίας

δια σχέδιον κόλου αριθμός I32 (θα σημειούται τόσον εις αυτό τούτο το κόλον όσον και εις το πιστοποιητικόν εγκρίσεως του σχεδίου του κόλου).

A/I32/B(M)FT:- Η αναγνωριστική ένδειξη ~~W~~ πιστοποιητι- 3677
κού εγκρίσεως της φορτώσεως η εκδο- (Συνεχι-
θείσα δια το σχέδιον του κόλου (θα ζεται)
σημειούται μόνον εις το πιστοποιητικόν).

A/I37/X:- Η αναγνωριστική ένδειξη ~~W~~ πιστοποιητι-
κού εγκρίσεως της φορτώσεως εκδοθείσα
δι' Αυστριακόν σχέδιον I37 δυνάμει ειδι-
κής ενεργείας (τακτοποιήσεως) της φορτώ-
σεως (θα σημειούται εις το πιστοποιητικόν
μόνον).

6/ (Σελίς Μεταφράσεως I49):- Τα αναφερόμενα σήματα
(ενδείξεις) είναι τα εθνικά διακριτικά σήματα δι' αυτοκί-
νητα διεθνούς κυκλοφορίας.

(β) Ότιν πολύπλευρος έγκρισις παρέχεται δι' επι-
κυρώσεως, μόνον αι αναγνωριστικά ενδείξεις αι εκδιδόμε-
ναι υπό της χώρας της προελεύσεως του σχεδίου ή της φορ-
τώσεως θα χρησιμοποιούνται. Οσάκις πολύπλευρος έγκρισις
παρέχεται ~~φί~~ εκδόσει πιστοποιητικών υπό διαδοχικών χωρών, ~~μὰ~~

πιστοποιητικόν θα φέρει την κατάλληλον ένδειξιν
και το κόλον του οποίου το σχέδιον ενεκρίθη θα φέρει όλα
τα κατάλληλα αναγνωριστικά σύμβολα (ενδείξεις). Π.χ., τα

(A/I32/B(M)F)

(CH/28/B(M)F)

θα ήσαν αι αναγνωριστικά ενδείξεις (σύμβολα) κόλου το ο-
ποίον αρχικώς ενεκρίθη υπό της Αυστρίας και μετέπειτα ενε-

451θη, δια χωριστού πιστοποιητικού, υπό της Ελβετίας. 3677
Συμπληρωματικοί αναγνωριστικοί ενδείξεις θα γραφούν (Συνεχίζε-
ται)
καθ' όμοιον τρόπον επί του κóλου.

(γ) Η αναθεώρησης των αριθμών των πιστοποιητι-
κών θα σημειούται εντός παρενθέσεως μετά την επί του πι-
στοποιητικού αναγνωριστικήν ένδειξιν. Π.χ., A/I32/B(U)F.
(Αναθ.2) θα καθορίζει αναθεώρησιν 2 του πιστοποιητικού
του εγκριθέντος υπό της Αυστρίας σχεδίου του κóλου, ή
A/I32/B(U)F. (Αναθ. 0) θα καθορίζει την αρχικήν έκδοσιν
του πιστοποιητικού του εγκριθέντος υπό της Αυστρίας σχε-
δίου του κóλου. Δια την αρχικήν έκδοσιν η έτη παρένθέ-
σεα διατύπωση είναι προαιρετική και άλλαι λέξεις όπως
"(αρχική έκδοσις)" μπορούν επίσης να χρησιμοποιηθούν
αντί της "(Αναθ.0)". Αναθεωρηθέντες αριθμοί πιστοποιητι-
κών δύνανται μόνον να εκδίδωνται υπό της χώρας της εκδι-
δόσεως τον αρχικόν αριθμόν πιστοποιητικού. Η αναθεώρη-
σις υπό χώρας άλλης από την εκδώσασα θα απαιτεί νέον πι-
στοποιητικόν και αριθμόν αναγνωρίσεως.

(δ) Πρόσθετα σύμβολα (που ενδέχεται να απαιτούν-
ται υπό εθνικών διατάξεων) μπορούν να προστεθούν εντός
παρενθέσεως εις το τέλος της ενδείξεως αναγνωρίσεως.
Π.χ., A/I32/B(U)F (SP503).

(ε) Δεν είναι απαραίτητον να τροποποιείται η επί
του κóλου ένδειξις αναγνωρίσεως κάθε φορά που γίνεται ανα-
θεώρησις του πιστοποιητικού του κóλου. Μία τέτοια τροπο-
ποίησις θα γίνεται μόνον στις περιπτώσεις εκείνες που η
η αναθεώρηση του πιστοποιητικού του σχεδίου του κóλου

οφείλει να γίνεται αλλαγή των στοιχείων των κωδικοποιημένων τύ- 3677
πων σχεδίων κόλων, μετά την δευτέραν κάθετον (γραμμήν). (Συνεχί-
ται)

2. Πληροφορίες απαιτούμεναι στα πιστοποιητικά

Κάθε πιστοποιητικό εγκρίσεως εκδιδόμενον υπό της 3678
αρμοδίας αρχής θα περιλαμβάνει τας οικείας εκ των κάτωθι
πληροφορίας:-

(α) Την ένδειξιν αναγνωρίσεως της αρμοδίας αρχής.

(β) Βραχείαν περιγραφήν της συσκευασίας, συμπερι-
(υλικών) του
λαμβανομένων υλών/κατασκευής, /μικτού βάρους, των γενικών
εξωτερικών διαστάσεων, και της εμφανίσεως. Αυτή θα περιλαμ-
βάνει δυναμένην να αναπαράχθαι εικονογράφησιν όχι μεγαλυ-
τέραν των 21 CM επί 30 CM, εικονίζουσιν την κατασκευήν του
κόλου.

(γ) Βραχείαν προδιαγραφήν του επιτρεπομένου περιε-
χομένου, συμπεριλαμβανομένων ολωνδήποτε περιορισμών περιε-
χομένου οι οποίοι ενδέχεται να είναι εμφανείς εκ της φύ-
σεως της συσκευασίας. Θα πρέπει να συμπεριλάβει τους φυσι-
κούς και χημικούς τύπους (FORMS), τις δραστηκότητες σε CURIE
(συμπεριλαμβανομένων εκείνων των διαφόρων ισοτόπων, εάν εν-
δεικνύται), τα ποσά εις γραμμάρια δια διασπαστές ύλες, και
εάν είναι ειδικού τύπου.

(δ) Επιπροσθέτως, για κόλα κλάσεως διασπαστών υλών:-

(I) Διασπαστή Ύλη Κλάσεως I:- λεπτομερής περιγρα-
φή του επιτρεπομένου περιεχομένου και ολωνδήποτε ειδικών
χαρακτηριστικών, επί τη βάσει των οποίων η διαρροή του νερού

σε σχέση με συγκεκριμένους κενούς χώρους ελήφθη ως δε-
δομένη κατά την εκτίμησιν κρισιμότητος (βλέπε περιθώριον
36I3(β)).

(II) Διασπαστή Ύλη Κλάσεως II:- λεπτομερής περι- 3678
~~γράφη~~ του επιτρεπομένου περιεχομένου, των αντιστοιχών (Συνεχι-
 επιτρεπομένων αριθμών (ή δεικτού μεταφοράς) και οιωνδή- ζεται)
 ποτε ειδικών χαρακτηριστικών, επί τη βάσει των οποίων
 η διαρροή του νερού εν σχέσει με συγκεκριμένους κενούς
 χώρους ελήφθη ως δεδομένη κατά την εκτίμησιν κρισιμότη-
 τος (βλέπε περιθώριον 3618(β)).

(III) Διασπαστή Ύλη Κλάσεως III:- λεπτομερής περι-
 γραφή ^{αυτή} των αποστολών συμπεριλαμβανομένων των
 επιτρεπομένων περιεχομένων και των αντιστοίχων επιτρεπο-
 μένων αριθμών (ή δεικτών μεταφοράς) ομού με οιασδήποτε
 ληφθησομένης ειδικής προφυλάξεως διαρκούσης της μεταφοράς.

(ε) Δήλωσιν αναφορικώς με τας συνθήκας του περι-
 βάλλοντος δια τους σκοπούς του σχεδίου (βλέπε περιθώ-
 ριον 3602(4)).

(στ) Δια κόδα Τύπου B(M), δήλωσιν ειδικεύουσας τας
 διατάξεις του περιθωρίου 3603 με τας οποίας το κώλον δεν
 συμφωνεί και οιασδήποτε ενισχυτικής πληροφορίας αι οποίαι
 ενδέχεται να είναι χρήσιμοι δια τας λοιπάς αρμοδίας αρχάς.

(ζ) Παραπομπήν (αναφοράν) εις τας κάτωθι πληροφο-
 ρίας τας παρεχομένας υπό του αιτούντος:-

(ι) οδηγίαι επί της χρήσεως καθ' συντηρήσεως της συ-
 σκευασίας·

(ιι) αι ενέργειαι αι ληφθησόμεναι υπό του αποστολέως
 προ της φορτώσεως, π.χ., οιαδήποτε ειδικά διαδικασίαι
 απολυμάνσεως.

(η) Λεπτομερής αναγραφή οιωνδήποτε συμπληρωματικών

~~Υπο~~οργικών διατάξεων (βλέπε σημείωσιν 5) δια την 3678
~~προ~~τοιμασίαν, φόρτωσιν, μεταφοράν, αποθήκυσιν, εκ- (Συνεχίζε-
τάι)
φόρτωσιν και χειρισμόν του κώλου, συμπεριλαμβανομένων
οιωνδήποτε ειδικών διατάξεων στοιβάσεως δια τον ασφα-
λή διασκεδασμόν της θερμότητος εκ του κώλου, ή δήλωσιν
ότι ουδείς τοιούτος έλεγχος απαιτείται.

((θ)) Δήλωσιν εξουσιοδοτούσαν την φόρτωσιν
οσάκις έγκρισις φορτώσεως απαιτείται δυνάμει του περι-
θωρίου 3675.

(ι) Οιοιδήποτε περιορισμοί επί των τύπων των
CONTAINERS (υποδοχέων) οχημάτων (VEHICLE CONTAINERS),
και οιαδήποτε απαράλτητοι δια την διαδρομήν οδηγείαι.

(κ) Τακτοποιήσεις επειγούσης ανάγκης ειδικαί
δια το εγκριθέν σχέδιον.

(λ) Η κάτωθι δήλωσις: "Το παρόν πιστοποιητικόν
δεν απαλλάσσει τον αποστολέα από της συμμορφώσεώς του
προς οιαδήποτε διάταξιν της κυβερνήσεως οιασδήποτε χώ-
ρας δια της οποίας ή εις την οποίαν το κώλον θα μετα-
φερθεί".

(μ) Ημερομηνίαν εκδόσεως, και, εάν ενδείκνυται,
ημερομηνίαν λήξεως.

(ν) Υπογραφή και ταυτότης του βεβαιούντος αξιω-
ματούχου.

(ν) Προσθήκαι περιέχουσαι πιστοποιητικά ~~διδ~~
εναλλακτικόν περιεχόμενον κώλου, λοιπάς επικυρώσεις της
αρμοδίας αρχής, ή πρόσθετα τεχνικά στοιχεία ή πληροφορίας.

Επικυρώσεις πιστοποιητικών

Πολύπλευροι εγκρίσεις μπορούν δι' επικυρώσεως 3679
του αρχικού πιστοποιητικού του εκδοθέντος υπό της αρμοδίας
αρχής της χώρας προελεύσεως του σχεδίου ή της φορτώσεως.

ΣΤ.- ΕΥΘΥΝΑΙ ΑΠΟΣΤΟΛΕΩΣ

Ι.- Λεπτομέρειαι αποστολής 3680

Ο αποστολεύς θα συμπεριλάβει εις το έγγραφον μετα-
φοράς για καθε αποστολή ραδιενεργών υλών, ως και την περι-
γραφήν την γενομένην εις τον κατάλληλον πίνακα (SCHEDULE),
τις κάτωθι λεπτομέρειες:-

(α) Την δήλωσιν "Η φύσις των εμπορευμάτων και η
συσκευασία είναι σύμφωνοι προς τις διατάξεις της ADR".

(β) Την ένδειξιν αναγνωρίσεως δι'έκαστον πιστο-
ποιητικόν της αρμοδίας αρχής (ειδικός τύπος, σχέδιον κώλου,
και φόρτωσις) ισχύον δια την αποστολήν.

(γ) Την ονομασίαν των ραδιενεργών υλών, ή νου-
κλεΐδου.

(δ) Περιγραφήν του φυσικού και χημικού τύπου
της ύλης, ή εάν είναι ειδικού τύπου.

(ε) Την δραστηκότητα των ραδιενεργών υλών σε
καταλλήλους μονάδας CURIE.

(στ) Την κατηγορίαν του κώλου, τ.έ. I-ΛΕΥΚΗ,
II-ΚΙΤΡΙΝΗ, III-ΚΙΤΡΙΝΗ.

(ζ) Τον δείκτην μεταφοράς (Κατηγορίαι II- και
III-ΚΙΤΡΙΝΗ μόνον).

(η) Δι' αποστολήν διασπαστών υλών:

(I) εάν εξαιρούνται συμφώνως προς το περιθώριον

3610, αι λέξεις "ΕΞΑΙΡΟΥΜΕΝΗ ΔΙΑΣΠΑΣΤΗ ΞΛΗ" ή 3680
(II), εάν δεν εξαιρούνται, η κλάσις της διασπαστής (Συνεχί-
ζεται)
ύλης του κόλου (κόλων).

2.- Πληροφορίες και γνωστοποιήσεις προς τους μεταφορείς 3681

(I) Ο αποστολεύς θα παρέχει εις το έγγραφον μεταφο-
ράς δήλωσιν αναφορικώς με τας, τυχόν, ενεργείας, εις τας
οποίας πρέπει να προβεί ο μεταφορεύς. Η δήλωσις θα είναι
στις γλώσσες τις θεωρούμενες απαραίτητες δια τον μεταφο-
ρέα ή τας περί των πρόκειται αρχάς, και θα περιλαμβάνει
τουλάχιστον τα κάτωθι σημεία:-

(α) συμπληρωματικές λειτουργικώς διατάξεις δια
την φόρτωσιν, μεταφοράν, αποθήκευσιν, εκφόρτωσιν, χειρι-
σμόν, και στοιβασίαν δια τον ασφαλή διασκεδασμόν της θερ-
μότητος, ή δήλωσιν ότι ουδεμία συμπληρωματική λειτουργική
διάταξις απαιτείται (βλέπε περιθώριον 3678(η)).

(β), οιασδήποτε απαιτήτους οδηγίας δρομολο-
γίων (βλέπε περιθώριον 3678(κ)).

(γ) ενεργείας επειγούσης ανάγκης ειδικώς δια το
εγκριθέν σχέδιον (βλέπε περιθώριον 3678(λ)).

(2) Σε όλες τις περιπτώσεις στις οποίες η έγκρισις
της φορτώσεως ή προηγουμένη γνωστοποιήσις προς την αρμοδίαν
αρχή απαιτείται, όλοι οι/φορείς θα πληροφορούνται περί των
μετα-
διατάξεων εκ των προτέρων, δια να μπορούν εγκαίρως να λαμ-
βάνουν μέτρα απαιτούμενα δια την μεταφοράν.

3.- Γνωστοποιήσεις προς τας αρμοδίας αρχάς

(I) Προ της πρώτης φορτώσεως κόλου Τύπου B(U) πε- 3682
ριέχοντος ραδιενεργείας ύλης με δραστηκότητα μεγαλύτερα

των $3 \times 10^3 A_I$ ή $3 \times 10^3 A_2$, ως ενδείκνυται, ή $3 \times 10^4 Ci$, 3682
 οιασδήποτε τούτων ούσης μικροτέρας, ο αποστολεύς θα (Συνεχί-
 εξασφαλίζει ότι αντίγραφα εκάστου ισχύοντος πιστοποιη-
 τικού της αρμοδίας αρχής διέποντος το σχέδιον του κόλου
 έχουν υποβληθεί εις την αρμοδian αρχήν ~~κάθε~~ χώρας
 εις την επικράτειαν της οποίας η αποστολή πρόκειται να
 μεταφερθεί. Ο αποστολεύς δεν υποχρεούται να αναμένει
 αναγνώρισιν της αρμοδίας αρχής, ουδέ η αρμοδια αρχή
 υποχρεούται να προβεί εις την τοιαύτην αναγνώρισιν παρα-
 λαβής του πιστοποιητικού.

(2) *Για κάθε* φόρτωση αναγραφομένην εις (α) έως
 (δ) κατωτέρω, ο αποστολεύς θα προβαίνει εις γνωστοποίη-
 σιν προς τας αρμοδίας αρχάς εκάστης χώρας εις την επι-
 κράτειαν της οποίας η αποστολή πρόκειται να μεταφερθεί.
 Η γνωστοποίησις αυτή θα ευρίσκεται εις χείρας εκάστης
 αρμοδίας αρχής προ της ενάρξεως της φορτώσεως, και κατά
 προτίμησιν προ 15 τουλάχιστον ημερών.

(α) Κόλα Τύπου B(U) περιέχοντα ραδιενεργεία
 ύλης με δραστηνότητα μεγαλυτέραν των $3 \times 10^3 A_I$ ή $3 \times 10^3 A_2$,
 ως ενδείκνυται, ή $3 \times 10^4 Ci$, οιασδήποτε τούτων ούσης μι-
 κροτέρας.

(β) Κόλα Τύπου B(M).

(γ) Κόλα Διασπαστής Ξλης Κλάσεως IIII δυνάμει
 του περιθωρίου 3674(3).

(δ) Μεταφορά δι' ειδικής τακτοποιήσεως.

(3) Η περί της αποστολής γνωστοποίησις θα περιλαμ-
 βάνει:-

(α) επαρκείς πληροφορίες δια να είναι δυνατή η 3682
 αναγνώρισις του κώλου, συμπεριλαμβανομένων όλων των εν(Συνεχίζε-
 ισχύϊ αριθμών πιστοποιητικών και αναγνωριστικών ενδελ-
 ται)
 ξων· και

(β) πληροφορίες αναφορικώς με την ημερομηνίαν
 φορτώσεως, τήν αναμενομένην ημερομηνίαν αφίξεως και
 προτεινόμενον δρομολόγιον.

(4) Ο αποστολεύς δεν υποχρεούται να αποστέλει χωρι-
 στήν γνωστοποίησιν εάν η απαιτούμενη πληροφορία έχει συμ-
 περιληφθεί εις την αίτησιν δι' έγκρισιν της φορτώσεως
 (βλέπε περιθώριον 3675(2)).

4.- Κατοχή πιστοποιητικών

Ο αποστολεύς θα έχει εις την κατοχήν του αντίγραφον ^{κ.α.τ.}
 πιστοποιητικού απαιτούμενου δυνάμει της παρούσης
 Προσθήκης και αντίγραφον των οδηγιών αναφορικώς με το
 ενδεδειγμένον κλεισιμον του κώλου και άλλην προετοιμασί-
 αν της φορτώσεως προ της ενεργείας οιασδήποτε φορτώσεως
 δυνάμει των όρων των πιστοποιητικών.

Ζ.- ΠΟΙΟΤΙΚΟΣ ΕΛΕΓΧΟΣ ΚΑΤΑΣΚΕΥΗΣ ΚΑΙ ΣΥΝΤΗΡΗΣΕΩΣ (ΔΙΑΤΗΡΗΣΕΩΣ) ΤΗΣ ΣΥΣΚΕΥΑΣΙΑΣ

Ο κατασκευαστής, αποστολεύς, ή χρήστης εγκεκριμέ-
 νου σχεδίου κώλου θα είναι έτοιμος να καταδείξει (επιδεί-
 ξει) εις οιαδήποτε αρμόδιαν αρχήν ότι:-

(α) ~~Οι~~ μέθοδοι κατασκευής και τα υλικά που χρη-
 σιμοποιήθησαν ^{για} την κατασκευήν της συσκευασίας είναι
 σύμφωνα προς τας περί ^{εγκεκριμένου} σχεδίου διατάξεις· η αρμόδια αρχή
 μπορεί να διεξάγει επιθεώρησιν της συσκευασίας διαρκούσης

(9) όλα αι συσκευασίας αι γενόμεναι συμφώνως 3684
 προς ~~ε~~κεκριμένον σχέδιον θα διατηρούνται εις καλήν (Συνεχίζεται)
 κατάστασιν εις τρόπον ώστε να εξακολουθούν να συμμο-
 ρούνται προς άπαντα τα οικεία ρυθμιστικά κριτήρια,
 ακόμη και μετά από επανειλημμένην χρήσιν.

3685-
3689

ΚΕΦΑΛΑΙΟΝ VI - ΟΡΙΑ ΔΡΑΣΤΙΚΟΤΗΤΟΣ

ΠΡΟΣΔΙΟΡΙΣΜΟΣ ΤΩΝ A_1 ΚΑΙ A_2

I.- Απλά ραδιονουκλεΐδια (SINGLE RADIONUCLIDES)

(I) Για απλά ραδιονουκλεΐδια γνωστής ταυτότητας, αι 3690
 τιμαί των A_1 και A_2 , δίδονται εις τον Πίνακα ΧΧ. Οι τι-
 μέες των A_1 και A_2 ισχύουν επίσης για ραδιονουκλεΐδια
 περιεχόμενα εις πηγάς νετρονίου (α , N) ή (γ , N).

ΠΙΝΑΞ ΧΧ.- ΤΙΜΑΙ ΡΑΔΙΟΝΟΥΚΛΕΪΔΙΩΝ A_1 και A_2

| Σύμβολον Ραδιονουκλεΐδου | Στοιχείον και αριθμός ατόμου | A_1 (Ci) | A_2 Ci | Ειδική Δραστικότητα (Ci/G) |
|---------------------------------------|---------------------------------|------------|----------|----------------------------------|
| $^{227}_{AC}$ | Ακτινίου (89) | 1000 | 0.003 | 7.2×10 |
| $^{228}_{AC}$ | Άργυρος (47) | 10 | 4 | 2.2×10^6 |
| $^{105}_{AG}$ | Άργυρος (47) | 40 | 40 | 3.1×10^4 |
| $^{110}_{AG^M}$ | | 7 | 7 | 4.7×10^3 |
| $^{111}_{AG}$ | | 100 | 100 | 1.6×10^5 |
| $^{241}_{AM}$ | Αμερίκιο (95) | 8 | 0.008 | 3.2 |
| $^{243}_{AM}$ | | 8 | 0.008 | 1.9×10^{-1} |
| $^{37}_{AR}$ (συμπιεσμέ- νον ή ού) | Αργόν (18) | 1000 | 1000 | 1.0×10^5 |

3690

| Σύμβολον Ραδιονουκλειδίου | Στοιχείον και αριθμός ατόμου | $A_1(Ci)$ | $A_2(Ci)$ | Ειδική Δραστηκότης (Ci/G) |
|------------------------------|---------------------------------|-----------|-----------|---------------------------------|
|------------------------------|---------------------------------|-----------|-----------|---------------------------------|

(Σ ω ν έ χ ε ι α)

| | | | | |
|-----------------------------|-----------------|------|-----|--------------------|
| $4I_{AR}$ (μη-συμπιεσμένον) | | 20 | 20 | 4.3×10^7 |
| $4I_{AR}$ (συμπιεσμένον) | | I | I | 4.3×10^7 |
| 73_{AS} | Αρσενικόν (33) | 1000 | 400 | 2.4×10^4 |
| 74_{AS} | | 20 | 20 | 1.0×10^5 |
| 76_{AS} | | 10 | 10 | 1.6×10^6 |
| 77_{AS} | | 300 | 300 | 1.1×10^6 |
| 211_{AT} | Αστάτιον (85) | 200 | 7 | 2.1×10^6 |
| 193_{AU} | Χρυσός (79) | 200 | 200 | 9.3×10^5 |
| 196_{AU} | | 30 | 30 | 1.2×10^5 |
| 198_{AU} | | 40 | 40 | 2.5×10^5 |
| 199_{AU} | | 200 | 200 | 2.1×10^5 |
| 131_{BA} | Βάριοιον (56) | 40 | 40 | 8.7×10^4 |
| 133_{BA} | | 40 | 10 | 4.0×10^2 |
| 140_{BA} | Βάριοιον | 20 | 20 | 7.3×10^4 |
| 7_{BE} | Βηρύλλιον (4) | 300 | 300 | 3.5×10^5 |
| 206_{BL} | Βισμούθιον (83) | 5 | 5 | 9.9×10^4 |
| 207_{BL} | | 10 | 10 | 2.16×10^2 |
| $210_{BL} (RaE)$ | | 100 | 4 | 1.2×10^5 |
| 212_{BL} | | 6 | 6 | 1.5×10^7 |
| 249_{BK} | Μπερκέλιον (97) | 1000 | I | 1.8×10^3 |
| 82_{BR} | Βρώμιον (35) | 6 | 6 | 1.1×10^6 |
| 14_C | Άνθραξ (6) | 1000 | 100 | 4.6 |
| 45_{Ca} | Ασβέστιον (20) | 1000 | 40 | 1.9×10^4 |

| Σύμβολον Ραδιονουκλεΐδου | Στοιχείον και αριθμός ατόμου | $A_1(C_1)$ | $A_2(C_1)$ | Ειδική Δραστικότητα (Ci/G) |
|-----------------------------|---------------------------------|------------|------------|----------------------------------|
|-----------------------------|---------------------------------|------------|------------|----------------------------------|

(Σ υ ν έ χ ε ι α)

| | | | | |
|-----------------|------------------|------|-------|----------------------|
| $^{47}_{Ca}$ | Ασβέστιον (20) | 20 | 20 | 5.9×10^5 |
| $^{109}_{Cd}$ | Κάδμιον (48) | 1000 | 70 | 2.6×10^3 |
| $^{115}_{Cd}^M$ | | 30 | 30 | 2.6×10^4 |
| $^{115}_{Cd}$ | | 80 | 80 | 5.1×10^5 |
| $^{139}_{Ce}$ | Δημήτριον (58) | 100 | 100 | 6.5×10^3 |
| $^{141}_{Ce}$ | | 300 | 200 | 2.8×10^4 |
| $^{143}_{Ce}$ | | 60 | 60 | 6.6×10^5 |
| $^{144}_{Ce}$ | | 10 | 7 | 3.2×10^3 |
| $^{249}_{CF}$ | Καλιφόρνιον (98) | 2 | 0.002 | 3.1 |
| $^{250}_{CF}$ | | 7 | 0.007 | 1.3×10^2 |
| $^{252}_{CF}$ | | 2 | 0.009 | 6.5×10^2 |
| $^{36}_{Cl}$ | Χλώριον (17) | 300 | 30 | 3.2×10^{-2} |
| $^{38}_{Cl}$ | | 10 | 10 | 1.3×10^8 |
| $^{242}_{CM}$ | Κιούριον (96) | 200 | 0.2 | 3.3×10^3 |
| $^{243}_{CM}$ | | 9 | 0.009 | 4.2×10 |
| $^{244}_{CM}$ | | 10 | 0.01 | 8.2×10 |
| $^{245}_{CM}$ | | 6 | 0.006 | 1.0×10^{-1} |
| $^{246}_{CM}$ | | 6 | 0.006 | 3.6×10^{-1} |
| $^{56}_{Co}$ | Κοβάλτιον (27) | 5 | 5 | 3.0×10^4 |
| $^{57}_{Co}$ | | 90 | 90 | 8.5×10^3 |
| $^{58}_{Co}^M$ | | 1000 | 1000 | 5.9×10^6 |
| $^{58}_{Co}$ | | 20 | 20 | 3.1×10^4 |
| $^{60}_{Co}$ | | 7 | 7 | 1.1×10^3 |

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| Σύμβολον Ραδιονουκλειδίου | Στοιχείον και αριθμός ατόμου | $A_1(CI)$ | $A_2(CI)$ | Ειδική Δραστηκότης (CI/G) |
|------------------------------|---------------------------------|-----------|-----------|-------------------------------------|
|------------------------------|---------------------------------|-----------|-----------|-------------------------------------|

(Σ υ ν έ χ ε ι α)

| | | | | |
|--------------|-----------------|------|------|----------------------|
| 51_{CR} | Χρώμιον (24) | 600 | 600 | 9.2×10^4 |
| 131_{CS} | Κάσιον (55) | 1000 | 1000 | 1.0×10^5 |
| 134_{CS}^M | | 1000 | 1000 | 7.4×10^6 |
| 134_{CS} | | 10 | 10 | 1.2×10^3 |
| 135_{CS} | | 1000 | 100 | 8.8×10^{-4} |
| 136_{CS} | | 7 | 7 | 7.4×10^4 |
| 137_{CS} | | 30 | 20 | 9.8×10 |
| 64_{CU} | Χαλκός (29) | 80 | 80 | 3.8×10^6 |
| 165_{DY} | Δυσπρόσιον (66) | 100 | 100 | 9.2×10^6 |
| 166_{DY} | | 1000 | 200 | 2.3×10^5 |
| 169_{ER} | Έρβιον (68) | 1000 | 300 | 8.2×10^4 |
| 171_{ER} | | 50 | 50 | 2.4×10^6 |
| 152_{EU}^M | Ευρώπιον (63) | 30 | 30 | 2.2×10^6 |
| 152_{EU} | | 20 | 20 | 1.9×10^2 |
| 154_{EU} | | 10 | 5 | 1.5×10^2 |
| 155_{EU} | | 400 | 90 | 1.4×10^3 |
| $18F$ | Φθόριον (9) | 20 | 20 | 9.3×10^7 |
| 52_{FE} | Σίδηρος (26) | 6 | 6 | 7.3×10^6 |
| 55_{FE} | | 1000 | 1000 | 2.2×10^3 |
| 59_{FE} | | 10 | 10 | 4.9×10^4 |
| 72_{GA} | Γάλλιον (31) | 7 | 7 | 3.1×10^6 |
| 153_{GD} | Γαδολίνιον (64) | 200 | 100 | 3.6×10^3 |
| 159_{GD} | | 300 | 3000 | 1.1×10^6 |

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| Στοιχείον Ραδιονουκλεΐδου | Στοιχείον και αριθμός ατόμου | $A_1(CI)$ | $A_2(CI)$ | Ειδική Δραστηνότητα (CI/G) |
|------------------------------|---------------------------------|-----------|-----------|----------------------------------|
|------------------------------|---------------------------------|-----------|-----------|----------------------------------|

(Σ υ ν ἑ χ ε λ α)

| | | | | |
|-----------------------------------|--------------------------------|------|------|-----------------------|
| 71_{Ge} | Γερμάνιον (32) | 1000 | 1000 | 1.6×10^5 |
| 3_H | Υδρογόνον (1), βλέπε T-Τρίτιον | | | |
| 181_{HF} | Ήφνιον (72) | 30 | 30 | 1.6×10^4 |
| 197_{HG}^M | Υδράργυρος (80) | 200 | 200 | 6.6×10^5 |
| 197_{HG} | | 200 | 200 | 2.5×10^5 |
| 203_{HG} | | 80 | 80 | 1.4×10^4 |
| 166_{Ho} | Όλμιον (67) | 30 | 30 | 6.9×10^5 |
| 125_I | Ιώδιον (53) | 1000 | 70 | 1.7×10^4 |
| 126_I | | 40 | 10 | 7.8×10^4 |
| 129_I | | 1000 | 2 | 1.62×10^{e4} |
| 131_I | | 40 | 10 | 1.2×10^5 |
| 132_I | | 7 | 7 | 1.1×10^7 |
| 133_I | | 30 | 30 | 1.1×10^6 |
| 134_I | | 8 | 8 | 2.7×10^7 |
| 135_I | | 10 | 10 | 3.5×10^6 |
| 113_{IN}^M | Ίνδιον (49) | 60 | 60 | 1.6×10^7 |
| 114_{IN}^M | | 30 | 20 | 2.3×10^4 |
| 115_{IN}^M | | 100 | 100 | 6.1×10^6 |
| 190_{IR} | Ιρίδιον (77) | 10 | 10 | 6.2×10^4 |
| 192_{IR} | | 20 | 20 | 9.1×10^3 |
| 194_{IR} | | 10 | 10 | 8.5×10^5 |
| 42_K | Κάλιον (19) | 10 | 10 | 6.0×10^6 |
| 85_{KR}^M (μη-πεπλεγμέ- νον) | Κρυπτόν (36) | 100 | 100 | 8.4×10^6 |

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| Σύμβολον Ραδιονουκλεΐδου | Στοιχείον και αριθμός ατόμου | $A_1(CI)$ | $A_2(CI)$ | Ειδική Δραστηκότητας (CI/G) |
|-------------------------------------|---|-----------|-----------|-----------------------------------|
| (Σ υ ν έ χ ε ι α) | | | | |
| $^{85}_{KR}M$ (πεπιεσμένον) | | 3 | 3 | 8.4×10^6 |
| $^{85}_{KR}M$ (μη-πεπιεσμέ- νον) | | 1000 | 1000 | 4.0×10^2 |
| $^{85}_{KR}$ (πεπιεσμένον) | | 5 | 5 | 4.0×10^2 |
| $^{87}_{KR}$ (μη-πεπιεσμένον) | | 20 | 20 | 2.8×10^7 |
| $^{87}_{KR}$ (πεπιεσμένον) | | 0.6 | 0.6 | 2.8×10^7 |
| $^{140}_{La}$ | Λανθάνιον (57) | 30 | 30 | 5.6×10^5 |
| LLS | Χαμηλού-επιπέδου στερεού ραδιενεργού υλικού(ύλης) Βλέπε Περιθώριον 2450(2) | | | |
| LSA | Χαμηλής ειδικής δραστηκότητας ύλη Βλέπε Περιθώριον 2450(2) | | | |
| $^{177}_{Lu}$ | Λουτέτιον (71) | 300 | 300 | 1.1×10^5 |
| MFP | Προϊόντα Μικτής δια- σπαστής ύλης | 10 | 0.4 | |
| $^{28}_{MG}$ | Μαγνήσιον (12) | 6 | 6 | 5.2×10^6 |
| $^{52}_{MN}$ | Μαγνήσιον (25) | 5 | 5 | 4.4×10^5 |
| $^{54}_{MN}$ | | 20 | 20 | 8.3×10^3 |
| $^{56}_{MN}$ | | 5 | 5 | 2.2×10^7 |
| $^{99}_{Mo}$ | Μολυβδαίνιον (42) | 100 | 100 | 4.7×10^5 |
| $^{22}_{Na}$ | Νάτριον (11) | 8 | 8 | 6.3×10^3 |
| $^{24}_{Na}$ | | 5 | 5 | 8.7×10^6 |
| $^{93}_{Nb}M$ | Νόβιον (41) | 1000 | 200 | 1.1×10^3 |
| $^{95}_{Nb}$ | | 20 | 20 | 3.9×10^4 |
| $^{97}_{Nb}$ | | 20 | 20 | 2.6×10^7 |

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| Σύμβολον Ραδιονουκλεΐδου | Στοιχείον και αριθμός ατόμου | $A_1(C_1)$ | $A_2(C_2)$ | Ειδική Δραστηκότης (C/G) |
|-----------------------------|---------------------------------|------------|------------|--------------------------------|
|-----------------------------|---------------------------------|------------|------------|--------------------------------|

(Σ υ ν έ χ ε ι α)

| | | | | |
|-----------------|-------------------|------|-------|----------------------|
| $^{147}_{ND}$ | Νεοδύμιον (60) | 100 | 100 | 8.0×10^4 |
| $^{149}_{ND}$ | | 30 | 30 | 1.1×10^7 |
| $^{59}_{Ni}$ | Νικέλιον (28) | 1000 | 900 | 8.1×10^{-2} |
| $^{63}_{Ni}$ | | 1000 | 100 | 4.6×10 |
| $^{65}_{Ni}$ | | 10 | 10 | 1.9×10^7 |
| $^{237}_{Np}$ | Ποσειδώνιον (93) | 5 | 0.005 | 6.9×10^{-4} |
| $^{239}_{Np}$ | | 200 | 200 | 2.3×10^5 |
| $^{185}_{Os}$ | Όσμιον (76) | 20 | 20 | 7.3×10^3 |
| $^{191}_{Os}$ | | 600 | 400 | 4.6×10^4 |
| $^{191}_{Os^M}$ | | 200 | 200 | 1.2×10^6 |
| $^{193}_{Os}$ | | 100 | 100 | 5.3×10^5 |
| $^{32}_P$ | Φωσφόρος (15) | 30 | 30 | 2.9×10^5 |
| $^{230}_{Pa}$ | Πρωτακτινιον (91) | 20 | 0.8 | 3.2×10^4 |
| $^{231}_{Pa}$ | | 2 | 0.002 | 4.5×10^{-2} |
| $^{233}_{Pa}$ | | 100 | 100 | 2.1×10^4 |
| $^{210}_{Pb}$ | Μόλυβδος (82) | 100 | 0.2 | 8.8×10 |
| $^{212}_{Pb}$ | | 6 | | 1.4×10^6 |
| $^{103}_{Pd}$ | Παλλάδιον (46) | 1000 | 700 | 7.5×10^4 |
| $^{109}_{Pd}$ | | 100 | 100 | 2.1×10^6 |
| $^{147}_{Pm}$ | Προμήθειον (61) | 1000 | 80 | 9.4×10^2 |
| $^{149}_{Pm}$ | | 100 | 100 | 4.2×10^5 |
| $^{210}_{Po}$ | Πολώνιον (84) | 200 | 0.2 | 4.5×10^3 |

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| Σύμβολον Ραδιονουκλεΐδου | Στοιχείον και αριθμός ατόμου | $A_1(Ci)$ | $A_2(Ci)$ | Ειδική Δραστηκότητα (Ci/G) |
|-----------------------------|---------------------------------|-----------|-----------|----------------------------------|
|-----------------------------|---------------------------------|-----------|-----------|----------------------------------|

(Σ υ ν έ χ ε ι α)

| | | | | |
|-----------------|-------------------|--------------|-------|----------------------|
| I_{42}^{PR} | Πρασεοδύμιον (59) | 10 | 10 | 1.2×10^6 |
| I_{43}^{PR} | | 300 | 200 | 6.6×10^4 |
| I_{91}^{PT} | Λευκόχρωσος (78) | 100 | 100 | 2.3×10^5 |
| I_{93}^{PT} | | 200 | 200 | |
| $I_{97}^{PT^M}$ | | 300 | 300 | 1.2×10^7 |
| I_{97}^{PT} | | 300 | 300 | 8.8×10^5 |
| 238_{PU} | Πλουτώνιον (94) | 3 | 0.003 | 1.7×10 |
| 239_{PU} | | 2 | 0.002 | 6.2×10^{-2} |
| 240_{PU} | | 2 | 0.002 | 2.3×10^{-1} |
| 241_{PU} | | 1000 | 0.1 | 1.1×10^2 |
| 242_{PU} | | 3 | 0.003 | 3.9×10^{-3} |
| 223_{Ra} | Ράδιοβ (88) | 50 | 0.2 | 5.0×10^4 |
| 224_{Ra} | | 6 | 0.5 | 1.6×10^5 |
| 226_{Ra} | | 10 | 0.05 | 1.0 |
| 228_{Ra} | | 10 | 0.05 | 2.3×10^2 |
| 86_{Rb} | Ρουβίδιον (37) | 30 | 30 | 8.1×10^4 |
| 87_{Rb} | | Απεριόριστον | | 6.6×10^{-8} |
| Rb (φυσικόν) | | Απεριόριστον | | 1.8×10^{-8} |
| I_{86}^{Re} | Ρήνιον (75) | 100 | 100 | 1.9×10^5 |
| I_{87}^{Re} | | Απεριόριστον | | 3.8×10^{-8} |
| I_{88}^{Re} | | 10 | 10 | 1.0×10^6 |
| Re (φυσικόν) | | Απεριόριστον | | 2.4×10^{-8} |
| $I_{03}^{RH^M}$ | Ρόδιον (45) | 1000 | 1000 | 3.2×10^7 |

| Σύμβολον Ραδιονουκλειδίου | Στοιχείον και αριθμός ατόμου | $A_1(Cl)$ | $A_2(Cl)$ | Ειδική Δραστηκότης (Cl/G) |
|------------------------------|---------------------------------|-----------|-----------|---------------------------------|
|------------------------------|---------------------------------|-----------|-----------|---------------------------------|

(Σ υ ν έ χ ε ι α)

| | | | | |
|-------------|-----------------|--------------|-----|----------------------|
| 105_{RH} | | 200 | 200 | 8.2×10^5 |
| 222_{RN} | Ραδόνιον (86) | 10 | 2 | 1.5×10^5 |
| 97_{RU} | Ρουθήνιον (44) | 80 | 80 | 5.5×10^5 |
| 103_{RU} | | 30 | 30 | 3.2×10^4 |
| 105_{RU} | | 20 | 20 | 6.6×10^6 |
| 106_{RU} | | 10 | 7 | 3.4×10^3 |
| 35_S | Θέλον (16) | 1000 | 300 | 4.3×10^4 |
| 122_{SB} | Αντιμόνιον (51) | 30 | 30 | 3.9×10^5 |
| 124_{SB} | | 5 | 5 | 1.8×10^4 |
| 125_{SB} | | 40 | 30 | 1.4×10^3 |
| 46_{SC} | Σκάνδιον (21) | 8 | 8 | 3.4×10^4 |
| 47_{SC} | | 200 | 200 | 8.2×10^5 |
| 48_{SC} | | 5 | 5 | 1.5×10^6 |
| 75_{SE} | Σελήνιον (34) | 40 | 40 | 1.4×10^4 |
| $3I_{SI}$ | Πυρίτιον (14) | 100 | 100 | 3.9×10^7 |
| 147_{SM} | Σαμάριον (62) | Απεριόριστον | | 2.0×10^{-8} |
| 151_{SM} | | 1000 | 90 | 2.6×10 |
| 153_{SM} | | 300 | 300 | 4.4×10^5 |
| 113_{SN} | Κασσίτερος (50) | 60 | 60 | 1.0×10^4 |
| 125_{SN} | | 10 | 10 | 1.1×10^5 |
| 85_{SR}^M | Στρόντιον (38) | 80 | 80 | 3.2×10^7 |
| 85_{SR} | | 30 | 30 | 2.4×10^4 |
| 87_{SR}^M | | 50 | 50 | 1.2×10^7 |

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| Σύμβολο Ραδιονουκλειδίου | Στοιχείον και αριθμός ατόμου | $A_1(C_1)$ | $A_2(C_2)$ | Ειδική Δραστηκότητα (Ci/G) |
|--|---------------------------------|------------|------------|----------------------------------|
|--|---------------------------------|------------|------------|----------------------------------|

(Σ υ ν ε χ ε ι α)

| | | | | |
|--|-----------------|------|------|----------------------|
| $^{89}_{\text{SR}}$ | Στρόντιον (38) | 100 | 40 | 2.9×10^4 |
| $^{90}_{\text{SR}}$ | | 10 | 0.4 | 1.5×10^2 |
| $^{91}_{\text{SR}}$ | | 10 | 10 | 3.6×10^6 |
| $^{92}_{\text{SR}}$ | | 10 | 10 | 1.3×10^7 |
| T (μη-πεπλεγμένο) | Τρίτιον (I) | 1000 | 1000 | 9.7×10^3 |
| T (πεπλεγμένο) | | 1000 | 1000 | |
| T (ενεργοποιημένο φωτεινόν χρώμα) | | 1000 | 1000 | |
| T (απορροφούμενον επί στερεού μεταφορέως) | | 1000 | 1000 | |
| T (τρίτιον-ύδωρ / TRITIATED WATER/) | | 1000 | 1000 | |
| T (άλλαι μορφαι) | | 20 | 20 | |
| $^{182}_{\text{Tα}}$ | Ταντάλιν (73) | 20 | 20 | 6.2×10^3 |
| $^{160}_{\text{Tβ}}$ | Τέρβιν (65) | 20 | 20 | 1.1×10^4 |
| $^{96}_{\text{TC}}^{\text{M}}$ | Τεχνήτιον (43) | 1000 | 1000 | 3.8×10^7 |
| $^{96}_{\text{TC}}$ | | 6 | 6 | 3.2×10^5 |
| $^{97}_{\text{TC}}^{\text{M}}$ | | 1000 | 200 | 1.5×10^4 |
| $^{97}_{\text{TC}}$ | | 1000 | 400 | 1.4×10^{-3} |
| $^{99}_{\text{TC}}^{\text{M}}$ | | 100 | 100 | 5.2×10^6 |
| $^{99}_{\text{TC}}$ | | 1000 | 80 | 1.7×10^{-2} |
| $^{125}_{\text{TE}}^{\text{M}}$ | Τελλούριον (52) | 1000 | 100 | 1.8×10^4 |
| $^{127}_{\text{TE}}^{\text{M}}$ | | 300 | 40 | 4.0×10^4 |
| $^{127}_{\text{TE}}$ | | 300 | 300 | 2.6×10^6 |
| $^{129}_{\text{TE}}^{\text{M}}$ | | 30 | 30 | 2.5×10^4 |

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| Σύμβολον | Στοιχείον και Ραδιονουκλεϊδίου αριθμός ατόμου | $A_1(Ci)$ | $A_2(Ci)$ | Ειδική Δραστηκότης (Ci/G) |
|----------|--|-----------|-----------|---------------------------------|
|----------|--|-----------|-----------|---------------------------------|

(Σ υ ν έ χ ε ι α)

| | | | | |
|-----------------------------|-----------------|--------------|-----------|-----------------------|
| $^{129}_{Te}$ | Τελλούριον (52) | 100 | 100 | 2.0×10^7 |
| $^{131}_{Te}^M$ | | 10 | 10 | |
| $^{132}_{Te}$ | | 7 | 7 | 3.1×10^5 |
| $^{227}_{Th}$ | Θόριον (90) | 200 | 0.2 | 3.2×10^4 |
| $^{228}_{Th}$ | | 6 | 0.008 | 8.3×10^2 |
| $^{230}_{Th}$ | | 3 | 0.003 | 1.9×10^{-2} |
| $^{231}_{Th}$ | | 1000 | 1000 | 5.3×10^5 |
| $^{232}_{Th}$ | | Απεριόριστον | | 1.1×10^{-7} |
| $^{234}_{Th}$ | | 10 | 10 | 2.3×10^4 |
| Th (φωσφικόν) | | Απεριόριστον | | (βλέπε Πίνακα XXI) |
| Th (υποστάν ακτινοβολίαν) | | $\alpha/$ | $\alpha/$ | |
| $^{200}_{Tl}$ | Θάλλιον (81) | 20 | 20 | 5.8×10^5 |
| $^{201}_{Tl}$ | | 200 | 200 | 2.2×10^5 |
| $^{202}_{Tl}$ | | 40 | 40 | 5.4×10^4 |
| $^{204}_{Tl}$ | | 300 | 30 | 4.3×10^2 |

$\alpha/$ Αι τιμαί των A_1 και A_2 θα υπολογίζωνται συμφώνως προς το περιθώριον 369I(3) λαμβανομένης υπόψει της δραστηκότητος των προϊόντων διασπαστών υλών και ουρανίου-233 επιπροσθέτως εκείνης του θορίου.

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| Συμβολόν Ραδιονουκλεοτίδου | Στοιχείον και αριθμός ατόμου | $A_1(Cl)$ | $A_2(Cl)$ | Ειδική Δραστηκότης (Cl/G) |
|-------------------------------|---------------------------------|-----------|-----------|---------------------------------|
|-------------------------------|---------------------------------|-----------|-----------|---------------------------------|

(Σ υ ν έ χ ε ι α)

| | | | | |
|--------------------------------------|------------------------------------|--------------|---------|----------------------|
| ^{170}TM | Θούλιον (69) | 300 | 40 | 6.0×10^3 |
| ^{171}TM | | 1000 | 100 | 1.1×10^3 |
| ^{230}U | Ουράνιον (92) | 100 | 0.1 | 2.7×10^4 |
| ^{232}U | | 30 | 0.03 | 2.1×10 |
| ^{233}U | | 100 | 0.1 | 9.5×10^{-3} |
| ^{234}U | | 100 | 0.1 | 6.2×10^{-3} |
| ^{235}U | | 100 | 0.2 | 2.1×10^{-6} |
| ^{236}U | | 200 | 0.2 | 6.3×10^{-5} |
| ^{238}U | | Απεριόριστον | | 3.3×10^{-7} |
| U (φυσικόν) | | Απεριόριστον | | (βλέπε Πίνακα XXI) |
| U (εμπλουτισμένον) | (/ 20% (20% ή μεγα- λύτερον | Απεριόριστον | (" ") | |
| U (εξαθωπνημένον) | | Απεριόριστον | | (βλέπε Πίνακα XXI) |
| U (μη-ακτινωτόν) | | β/ | β/ | |
| ^{48}V | Βανάδιον (23) | 6 | 6 | 1.7×10^5 |
| ^{181}W | Βολφράμιον (74) | 200 | 100 | 5.0×10^3 |
| ^{185}W | | 1000 | 100 | 9.7×10^{-3} |
| ^{187}W | | 40 | 40 | 7.0×10^5 |
| $^{131}\text{Xe}^M$ (πεπιεσμένον) | Ξέον (54) | 10 | 10 | 1.0×10^5 |
| $^{131}\text{Xe}^M$ (μη-πεπιεσμένον) | | 100 | 100 | 1.0×10^5 |
| ^{133}Xe (μη-πεπιεσμένον) | | 1000 | 1000 | 1.9×10^5 |
| ^{133}Xe (πεπιεσμένον) | | 5 | 5 | 1.9×10^5 |

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| Συμβολον Ραδιονουκλειδου | Στοιχειον και αριθμος ατομου | $A_1(Ci)$ | $A_2(Ci)$ | Ειδική Δραστικότητα (Ci/g) |
|-----------------------------|---------------------------------|-----------|-----------|----------------------------------|
|-----------------------------|---------------------------------|-----------|-----------|----------------------------------|

(Σ υ ν έ χ ε ι α)

| | | | | |
|-------------------------------|------------------|------|-----|----------------------|
| $^{135}_{Xe}$ (μη-πεπιεσμένο) | | 70 | 70 | 2.5×10^6 |
| $^{135}_{Xe}$ (πεπιεσμένο) | | 2 | 2 | 2.5×10^6 |
| $^{90}_{Y}$ | Υτρίλιον (39) | 10 | 10 | 5.3×10^5 |
| $^{91}_{Y}$ | | 30 | 30 | 4.1×10^7 |
| $^{91}_{Y}$ | | 30 | 30 | 2.5×10^4 |
| $^{92}_{Y}$ | | 10 | 10 | 9.5×10^6 |
| $^{93}_{Y}$ | | 10 | 10 | 3.2×10^6 |
| $^{175}_{Yb}$ | Υπερβρίλιον (70) | 400 | 400 | 1.8×10^5 |
| $^{65}_{Zn}$ | Ψευδάργυρος (30) | 30 | 30 | 8.0×10^3 |
| $^{69}_{Zn}$ | | 40 | 40 | 3.3×10^6 |
| $^{69}_{Zn}$ | | 300 | 300 | 5.3×10^7 |
| $^{93}_{Zr}$ | Ζιρκόνιον (40) | 1000 | 200 | 3.5×10^{-3} |
| $^{95}_{Zr}$ | | 20 | 20 | 2.1×10^4 |
| $^{97}_{Zr}$ | | 20 | 20 | 2.0×10^6 |

β/ (Σελίς Μεταφράσεως Ι7Ι):- Αι τιμαί των A_1 και A_2 θα υπολογίζονται συμφώνως προς το περιθώριον 369Ι(3) λαμβανομένης υπόψης της δραστικότητος των διασπαστών προϊόντων και των ισοτόπων πλουτωνίου επιπροσθέτως εκείνης του ουρανίου.

ΠΙΝΑΞ ΧΧΙ.- ΣΧΕΣΕΙΣ ΔΡΑΣΤΙΚΟΤΗΤΟΣ-ΜΑΖΗΣ ΟΥΡΑΝΙΟΥ ΚΑΙ
ΦΥΣΙΚΟΥ ΘΟΡΙΟΥ^{α/}

3690
(Συνεχί-
ζεται)

(Είς τον Πίνακα αυτόν παραπέμπει ο Πίναξ ΧΧ).

| Ραδιενεργής Όλη | G/G | G/G |
|--|-----------------------|--------------------|
| Ουράνιον | | |
| (WT ^o /o ²³⁵ U πάροδος), | | |
| 0.45 | 5.0×10^{-7} | 2.0×10^6 |
| 0.72 (φυσικόν), | 7.06×10^{-7} | 1.42×10^6 |
| 1.0 | 7.6×10^{-7} | 1.3×10^6 |
| 1.5 | 1.0×10^{-6} | 1.0×10^6 |
| 5.0 | 2.7×10^{-6} | 3.7×10^5 |
| 10.0 | 4.8×10^{-6} | 2.1×10^5 |
| 20.0 | 1.0×10^{-5} | 1.0×10^5 |
| 35.0 | 2.0×10^{-5} | 5.0×10^4 |
| 50.0 | 2.5×10^{-5} | 4.0×10^4 |
| 90.0 | 5.8×10^{-5} | 1.7×10^4 |
| 93.0 | 7.0×10^{-5} | 1.4×10^4 |
| 95.0 | 9.1×10^{-5} | 1.1×10^4 |
| Φυσικόν θόριον | 2.2×10^{-7} | 4.6×10^6 |

α/ Οι αριθμοί δια το ουράνιον περιλαμβάνουν την δραστηκότητα του ουρανίου-234 η οποία συμπυκνούται διαρκούσης της κατεργασίας εμπλουτισμού. Η δραστηκότης του θορίου συμπεριλαμβάνει την ισορροπημένη συμπύκνωσιν (EQUILIBRIUM CONCENTRATION) του θορίου-228.

(2) Για οποιοδήποτε απλό ραδιονουκλεΐδιο του οποίου η ταυτότης είναι γνωστή, αλλά το οποίον δεν αναγράφεται εις τον

Πίνακα XX, οι τιμές των A_I και A_2 θα καθορίζονται συμφώ-
νως προς την κατωτέρω διαδικασία:-

3690
(Συνεχι-
ζεται)

(α) Εάν το ραδιονουκλεΐδιο εκπέμπει μόνον ένα τύ-
που ακτινοβολίας, η τιμή A_I θα καθορίζεται συμφώνως προς
τους κατωτέρω κανόνες των (I), (II), (III) και (IV). Για
ραδιονουκλεΐδια εκπέμποντα διάφορα είδη ακτινοβολίας, η
τιμή A_I θα είναι η πλέον περιοριστική τιμή των καθορισθει-
σών για αυτή χωριστή ακτινοβολία. Εν τούτοις, εις αμφό-
τερες τις περιπτώσεις η A_I θα περιορίζεται εις 1000 Ci το
ανώτατον. Εάν το μητρικόν νουκλεΐδιο (PARENT NUCLIDE) εξα-
σθενίσει εις μίαν βραχυτέρας ζωής θυγατέραν, ημισείας ζωής
δχι μεγαλύτερας των 10 ημερών, η A_I θα υπολογισθεί τόσον
δια την μητέραν όσον και την θυγατέραν, και η περισσότερον
περιοριστική από τας δύο τιμάς πρέπει να καταλογισθεί εις
το μητρικόν νουκλεΐδιον.

(I) Για πομπούς γάμα, η A_I καθορίζεται δια του κάτωθι τύπου:

$$A_I = \frac{9}{F} \text{ CURIES}$$

όπου F είναι η σταθερά ακτίνος γ, η αντιστοιχούσα εις την
δόσιν της R/H εις I M ανά Ci· ο αριθμός 9 προκύπτει εκ της
εκλογής του I REM/H εις απόστασιν 3 M ως η ισοδύναμος τιμή
της δόσεως.

(II) Για πομπούς ακτίνος X, η A_I καθορίζεται δια του ατομι-
κού αριθμού (αριθμού ατόμου) του νουκλεΐδου:-

$$\text{για } Z/55 \cdot A_I = 1000 \text{ Ci}$$

$$\text{για } Z/55 \cdot A_I = 200 \text{ Ci}$$

(III) Για πομπούς βήτα (β), η A_I καθορίζεται δια της ανωτάτης
ενεργείας β ($E_{\text{ανώτ.}}$) συμφώνως προς τον Πίνακα XXII.

(IV). Για πομπούς αλφα (α), η A_I καθορίζεται δια του τύ- 3690
 πού:- $A_I = 1000 A_3$ (Συνεχίζεται)

όπου A_3 είναι η τιμή η αναγραφόμενη εις τον Πίνακα XXIII.

(β), A_2 θα είναι η περισσότερον περιοριστική των κάτωθι
 τιμών:-

(1) η αντιστοιχος A_I και (2) η τιμή A_3 λαμβανομένη εκ του
 Πίνακος XXIII.

ΠΙΝΑΞ XXII.- ΣΧΕΣΙΣ ΜΕΤΑΞΥ A_I ΚΑΙ $E_{\text{ανώτ.}}$ ΓΙΑ ΠΟΜΠΟΥΣ ΒΗΤΑ (β)

| $E_{\text{ανώτ.}} (MeV)$ | $A_I (Ci)$ |
|--------------------------|------------|
| / 0.5 | 1000 |
| 0.5 - / 1.0 | 300 |
| 1.0 - / 1.5 | 100 |
| 1.5 - / 2.0 | 30 |
| 2.0 | 10 |

ΠΙΝΑΞ XXIII.- ΣΧΕΣΙΣ ΜΕΤΑΞΥ A_3 ΚΑΙ ΤΟΥ ΑΤΟΜΙΚΟΥ ΑΡΙΘΜΟΥ
 (ΑΡΙΘΜΟΥ ΑΤΟΜΟΥ) ΤΟΥ ΡΑΔΙΟΝΟΥΚΛΕΥΔΙΟΥ

| Ατομικός Αριθμός (Αριθμός Ατόμου) | A_3 | | |
|--------------------------------------|--|---|--|
| | Ημισεια-ζωή κάτω των 1000 ημερών | Ημισεια-ζωή 1000 ημερών μέχρι 10^6 ετών | Ημισεια-ζωή μεγαλυτέρα των 10^6 ετών |
| 1 έως 81 | 3 Ci | 50 MCi | 3 Ci |
| 82 και άνω | 2 MCi | 2 M(Ci) | 3 Ci |

(3) Για οποιοδήποτε απλό ραδιονουκλεΐδιο του οποίου η παύτοτης είναι άγνωστη, η τιμή της A_I θα λαμβάνεται ότι είναι 2 Ci και η τιμή της A_2 θα λαμβάνεται ότι είναι 0.002 Ci. (Συνεχίζεται)

Εν τούτοις, εάν ο ατομικός αριθμός (αριθμός ατόμου) του ραδιονουκλεΐδιου είναι γνωστόν ότι είναι κάτω των 82, η τιμή της A_I θα λαμβάνεται ότι είναι 10 Ci και η τιμή της A_2 θα λαμβάνεται ότι είναι 0.4 Ci.

2.- Μίγματα ραδιονουκλεΐδων, συμπεριλαμβανομένης αλύσου ραδιενεργούς αποσυνθέσεως (διασπάσεως)

(I) Για μικτά διασπαστά προϊόντα τα κάτωθι όρια δραστηριότητας μπορούν να ληφθούν ως δεδομένα, εάν δεν γίνει λεπτομερής ανάλυσις του μίγματος:-

$$A_I = 10 \text{ Ci}$$

$$A_2 = 0.4 \text{ Ci}$$

(2) Απλή αλυσος ραδιενεργούς αποσυνθέσεως (διασπάσεως) εις την οποίαν υπάρχουν/ραδιονουκλεΐδια εις τας φυσικάς των αναλογίας και εις την οποίαν ουδέν θυγατρικόν νουκλεΐδιον έχει ημισειά-ζωήν είτε μεγαλυτέραν των 10 ημερών είτε μεγαλυτέραν εκείνης του μητρικού νουκλεΐδιου, θα θεωρείται ως απλό ραδιονουκλεΐδιο. Η δραστηριότης η οποία θα ληφθεί υπόψει και η τιμή των A_I ή A_2 που θα ισχύσει θα είναι αι αντιστοιχοι εκείνων του μητρικού νουκλεΐδιου της αλύσου αυτής. Εν τούτοις, στη περίπτωση αλύσων ραδιενεργούς αποσυνθέσεως (αποσπάσεως) εις τας οποίας οιοδήποτε θυγατρικόν νουκλεΐδιον έχει ημισειά-ζωήν είτε μεγαλυτέρα των 10 ημερών είτε μεγαλυτέραν εκείνης του μητρικού νουκλεΐδιου, το μητρικόν και το τοιούτον θυγατρικόν νουκλεΐδιον θα θεωρούνται ως μίγματα διαφόρων νουκλεΐδων.

(3) Στη περίπτωση μίγματος διαφορετικών/νου- 369I
 κλειδίων, εις το οποίον η ταυτότης και δραστηκότης (Συνεχίζε-
 εκάστου ραδιονουκλεΐδου είναι γνωσταί, η επιτρεπτή ται)
 δραστηκότης εκάστου ραδιονουκλεΐδου $R_1, R_2 \dots R_N$
 θα είναι τέτοια ώστε η $F_1 \neq F_2 \neq \dots F_N$ να μην είναι
 μεγαλύτερα της ενόττης, όπου

$$F_1 = \frac{\text{Ολική δραστηκότης του } R_1}{A_1 (R_1)}$$

$$F_2 = \frac{\text{Ολική δραστηκότης του } R_2}{A_1 (R_2)}$$

$$F_N = \frac{\text{Ολική δραστηκότης του } R_N}{A_1 (R_N)}$$

$A_1 (R_1), A_1 (R_2), \dots A_1 (R_N)$ είναι η τιμή των A_1 ή
 A_2 ως ενδεικνυται δια το νουκλεΐδιο $R_1, R_2 \dots R_N$.

(4) Όταν η ταυτότης εκάστου ραδιονουκλεΐδου εί-
 ναι γνωστή αλλά οι χωριστοί δραστηκότητες ωρισμένων εκ των
 ραδιονουκλεΐδων είναι άγνωστοι, ο τύπος της παραγράφου (3)
 θα ισχύσει δια των καθορισμόν των τιμών των A_1 ή A_2 ως
 ενδεικνυται. Όλα τα ραδιονουκλεΐδια των οποίων αι χωρι-
 σταί δραστηκότητες είναι άγνωστοι (ο ολική των δραστηριό-
 τής, εν τούτοις, θα είναι γνωστή) θα ταξινομηθούν εις μίαν
 ομάδα και η πλέον περιοριστική τιμή της A_1 και A_2 η ισχύουσα
 δι' οιονδήποτε εν τούτων θα χρησιμοποιηθεί ως η τιμή της
 A_1 ή A_2 εις τον παρονομαστήν του κλάσματος.

(5) Οσάκις η ταυτότης εκάστου ραδιονουκλεΐδου
 είναι γνωστή αλλά η χωριστή δραστηκότης ουδενός των ραδιο-

νοουκλειδίων είναι γνωστή, η πλέον περιοριστική τιμή των A_I ή A_2 η ισχύουσα δι' οιονδήποτε εν των ραδιονουκλειδίων θα υιοθετηθεί ως η ισχύουσα τιμή. (Συνεχίζεται)

369I

(6) Όταν η ταυτότης ουδενός ή μόνον μερικών εκ των νοουκλειδίων είναι γνωστή, η τιμή της A_I θα λαμβάνεται ότι είναι 2 Ci και η τιμή της A_2 θα λαμβάνεται ότι είναι 0.002 Ci. Εν τούτοις, εάν οι πομποί άλφα (α) είναι γνωστόν ότι απουσιάζουν, η τιμή της A_2 θα ληφθεί ότι είναι 0.4 Ci.

3692-

3694

ΚΕΦΑΛΑΙΟΝ VII.- ΑΠΟΛΥΜΑΝΣΙΣ, ΔΙΑΡΡΕΟΝΤΑ ΚΟΛΑ ΚΑΙ ΑΤΥΧΗΜΑΤΑ

(I) Εάν κάποιον περιέχει ραδιενεργείς ύλες σπάσει ή ορατώς διαρρέει ή ελχεν ατύχημα διαρκούσης της μεταφοράς, το όχημα ή η θιγέσα περιοχή θα απομονώνεται ώστε να αποφευχθεί κάθε επαφή προσώπων με ραδιενεργείς ύλες και, οσάκις είναι δυνατόν, θα σημειούνται δεδόντως ή φράσσεται. Εις ουδένα θα επιτραπεί να παραμείνει εντός της μονωθείσης περιοχής μέχρι της αφίξεως των αρμοδίων προσώπων τα οποία θα εποπτεύσουν το έργο χειρισμού και διασώσεως. Ο αποστολεύς και αι περί ων πρόκειται αρχαί θα ενημερωθούν πάραυτα. Κατά παρέκβασι των ανωτέρω διατάξεων, η παρουσία ραδιενεργών υλών δεν θα θεωρείται ως εμπόδιον εις τας επιχειρήσεις διασώσεως ανθρώπων ή κατασβέσεως πυρκαϊών.

(2) Εάν ραδιενεργείς ύλοι διέρρευσαν, εχύθησαν, ή διεσκορπίσθησαν καθ' οιονδήποτε απολύτως τρόπον εις τόπον,

περιοχήν ή επί εμπορευμάτων ή εξοπλισμού εν αποθηκεύσει, 3695
θα κληθούν το ταχύτερο δυνατόν τα αρμόδια πρόσωπα να (Συνεχί-
κατευθύνουν τας επιχειρήσεις απολυμάνσεως. Ο ούτω μολυν- ζεται)
θείς τόπος, περιοχή ή εξοπλισμός τότε και μόνον θα επανα-
λειτουργήσουν όταν δηλωθεί υπό των αρμοδίων προσώπων ότι
είναι απηλλαγμένα κινδύνου.

(3) Εκτός ως προβλέπεται ~~ε~~^η παράγραφω (4), οιαδή-
ποτε οχήματα, εξοπλισμός ή τμήμα αυτών, που εμολύνθησαν
διαρκούσης της μεταφοράς ραδιενεργών υλών θα απολυμάνωνται
ευθύς ως είναι δυνατόν (το ταχύτερο δυνατό) υπό αρμοδίου
προσώπου και δεν θα επαναχρησιμοποιηθούν εκτός εάν η ακα-
θόριστος (NON-FIXED) ραδιενεργής μόλυνσις είναι κάτω των
επιπέδων των οριζομένων εις τον Πίνακα XIX και τα οχήματα,
ο εξοπλισμός ή τμήμα αυτών εδηλώθησαν ασφαλή ~~ε~~^ε σχέση με
τα επίπεδα υπολειμματικής ακτινοβολίας υπό αρμοδίου προσώ-
που.

(4) Οχήματα ή διαμερίσματα χρησιμοποιούμενα ~~γ~~^για την
χύμα μεταφοράν ή δεξαμενο-μεταφοράν υλών χαμηλής ειδικής
δραστικότητας, ή δια την μεταφοράν κόλων υλών χαμηλής ει-
δικής δραστικότητας μεταφερομένων ως πλήρες φορτίον ή δια
την μεταφοράν χαμηλού επιπέδου στερεών ραδιενεργών υλών ως
πλήρες φορτίον δεν θα χρησιμοποιούνται δι' άλλα εμπορεύμα-
τα μέχρις ότου απολυμανθούν ως ορίζεται ~~ε~~^η παράγραφω (3).

3696-

3699

ΠΡΟΣΘΗΚΗ Α.7

Υπό επιφύλαξιν (RESERVED)

3700-
3799

ΠΡΟΣΘΗΚΗ Α.8

Υπό επιφύλαξιν (RESERVED)

3800-
3899

ΠΡΟΣΘΗΚΗ Α.9

Ι.- Διατάξεις διέπουσαι τις ετικέττες κινδύνου

(1) Οι Ετικέττες Αρ. Ι, 2Α, 2Β, 2Γ, 2Δ, 3, 4, 4Α, 3900 5, 6Α, 6Β και 6Γ θα είναι σχήματος τετραγώνου, πλευράς 10 CM, τοποθετούμεναι σε γωνία. Έχουν μαύρην γραμμήν εκ 5 MM εις το άκρον. Οι ετικέττες ^{που}/θα τοποθετούνται εις ωρισμένας δεξαμενάς (βυριο-φόρα και TANK-TRAILERS) θα έχουν πλευράν όχι μικροτέραν των 30 CM.

(2) Οι Ετικέττες Αρ. 7, 8 και 9 θα είναι ορθογώνιοι, βασικού σχήματος Α5(148 X 210 MM). Για κόλα, οι διαστάσεις αυτές μπορούν να μειωθούν εις σχήμα όχι μικρότερον του Α7(74 X 105 MM).

(3) Επιγραφή, εις αριθμούς ή γράμματα, αφορώσα την φύσιν του κινδύνου μπορεί να τοποθετηθεί εις το κάτω μέρος των ετικεττών.

(1) Ετικέττες κινδύνου, οσάκις απαιτούνται δυνάμει 390Ι του παρόντος Παραρτήματος, πρέπει να κολλώνται εις τα κόλα και ωρισμένας δεξαμενάς (βυτρία) ή να τοποθετούνται με άλλον κατάλληλον τρόπον. Μόνον οσάκις η κατάσταση του εξωτερικού του κόλου δεν το επιτρέπει θα πρέπει οι ετικέττες να

κόχωνται επί πινακίδων ή ταμπελών ασφαλώς συνδεδεμένων με το κόλον. Επί εξωτερικών συσκευασιών και συνδεδεμένων δεξαμενών (βυτίων), ανεξίτηλοι ενδείξεις κινδύνου ακριβώς αντίστοιχοι των προβλεπομένων μοντέλων μπορούν να χρησιμοποιούνται αντί των ετικεττών.

3901
(Συνεχίζεται)

(2) Οσάκις κόλον απαιτείται να φέρει δύο ετικέττες του αυτού μοντέλου, οι ετικέττες θα τοποθετούνται κατά τον κατωτέρω οριζόμενον τρόπον:

δύο τετράγωνα: σχήμα 2991

(3) Είναι καθήκον του αποστολέως να τοποθετεί τις ετικέττες στα κόλα, και, οσάκις ενδείκνυται, εις συνδεδεμένας δεξαμενάς (βυτία) και υποδοχείς (CONTAINERS).

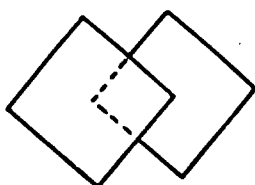
2.- Επεξηγήσεις Συμβόλων σχήματα 2992

Οι ετικέττες κινδύνου που προβλέπονται για όλες και είδη των Κλάσεων I έως 8 (βλέπε συνημμένον πίνακα Προσθήκης Α.9) έχουν τις παρακάτω έννοιες:-

Αρ. I (μαύρη βόμβα σε φόντο πορτοκαλί): υποκειμένη εις έκρηξη προβλεπομένη υπό των περιθωρίων 2117(I), και (2), 2145 και 2563°

Αρ. 2A (μαύρη φλόγα σε κόκκινο φόντο) : κίνδυνος πυρκαϊάς (ευφλέετα υγρά)°

προβλεπομένη υπό των περιθωρίων 2224(3), 2316(3), 2478(2), 2307(I) και 2632(I)°



- Αρ. 2Β (μαύρη φλόγα σε φόντο ισάκεις
 απεχουσών ερυθρών και λευκών
 εναλλάξ λωρίδων) : κίνδυνος πυρκαϊάς (ευφλέ-
 κτων στερεών)*
 προβλεπομένη υπό περιθωρίου
 2414(Ι)*
- Αρ. 2Γ (μαύρη φλόγα σε λευκό φόντο,
 κάτω τρίγωνον ετικέτας
 ερυθρό) : ύλη υποκειμένη εις στιγ-
 μιάσαν ανάφλεξιν*
 προβλεπομένη υπό περιθωρί-
 ου 2443(Ι)*
- Αρ. 2Δ (μαύρη φλόγα σε κυανό· (μπλέ)
 φόντο: κίνδυνος εκπομπής ευφλέκτων
 αερίων εις επαφήν με το νερό·
 προβλεπομένη υπό του περιθω-
 ρίου 2478(Ι)*
- Αρ. 3 (φλόγα πέριξ κύκλου,
 μαύρο σε κίτρινο φόντο): οξειδωτική ύλη ή οργανικόν
 υπεροξειδιον*
 προβλεπομένη υπό των περι-
 θωρίων 2511(Ι) και 2563(Ι)*
- Αρ. 4 (νεκροκεφαλή επί διασταυρω-
 μένων οστών, μαύρο σε λευκό
 φόντο): τοξική ύλη: θα τηρείται μακράν
 σε οχήματα και σε σημεία φορ-
 τώσεως, εκφορτώσεως ή μετα-
 φορτώσεως, από τρόφιμα και λοι-
 πά είδη καταναλώσεως*
 προβλεπομένη υπό των περι-
 θωρίων 2307(Ι), 2316(3),
 2632(Ι) και 2643(3)*

3902

(Συνεχι-
ζεται)

Αρ. 4Α (Σταυρός Αγ. Ανδρέου επί
στάχους, μαύρο σε λευκό
φόντο):

3902
(Συνεχί-

ζεται)
επιβλαβής ύλη: θα τηρε-
ται μακριά από τρόφιμα
εντός οχημάτων, και εις
σημεία φορτώσεως, εκφορ-
τώσεως ή μεταφορτώσεως·

προβλεπομένη υπό των περι-
θωρίων 2632(I) και 2643(3)·

Αρ. 5 (υγρό πίπτον από δοκιμα-
στικόν σωλήνα επάνω σε
πλάκα και από αλλονδοκιμα-
στικόν σωλήνα στο χέρι·
μαύρο σε λευκό φόντο, κάτω
τρίγωνον ετικέττας μαύρο
με λευκή μπορντούρα):

διαβρωτική ύλη·

προβλεπομένη υπό των περι-
θωρίων 25II(I), 2824(I)
και 2835(3)·

Αρ. 6Α (στυλιζαρισμένο τριφύλλι,
επιγραφή ΡΑΔΙΕΝΕΡΓΟΝ, κά-
θετος λωρίς στο κάτω ήμισυ,
με το ακόλουθο κείμενο:
Περνεχόμενο
Δραστικότητα
Σύμβολο και επιγραφαί μαύραι
σε λευκό φόντο, κάθετος λω-
ρίς ερυθρά) :

ραδιενεργής ύλη σε κόλα της
Κατηγορίας I - ΛΕΥΚΗ· Ξε περι-
πτώσει ζημιάς των κόλων, κίν-
δυνος δια την υγείαν εξ εισα-
γωγής, εισπνοής, ή επαφής με
χυμένον περιεχόμενον·

προβλεπομένη υπό των περι-
θωρίων 3656(I), (2) και (3)
καθ των πινάκων 5 έως 12·

3902

(Συνεχί-
ζεται)

Αρ. 6B (όπως η προηγούμενη, αλλά με
δύο κάθετες λωρίδες στο κάτω
ήμισυ και το κάτωτι κείμενο:

Περιεχόμενο
Δραστικότητα

"TRANSPORT INDEX" (Δείκτης Μετα-
φοράς)

Σύμβολον και επιγραφαί μαύραι·

άνω ήμισυ, κίτρινο φόντο,

κάτω ήμισυ, λευκό φόντο· κάθε-

τοι λωρίδες, ερυθραί):

ραδιενεργής ύλη σε κόλα
της Κατηγορίας II -ΚΙΤΡΙΝΗ·
τα κόλα θα τηρούνται μακριά
από κόλον περιέχον μη εμφα-
νισθείσες ραδιογραφικές ή
φωτογραφικές πλάκες ή φιλμ·
σε περίπτωση ζημιάς των κό-
λων, κίνδυνος για την υγεία
εξ εισαγωγής ή εισπνοής, ή
επαφής με, χυμένο περιεχό-
μενο, και κίνδυνος εξωτερι-
κής ακτινοβολίας από μίαν
απόστασιν·

προβλεπομένη υπό των πινακων

5 έως I2, ως ενδεικνυται, και
των περιθωριων 3656(I), (2) και
(3)·

Αρ. 6Γ (όπως η προηγούμενη, αλλά με
τρεις κάθετες λωρίδες στο κάτω
ήμισυ:

ραδιενεργής ύλη σε κόλα
της Κατηγορίας III -ΚΙΤΡΙΝΗ·
τα κόλα θα τηρούνται μακριά
από κόλα περιέχοντα μη εμφα-
νισθείσες ραδιογραφικές ή
φωτογραφικές πλάκες ή φιλμ·

σε περίπτωση ζημιάς των κδ- 3902
λων, κίνδυνος δια την υγιει- (Συνεχί-
αν ~~απο~~ τη^ς εισαγωγής ή εισ- ζεται)
πνοής, ή επαφής με, χυμένο
περιεχόμενο, και κίνδυνος εξω-
τερικής ακτινοβολίας από μία
απόστασι^ς.

Αρ. 7 (ανοικτή μαύρη ομπρέλλα
σε λευκό φόντο): διατηρείστε ξηρό

προβλεπομένη υπό του περι-
θωρίου 2478(I).

Αρ. 8 (δύο μαύρα τόξα σε λευκό
φόντο): προς τα άνω:
προβλεπομένη υπό η ετικέττα θα τοποθετηθεί, με τα τό-
των περιθωρίων 2II7 ξα προς τα άνω, σε δύο αντίθετες
(2), 2224(2), 2307 πλευρές του κδλου.
(3), 24I4(2), 2443
(2) και (3), 2478(3),
25II(2), 2563(2), 2632
(2), 2664, 2709(3),
2824(2) και (3).

Αρ. 9 (ερυθρό κρασοπότηρο σε
λευκό φόντο): χειρισθείτε με προσοχή, ή:-
μη το χύσετε.

προβλεπομένη υπό των περι-
θωρίων 2II7(2), 2I82,
224(I), (2) και (3), 2307
(3), 24I4(2), 2443(3), 2478
(3), 25II(2), 2562(2), 2632(2),
2664, 2709(3) και 2824(2).

3903-

3999*

ΠΡΟΣΘΗΚΗ Α.9

ΕΤΙΚΕΤΤΕΣ ΚΙΝΔΥΝΟΥ (ΠΙΝΑΞ)

(Βλέπε περιθώριο 3902)

Αναπαραγωγή επί μειωμένης κλίμακος

APPENDICE A 9
DANGER LABELS
(See marginal 3902)
Reproduction on reduced scale

N°1



N°2A



N°2B



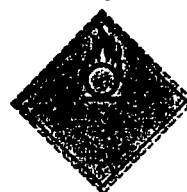
N°2C



N°2D



N°3



N°4



N°4A



N°5



N°6A



N°6B



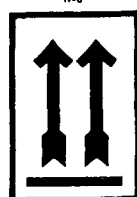
N°6C



N°7



N°8



N°9



E/ECE/322

E/ECE/TRANS/503

ΟΙΚΟΝΟΜΙΚΗ ΕΠΙΤΡΟΠΗ ΓΙΑ ΤΗΝ ΕΥΡΩΠΗ
ΕΠΙΤΡΟΠΗ ΜΕΤΑΦΟΡΩΝ ΕΣΩΤΕΡΙΚΟΥ

Ευρωπαϊκή Συμφωνία
Για τη Διεθνή Οδική Μεταφορά Επι-
κινδύνων Εμπορευμάτων (ADR)
και Πρωτόκολλο Υπογραφής

Υπογράφηκε στη Γενεύη την 30 Σεπτεμβρίου 1957

ΤΟΜΟΣ III

(Παράρτημα Β)

ΗΝΩΜΕΝΑ ΕΘΝΗ

1978

Π Ρ Ο Λ Ο Γ Ο Σ

Το παρακάτω κείμενο περιλαμβάνει, επιπροσθέτως της Συμφωνίας και του Πρωτοκόλλου Υπογραφής, τα παραρτήματα με τη μορφή με την οποία τέθηκαν σε ισχύ την 29ην Ιουλίου 1968 καθώς και τις τροποποιήσεις τους μέχρι της 1ης Οκτωβρίου 1978.

ΠΑΡΑΡΤΗΜΑ Β

ΔΙΑΤΑΞΕΙΣ ΓΙΑ ΤΟΝ ΕΞΟΠΛΙΣΜΟ ΤΩΝ ΜΕΤΑΦΟΡΩΝ ΚΑΙ ΤΙΣ ΕΠΙΧΕΙΡΗΣΕΙΣ
ΜΕΤΑΦΟΡΩΝ

ΠΕΡΙΕΧΟΜΕΝΟΝ

| | Περιθώρια |
|--|--------------------|
| ΣΧΕΔΙΟ ΤΟΥ ΠΑΡΑΡΤΗΜΑΤΟΣ | ΙΟ 000 |
| ΙΣΧΥΣ ΑΛΛΩΝ ΔΙΑΤΑΞΕΩΝ, ΕΘΝΙΚΩΝ Η ΔΙΕΘΝΩΝ | ΙΟ 001 |
| ΙΣΧΥΣ ΤΩΝ ΔΙΑΤΑΞΕΩΝ ΤΟΥ ΚΕΦΑΛΑΙΟΥ Ι ΤΟΥ ΠΑΡΟΝΤΟΣ ΠΑΡΑΡΤΗΜΑΤΟΣ | ΙΟ 002 |
| ΚΕΦΑΛΑΙΟ Ι: ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΙΣΧΥΟΥΣΕΣ ΓΙΑ ΤΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΥΛΩΝ ΟΛΩΝ ΤΩΝ ΚΛΑΣΕΩΝ (ΚΑΤΗΓΟΡΙΩΝ) | |
| Άρθρο Ι <u>Γενικά</u> | ΙΟ 100 <u>κ.ε.</u> |
| Αντικείμενον του παρόντος Παραρτήματος | ΙΟ 100 |
| Ορισμοί | ΙΟ 102 |
| Τύποι Οχημάτων | ΙΟ 104 |
| Πλήρες φορτίο | ΙΟ 108 |
| Μεταφορά εμπορευμάτων εις χύμα | ΙΟ 111 |
| Μεταφορά μέσα σε CONTAINERS | ΙΟ 118 |
| Μεταφορά μέσα σε δεξαμενές | ΙΟ 121 |
| Δεξαμενές | ΙΟ 127 |
| Πληρώματα αυτοκινήτων (οχημάτων) | |
| Εποπτεία | ΙΟ 171 |
| Μεταφορά Επιβατών | ΙΟ 172 |
| Ήγγραφα Μεταφορών | ΙΟ 181 |
| Έγκριση οχημάτων | ΙΟ 182 |
| Γραπτές οδηγίες | ΙΟ 185 |
| Άρθρο 2 <u>Ειδικοί όροι πληρούμενοι από οχήματα και τον εξοπλισμό τους</u> | ΙΟ 200 <u>κ.ε.</u> |
| Πυροσβεστικές συσκευές | ΙΟ 240 |
| Ηλεκτρικός εξοπλισμός | ΙΟ 251 |
| Διάφορος εξοπλισμός | ΙΟ 260 |

| | |
|--|-------------|
| | Περιθώρια |
| Άρθρο 3 <u>Διατάξεις Γενικών Υπηρεσιών</u> | ΙΟ 300 κ.ε. |
| Πυροσβεστικές συσκευές | ΙΟ 340 |
| Φορητή συσκευή φωτισμού | ΙΟ 353 |
| Απαγόρευση καπνίσματος | ΙΟ 374 |
| Άρθρο 4 <u>Ειδικές διατάξεις για φόρτωση, εκφόρ- τωση και χειρισμό</u> | ΙΟ 400 κ.ε. |
| Περιορισμός των μεταφερομένων ποσο- τήτων | ΙΟ 40Ι |
| Απαγόρευση μικτής φορτώσεως ενός οχή- ματος | ΙΟ 403 |
| Απαγόρευση μικτής φορτώσεως ενός CONTAINER | ΙΟ 405 |
| Καθάρισμα προ της φορτώσεως | ΙΟ 4Ι3 |
| Χειρισμός και στοιβάσλα | ΙΟ 4Ι4 |
| Καθάρισμα μετά την εκφόρτωση | ΙΟ 4Ι5 |
| Φόρτωση και εκφόρτωση υλών σε CONTAINERS | ΙΟ 4Ι9 |
| Λειτουργία του κινητήρα (μηχανής) κατά τη φόρτωση και εκφόρτωση | ΙΟ 43Ι |
| Άρθρο 5 <u>Ειδικές διατάξεις για τη λειτουργία των οχημάτων</u> | ΙΟ 500 κ.ε. |
| Σήματα Οχημάτων | ΙΟ 500 |
| Στάθμευση (πάρκιγκ) εν γένει | ΙΟ 503 |
| Στάθμευση (πάρκιγκ) τη νύκτα ή όταν η ορατότητα είναι μικρή | ΙΟ 505 |
| Στάθμευση (πάρκιγκ) οχήματος παρουσιάζ- οντος ειδικόν κίνδυνον | ΙΟ 507 |
| Άλλες διατάξεις | ΙΟ 599 |

Περιθώρια

Άρθρο 6 Μεταβατικές διατάξεις, ανακλήσεις,
και διατάξεις ειδικές για ωρισμέ-
νες χώρες IO 600 κ.ε.

Ταχεία διαδικασία για εξουσιοδό-
 τηση ανακλήσεων προς τον σκοπόν
 διεξαγωγής δοκιμών. IO 602

ΚΕΦΑΛΑΙΟ II ΕΙΔΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΙΣΧΥΟΥΣΕΣ ΓΙΑ ΤΗ
 ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΥΛΩΝ ΚΛΑΣΕΩΝ I - VII

Κλάσεις Ia, Εκρηκτικές ύλες και αντικείμενα· Αντι-
 Ib και Iγ κείμενα γεμισμένα με εκρηκτικές ύλες·
 αναφλεκτικές, πυροτεχνήματα και παρεμ-
 φερή εμπορεύματα. II 000 κ.ε.

Κλάσεις Id Αέρια· πεπιεσμένα, υγροποιημένα ή ή
 διαλυμένα υπό πίεση I4 000 "

Κλάσεις Ie Ύλες που αναδύουν εύφλεκτα αέρια σε
 επαφή με το ύδωρ I5 000 "

Κλάσεις II Ύλες υποκείμενες σε αυτανάφλεξη 2I 000 "

Κλάσεις IIIa Εύφλεκτα υγρά 3I 000 "

Κλάσεις IIIβ Εύφλεκτα στερεά 32 000 "

Κλάσεις IIIγ Οξειδωτικές ύλες 33 000 "

Κλάσεις IVa Τοξικές ύλες 4I 000 "

Κλάσεις IVβ Ραδιενεργές ύλες 42 000 "

Κλάσεις V Διαβρωτικές ύλες 5I 000 "

Κλάσεις VI Απεχθείς ύλες και ύλες δυνάμενες να
 προκαλέσουν μόλυνση 6I 000 "

Κλάσεις VII Οργανικό υπεροξειδίου 7I 000 "

ΠΡΟΣΘΗΚΕΣ

Κοινές διατάξεις Προσθηκών B.I 200 000 - 2II 099

Περιθώρια

- Προσθήκη Β.Ια. Διατάξεις διέπουσες σταθερά βυτία
(βυτιοφόρα-οχήματα), λυόμενα βυ-
τία και συστοιχίες δοχείων 211 100 - 212 099
- Προσθήκη Β.Ιβ. Διατάξεις διέπουσες τα βυτιο-
CONTAINERS 212 100 - 213 099
- Προσθήκη Β.Ιγ. Διατάξεις διέπουσες σταθερά βυτία
και λυόμενα βυτία σε ενισχυμένα
πλαστικά 213 100 - 213 099
- Προσθήκη Β.Ιδ. Όροι διέποντες τα υλικά και τη
κατασκευή σταθερών βυτίων, λυόμε-
νων βυτίων, και περιβλημάτων των
βυτιο-CONTAINERS, προοριζομένων
για τη μεταφορά βαθειά-κατεψυγμέ-
νων (DEEPLY-REFRIGERATED) υγροποιη-
μένων αερίων της Κλάσεως 2 214 000 - 219 999
- Προσθήκη Β.2. Ηλεκτρικός εξοπλισμός 220 000 - 229 999
- Προσθήκη Β.3. Πιστοποιητικούς εγκρίσεως οχημάτων
μεταφερόντων ορισμένα επικίνδυνα
εμπορεύματα 230 000 - 239 999
- Προσθήκη Β.4. Πλινάκες αφορώντες τη μεταφορά επι-
κινδύνων υλών της Κλάσεως 7°. Επι-
κέττα θα τοποθετείται στα οχήματα
τα μεταφέροντα τις ύλες αυτές 240 000 - 249 999
- Προσθήκη Β.5. Κατάστασις υλών αναφερομένων στο
περιθώριο IO 500 (2) 250 000 - 250 999

ΠΑΡΑΡΤΗΜΑ Β

ΔΙΑΤΑΞΕΙΣ ΔΙΕΠΙΟΥΣΕΣ ΤΟΝ ΕΞΟΠΛΙΣΜΟΝ ΤΩΝ ΜΕΤΑΦΟΡΩΝ ΚΑΙ ΤΩΝ
ΕΠΙΧΕΙΡΗΣΕΩΝ ΜΕΤΑΦΟΡΑΣ

4 000-

9 999

Σχέδιον του Παραρτήματος

10 000

(I) Το παρόν Παράρτημα περιλαμβάνει:-

(α) γενικές διατάξεις ισχύουσες για τη μεταφορά επι-
κινδύνων υλών όλων των Κλάσεων (Κεφάλαιο I)·(β) ειδικές διατάξεις ισχύουσες για τη μεταφορά επι-
κινδύνων υλών των Κλάσεων I - 8 (Κεφάλαιο II)·

(γ) Παραρτήματα (Προσθήκες) ως κάτωθι:-

- Προσθήκη Β.Ια αφορώσα σταθερά βυτία (βυτιοφόρα-
οχήματα) ή λυόμενα βυτία και συστοιχίες δοχείων·
- Προσθήκη Β.Ιβ αφορώσα βυτιο-CONTAINERS·
- Προσθήκη Β.Ιγ αφορώσα σταθερά βυτία και λυόμενα
βυτία σε ενισχυμένα πλαστικά·
- Προσθήκη Β.Ιδ διέπущα τους όρους τους αφορώντες
τα υλικά και τη κατασκευή σταθερών βυτίων, λυο-
μένων βυτίων, και περιβλημάτων βυτιο-CONTAINERS,
προοριζομένων για τη μεταφορά βαθειά-κατεψυγμένων
(DEEPLY-REFRIGERATED) υγροποιημένων αερίων της
Κλάσεως 2·
- Προσθήκη Β.4 περιέχουσα πίνακες αφορώντες τη μετα-
φορά υλών της Κλάσεως 7 και τοποθέτηση ετικέτας
σε οχήματα μεταφέροντα τις ύλες αυτές·
- Προσθήκη Β.5 περιέχουσα την Κατάστασιν υλών ανα-
φερομένων στο περιθώριο 10 500 (2).

(2) Οι γενικές διατάξεις του Κεφαλαίου Ι και οι ειδικές διατάξεις του Κεφαλαίου ΙΙ διαρ-
ρύνονται σε άρθρα υπό τους ακόλουθους τίτλους:-

Περιθώρια

ΙΟ 000 (Συνε-
χίζεται)

Άρθρον Ι.- Γενικά (το παρόν άρθρον περιέχει,
μεταξύ άλλων, τις διατάξεις που διέπουν
τις εξουσιοδοτήσεις (άδειες) για τη
μεταφορά εμπορευμάτων εις χύμα, μέσα
σε CONTAINERS ή βυτία (δεξαμενές)).

Άρθρον 2.- Ειδικοί όροι πληρούμενοι υπό οχημάτων
και του εξοπλισμού αυτών.

Άρθρον 3.- Διατάξεις Γενικών Υπηρεσιών.-

Άρθρον 4.- Ειδικές διατάξεις διέπουν την φόρτωση,
εκφόρτωση και χειρισμόν (το άρθρο τούτο
περιλαμβάνει τις διατάξεις που διέπουν
τους μεθόδους προώθησεως, τους περιορισμούς
επί της προώθησεως και τις απαγορεύσεις
επί μικτής φορτώσεως).

Άρθρον 5.- Ειδικές διατάξεις διέπουν την λειτουργίαν
οχημάτων.

Άρθρον 6.- Μεταβατικές διατάξεις, αναλήψεις, και δια-
τάξεις ειδικές για ωρισμένες χώρες.

Ισχύς άλλων διατάξεων, εθνικών ή διεθνών

ΙΟ 001

(Ι) Εάν το όχημα το ενεργούν επιχείρησιν μετα-
φοράς υποκειμένην εις τις διατάξεις της ADR μεταφέρεται
για τμήμα του ταξιδιού κατά τρόπον διάφορον της οδικής
ρυθμολογίας, τότε οποιεσδήποτε εθνικές ή διεθνείς δια-
τάξεις που διέπουν την μεταφοράν επικινδύνων εμπορευμάτων
στο τμήμα τούτο δια του τρόπου μεταφοράς του χρησιμοποι-

ουμένου για τη μεταφορά του οδικού οχήματος θα ισχύουν IO 001
και μόνον για το τμήμα τούτο, του ταξιδιού. (Συνεχίζεται)

(2) Εις περιπτώσεις κατά τις οποίες επιχειρήσιν μεταφοράς υποκειμένη στις διατάξεις της ADR ενδέχεται να υπόκειται δια το σύνολο ή μέρος του οδικού ταξιδιού εις διατάξεις διεθνούς συμφωνίας διέπουσας την μεταφοράν επικινδύνων εμπορευμάτων δια τρόπου μεταφοράς διαφορετικού της της οδικής μεταφοράς δύναμει ρητρών επεκτεινουσών την ισχύν της συμφωνίας αυτής εις ωρισμένες υπηρεσίες αυτοκινήτων, τότε, για το εν λόγω ταξίδι θα ισχύουν αι διατάξεις της διεθνούς αυτής συμφωνίας, παραλλήλως με εκείνες της ADR που δεν είναι ασυμβίβαστες· οι λοιπές ρήτρες της ADR δεν θα ισχύσουν δια το εν λόγω ταξίδι.

Ισχύς των διατάξεων του Κεφαλαίου I του παρόντος Παραρ- IO 002
τήματος

Οσάντις αι διατάξεις του Κεφαλαίου II ή των Προσθηκών του παρόντος Παραρτήματος συγκρούονται με τις διατάξεις του Κεφαλαίου I, τότε οι διατάξεις του Κεφαλαίου I δεν θα ισχύουν.

Παρ'όλον τούτο

- (α) αι διατάξεις του περιθωρίου IO 100 θα έχουν προτεραιότητα έναντι των διατάξεων του Κεφαλαίου II·
- (β) αι διατάξεις του περιθωρίου IO 403 θα έχουν προτεραιότητα έναντι των απαγορεύσεων επί μιντικής φορτώσεως των προβλεπομένων εις το Άρθρον 4 του Κεφαλαίου II.

IO 003-

IO 099

Κεφάλαιο Ι

ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΙΣΧΥΟΥΣΕΣ ΓΙΑ ΤΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΥΛΩΝ
ΟΛΩΝ ΤΩΝ ΚΛΑΣΕΩΝ

(βλέπε, εν τούτοις, περιθώριο ΙΟ 002)

Άρθρο ΙΓενικάΑντικείμενο του παρόντος Παραρτήματος

(1) Το Παράρτημα Α εξαιρεί από τις διατάξεις του παρόν- ΙΟΙ00
τος Παραρτήματος μεταφορά εκτελεσθείσα δυνάμει των δρών
(συσκευασίας, βάρους, κλπ.) που διαλαμβάνονται στα περι-
θώρια 220Ια, 230Ια, 240Ια, 243Ια, 247Ια, 250Ια και 280Ια.

- (2) (α) Περιορισμένες ποσότητες επικινδύνων υλών μπορούν
να μεταφέρονται σε κόλα χωρίς την εφαρμογή των
διατάξεων του παρόντος Παραρτήματος που διέπουν:-
- τους τύπους οχημάτων (περιθώρια "... Ι04" των
Κεφαλαίων Ι και ΙΙ, και περιθώρια ΙΙ Ι05 και
ΙΙ Ι06 του Κεφαλαίου ΙΙ του αφορώντος τις Κλά-
σεις Ια, Ιβ και Ιγ)·
 - τα πληρώματα οχημάτων και την εποπτεία (περι-
θώρια "... Ι7Ι" των Κεφαλαίων Ι και ΙΙ)·
 - τη μεταφορά επιβατών (περιθώριο Ι0 Ι72)·
 - γραπτές οδηγίες (περιθώρια Ι0 Ι8Ι(Ι)(β),
Ι0 Ι85 και 6Ι Ι85)·
 - το ειδικό πιστοποιητικό εγκρίσεως οχημάτων
(περιθώρια Ι0 Ι82 και ΙΙ Ι82)·
 - τους ειδικούς δρους που πρέπει να εκπληρούν τα

οχήματα και ο εξοπλισμός τους (και των 2 Άρθρων των Κεφαλαίων I και II), υπό την επιφύλαξιν, εν τούτοις, των διατάξεων του περιθωρίου 2I 2I2°

- τους τρόπους φορτώσεως και εκφορτώσεως (περιθώρια II 407, 2I 407 και 6I 407)· και

- τη λειτουργία των οχημάτων (και τα 5 Άρθρα των Κεφαλαίων I και II), υπό την επιφύλαξιν, εν τούτοις, της συμμορφώσεως προς τις διατάξεις του περιθωρίου 6I 5I5.

(β) Οι υπό στοιχείον (α) ~~απορριπόμενες~~ εξαιρέσεις θα ισχύουν για τη φόρτωση επί μιάς μονάδος μεταφοράς:

I.- μιάς ή περισσότερων των κατωτέρω επικινδύνων υλών, αδιακρίτως βάρους υπό τον όρον ότι δεν θα υπάρχουν άλλες επικίνδυνες ύλες της ADR στη μονάδα μεταφοράς:

Κλάση Ia - κενές συσκευασίες της I5°

Κλάση Iγ - πυρελα ασφαλείας της I°(α)·

Κλάση 3 - κενά δοχεία της 6°.

Κλάση 4.1 - ύλες της 9° και I0°.

Κλάση 4.2 - κενές συσκευασίες της I4° και I5°.

Κλάση 4.3 - κενά δοχεία της 5°.

Κλάση 5.1 - κενές συσκευασίες της II°.

Κλάση 5.2 - κενές συσκευασίες της 99°.

Κλάση 6.1 - κενές συσκευασίες της 9I° και 92°.

Κλάση 6.2 - είδη της I2° και

Κλάση 8 - πρωτοθειούχο νάτριο της 36° και κενά δοχεία της 5I°.

2.- μίας μόνον των κατωτέρω αναφερομένων επικινδύνων υλών, υπό τον όρον ότι το μικτόν βάρος όλων των κδλων των περιεχόντων την επικίνδυνον ύλην δεν υπερβαίνει το εικονιζόμενο βάρος, και ότι δεν υπάρχουν άλλες επικίνδυνες ύλες της ADR στη μονάδα μεταφοράς:-

IO IOO
(Συνεχίζεται)

Κλάση Iβ - είδη της 2^ο(β) ή 4^ο: IOO KG.

Κλάση Iγ - θρυαλλίδες βραδείας-καύσεως της 3^ο: IOO KG.

Κλάση 2 - χλωριούχο πυάνιο της 3^ο(C T): 5 KG.
φωσγένιο (χλωριούχο ανθρακύλιο) της 3^ο (A T): 25 KG.

- φθόριο της I^ο (A T): 50 KG.

Κλάση 3 - αιθηλικός αιθήρ, διθειώδης άνθραξ της I^ο(α) ή μίγματα της I^ο(β) όπως κολλόδια και ημι-κολλόδια περιέχοντα αιθηλικόν αιθέρα: 3 KG.

- οξεική αλδεΐνη, ακετόνη ή μίγματα ακετόνης της 5^ο: 75 KG.

Κλάση 4.1 - θελο της 2^ο(α), ναφθαλίνη της II^ο(β): 250 KG.

Κλάση 4.3 - ανθρακασβέστιο της 2^ο(α), πυριτούχο ασβέστιο της 2^ο(δ) ή πυριτούχο μαγνιούχο ασβέστιο της 2^ο(δ): IOOO KG.

Κλάση 5.2 - ύλες των 45^ο, 46^ο(α), 47^ο(α) και (β) συσκευασμένες σύμφωνα με τις διατάξεις του περιθωρίου 2559: 2 KG μη

- συμπεριλαμβανομένου του βάρους 10 100
του, τυχόν, συστήματος φύξεως. (Συνεχί-
ζεται)
- Κλάση 5.2 - ύλες των 1^ο έως 22^ο, 30^ο και 31^ο
(Συνεχίζεται) συσκευασμένες σύμφωνα με τις διατά-
ξεις του περιθωρίου 256I: 5 KG. και
- ύλες των 1^ο έως 22^ο, 30^ο, 31^ο και
40^ο συσκευασμένες σύμφωνα με τις δια-
τάξεις των περιθωρίων 2553 έως 2556
και 2558: 10 KG.
- Κλάση 6.I - ύλες των 41^ο, 61^ο και 62^ο, 71^ο έως
75^ο, 83^ο και 84^ο: 100 KG.
- Κλάση 8 - ύλες των 6^ο (α), 7^ο, 9^ο, 11^ο, 12^ο, 14^ο,
15^ο, 22^ο, 23^ο, 34^ο και 35^ο: 10 KG.

3.- μίας ή περισσότερων των κατωτέρω αναφερομένων επι-
κινδύνων υλών της ίδιας Κλάσεως, υπό τον όρον ότι
το ολικόν μικτόν βάρος όλων των κδλων των περιε-
χόντων ενάτην επικίνδυναν ύλην δεν υπερβαίνει το
καθορισθέν βάρος:

- Κλάση Ia - οιαδήποτε επικίνδυναν ύλη της Κλάσεως
πλην των ανωτέρω υπό στοιχείον (I)
αναφερομένων: 5 KG.
- Κλάση Ib - οιαδήποτε είδος της Κλάσεως πλην των
ανωτέρω υπό στοιχείον (2) αναφερομέ-
νων: 10 KG.
- Κλάση Iγ - οιαδήποτε επικίνδυναν ύλη της Κλάσεως
πλην των ανωτέρω υπό στοιχείον (I) και
(2) αναφερομένων: 15 KG.

Κλάση 2 - οιαδήποτε επικίνδυνος ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (Ι) και (2) αναφερομένων: 300 KG. 10 100 (Συνεχίζεται)

Κλάση 3 - οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (Ι) και (2) αναφερομένων: 250 KG.

Κλάση 4.1- οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (Ι) και (2) αναφερομένων: 50 KG.

Κλάση 4.2 - ύλες της Κλάσεως πλην των υλών των 1^ο, 2^ο, 3^ο και 4^ο και των κενών συσκευασιών των ανωτέρω υπό στοιχείον (Ι) αναφερομένων: 250 KG.

Κλάση 4.3 - οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (Ι) και (2) αναφερομένων: 10 KG.

Κλάση 6.1 - οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (Ι) και (2) αναφερομένων: 5 KG.

Κλάση 6.2 - οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (Ι) αναφερομένων: 300 KG, και

Κλάση 8 - οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (Ι) και (2) αναφερομένων: 250 KG.

(3) Εις εφαρμογήν της ανωτέρω παραγράφου (2), τα βάρη των υγρών ή αερίων των μεταφερομένων εις τας συνήθεις δεξα-

μενών οχημάτων (βυτιοφόρα) διά την κίνησιν των οχημάτων 10 100
 ή την λειτουργίαν του ειδικού εξοπλισμού αυτών (π.χ. (Συνεχί-
 ψυκτικού εξοπλισμού) και προς εξασφάλισιν της ασφαλείας ζεται)
 αυτών δεν θα λαμβάνονται υπόψη.

(4) Οι μόναι διατάξεις του Κεφαλαίου I του παρόντος
 Παραρτήματος που ισχύουν δια την μεταφοράν των επικινδύνων
 υλών της Κλάσεως 6.2 θα είναι αι διατάξεις του Κεφαλαίου II
 που αναφέρονται εις την Κλάσιν αυτήν και αι διατάξεις των
 περιθωρίων του παρόντος Κεφαλαίου I αι οποίαι ρητώς ισχύουν
 δυνάμει των ~~πρηναιγερόμενων~~ διατάξεων του Κεφαλαίου II.

(5) Ανακλήσεις των διατάξεων του παρόντος Παραρτή-
 ματος μπορούν να γίνωνται στην περίπτωση επείγουσας μεταφο-
 ράς προς διάσωσιν ανθρώπινης ζωής.

10 101

Ορισμοί

10 102

(I) Δια την εφαρμογήν του παρόντος Παραρτήματος:-

- δια του όρου "αρμοδία αρχή" νοείται η αρχή η ορισθείσα
 ως τοιαύτη εις εκάστην χώραν και δι' εκάστην ειδικήν
 περίπτωσιν, υπό της Κυβερνήσεως·
- δια του όρου "εύθραυστον κέλον" νοείται κέλον περιέχον
 εύθραυστον δοχείον (π.χ. δοχείον κατασκευασθέν εξ υά-
 λου, πορσελάνης, λίθου ή παρεμφερών υλών) το οποίον δεν
 έχει εγκλεισθεί εις συσκευασάν με πλήρεις πλευρές/που
 (πλάϊνά)
 να το προστατεύουν κατά της προσκρούσεως (δονήσεως).

(βλέπε επίσης Παράρτημα Α, περιθώριο 200Ι(5)).

- δια του όρου "αέριον" νοείται αέριον ή ατμός·
- δια του όρου "επικινδυνες ύλες", όταν χρησιμοποιούνται

μόνες, νοούνται οι ύλες και τα είδη που ορίζονται ως
ύλες και είδη της ADR.

IO IO2
(Συνεχί-
ζεται)

- δια του όρου "RID" νοούνται οι Διεθνείς Κανονισμοί οι διέποντες την Μεταφοράν Επικινδύνων Εμπορευμάτων Σιδηροδρομικώς (Παράρτημα I της Διεθνούς Συνθήκης της διέποσης την Μεταφοράν Εμπορευμάτων Σιδηροδρομικώς (CIM)).
- δια του όρου "μεταφορά εις χύμα" νοείται η μεταφορά στερεάς ύλης χωρίς συσκευασία.
- δια του όρου "CONTAINER" νοείται αντικείμενον εξοπλισμού μεταφοράς (φορητό με ανυψωτήρα, λυόμενη δεξαμενή-βυτίο, ή άλλο παρόμοιο κατασκευάσμα)
- μονίμου χαρακτήρος και κατά συνέπεια αρκετά ισχυρό (γερό) για να είναι κατάλληλο για επανειλημμένη χρήση.
- ειδικά προορισμένου να διευκολύνει τη μεταφορά εμπορευμάτων, δι' ενός ή περισσοτέρων μέσων μεταφοράς, άνευ θραύσεως του φορτίου.
- εφοδιασμένου με μηχανισμούς επιτρέποντας τον ευχερή χειρισμόν του, ειδικώτερα εάν γίνει μεταφόρτωσις από ένα μέσο μεταφοράς σε άλλο.
- έτσι σχεδιασμένου ώστε να είναι εύκολο το γέμισμα και άδειασμα, και έχον εσωτερικόν όγκον όχι μικρότερον του ενός κυβικού μέτρου.
- ο όρος "CONTAINER" δεν καλύπτει συμβατικές συσκευασίες, ή οχήματα, ή TANK CONTAINERS (δεξαμενό-CONTAINERS).
- δια του όρου "μεγάλο CONTAINER" νοείται CONTAINER έχον εσωτερικόν όγκον όχι μικρότερον του I κυβικού μέτρου και όχι άνω των 3 κυβικών μέτρων.

- δια του όρου "μικρό CONTAINER" νοείται CONTAINER έχον ΙΟ ΙΟ2 εσωτερικόν όγκον όχι μικρότερον του Ι κυβικού μέτρου (Συνεχίζεται) και όχι μεγαλύτερον των 3 κυβικών μέτρων·
- δια του όρου "δεξαμενο-CONTAINER" νοείται αντικείμενον εξοπλισμού μεταφοράς συμμορφούμενον προς τον ορισμόν του όρου "CONTAINER" τον διδόμενον ανωτέρω και κατασκευασμένον να περιέχει υγρές, αερίώδεις, σχήματος κόκκου ή κόκκων υλές αλλά έχον χωρητικότητα όχι μεγαλύτερα των 0.45 κυβικών μέτρων·
 - δια του όρου "συστοιχία δοχείων" νοείται συγκρότημα αποτελούμενον από πολλά δοχεία "καλούμενα "στοιχεία") των οποίων η ατομική ή η μέση χωρητικότητα είναι άνω των Ι50 λιτρών και τα οποία αλληλοσυνδέονται δια σωληνώσεως και είναι μονίμως συναρμολογημένα επί πλαισίου (δια πλαίσια κυλίνδρων αερίου, βλέπε Παράρτημα Α, περίθωριο 22Ι2(Ι)(δ))·
 - δια του όρου "κωσμένη δεξαμενή" νοείται δεξαμενή, πλην της σταθεράς δεξαμενής, πλην της δεξαμενο-CONTAINER ή της συστοιχίας δοχείων, η οποία έχει χωρητικότητα άνω των Ι.000 λιτρών, δεν προορίζεται δια την μεταφοράν εμπορευμάτων άνευ θραύσεως του φορτίου, και κανονικά δεν μπορεί να χειρισθεί (χρησιμοποιηθεί) ειμή όταν είναι άδεια·
 - δια του όρου "Σταθερά δεξαμενή" νοείται δεξαμενή (βυτίο) το οποίον είναι εκ κατασκευής συνδεδεμένο με το όχημα (οπότε γίνεται βυτιοφόρο) ή είναι αναπόσπαστο τμήμα του πλαισίου του τοιαύτου οχήματος·
 - δια του όρου "δεξαμενή", όταν χρησιμοποιείται μόνη, νοείται δεξαμενο-CONTAINER ή δεξαμενή χωρητικότητος υπερβαί-

νουσας το $\text{I}\mu^3$ η οποια μπορεί να είναι σταθερά δεξαμε- IO IO2
νή, λυομένη δεξαμενή ή συστοιχεία δοχείων. (Βλέπε, (Συνεχί-
εν τούτοις, περιορισμόν της έννοιας της λέξεως ζεται)
"δεξαμενή" εις τας διατάξεις τας κοινάς των Προσθηκών
B.I, περιθωρίου 200 000 (2)).

- δια' του όρου "μονάς μεταφοράς" νοείται αυτοκίνητον χω-
ρίς συνδεδεμένο ρυμουλκούμενο όχημα (τρέιλερ), ή συν-
δυασμός αποτελούμενος εξ αυτοκινήτου και συνδεδεμένου
ρυμουλκούμενου οχήματος (τρέιλερ).
- δια του όρου "κλειστό όχημα" νοείται όχημα έχον αμάξιμα
ικανό να κλεισθεί.
- δια του όρου "ανοικτό όχημα" νοείται όχημα η πλατφόρμα
του οποίου δεν έχει υπερκατασκευάσμα (χαβαλέ) ή είναι
απλώς εφοδιασμένο με πλαϊνά και οπισθία σανίδα.
- δια του όρου "σκεπασμένο όχημα" νοείται ανοικτό όχημα
εφοδιασμένο με σκέπασμα δια να προστατεύεται το φορτίο.
- δια του όρου "βυτιοφόρο" νοείται όχημα κατασκευασμένο
δια να μεταφέρει υγρά, αέρια, ή ύλες σχήματος κδικου
ή κόνιης και αποτελούμενο από μία ή περισσότερες στα-
θερές δεξαμενές.
- δια του όρου "συστοιχία-όχημα" νοείται βυτιοφόρο αποτε-
λούμενο από σταθερές δεξαμενές (καλούμενες "στοιχεία")
αλληλοσυνδεδεμένες δια σωληνώσεως.

(2) Δια την εφαρμογήν του παρόντος Παραρτήματος, οι
δεξαμενάς (βλέπε ορισμόν υπό στοιχείον (I) ανωτέρω) δεν το-
ποθετούνται στην ίδια βάση με τα δοχεία (υποδοχείς), του
όρου "δοχείον, υποδοχείς" χρησιμοποιουμένου εν περιοριστική

Εννοία. ~~Ο~~ διατάξεις που αφορούν τα δοχεία (υποδοχείς) ΙΟ ΙΟ2
 ισχύουν δια σταθερές δεξαμενές, συστοιχίες δοχείων, (Συνεχίζε-
 λυόμενες δεξαμενές και δεξαμενο-CONTAINERS μόνον εάν ται)
 τούτο ρητώς συνομολογείται.

(3) Διὰ του όρου "πλήρες φορτίο" νοείται οιοδή-
 ποτε φορτίο προερχόμενο από έναν αποστολέα, δια το οποίον
 η χρήση οχήματος ή μεγάλου CONTAINER φυλάσσεται αποκλει-
 στικώς και όλες οι εργασίες φορτώσεως και εκφορτώσεως
 οι οποίες εκτελούνται συμφώνως προς τας οδηγίες του απο-
 στολέως ή παραλήπτου (βλέπε περιθώριο ΙΟ ΙΟ8).

(4) Εκτός εάν ρητώς αναφέρεται άλλως, το σύμβολον
 "°/ο" ή ο λόγος "~~έως~~ εκατόν" εις το παρόν Παράρτημα αντι-
 προσωπεύουν:-

(α) προκειμένου περί μιγμάτων στερεών ή υγρών, ως και
 προκειμένου περί διαλυμάτων και στερεών μουσκεμέ-
 νων με υγρόν: ποσοστόν βάρους βασιζόμενον επί του
 ολικού βάρους του μίγματος, του διαλύματος ή του
 υγροποιηθέντος στερεού.

(β) προκειμένου περί αερειωδών μιγμάτων: ποσοστόν όγκου
 βασιζόμενον επί του ολικού όγκου του αερειώδους
 μίγματος.

(5) Άπαντα τα βάρη τα αναφερόμενα δια κόλα του πα-
 ρόντος Παραρτήματος είναι, εκτός εάν άλλως ορίζονται, μικτά
 βάρη. Το βάρος CONTAINERS ή δεξαμενών χρησιμοποιουμένων
 δια την μεταφοράν εμπορευμάτων δεν συμπεριλαμβάνεται εις
 το μικτόν βάρος.

(6) Πιέσεις όλων των ειδών αφορώσαι τα δοχεία (όπως

πίεσης δοκιμής, εσωτερική πίεση, πίεση ανοίγματος βαλβίδος-ασφαλείας) σημειούνται πάντοτε εις KG/CM^2 (Συνεχίζεται)
δείκτης πίεσεως (πίεσις πέραν της ατμοσφαιρικής πίεσεως). εν τούτοις, η πίεση ατμού των υλών εκφράζεται πάντοτε εις KG/CM^2 απολύτου πίεσεως.

IO IO2

(Συνεχίζεται)

(7) Οσάκις το Παράρτημα τούτο καθορίζει βαθμόν πληρώσεως δοχείων ή δεξαμενών, ο βαθμός αυτός πληρώσεως αναφέρεται εις θερμοκρασίαν των υλών 15°C εκτός εάν κάποια άλλη θερμοκρασία σημειούται.

IO IO3

Τύποι οχημάτων

IO IO4

(1) Μονάς μεταφοράς φορτωμένη με επικινδύνες ύλες ~~δε καμιά~~ περίπτωσιν μπορεί να συμπεριλάβει περισσότερα του ενός τρέιλερ ή ημι-τρέιλερ.

(2) Ειδικές διατάξεις αφορώσας τους τύπους οχημάτων που πρόκειται να χρησιμοποιηθούν δια την μεταφοράν συγκριμένων επικινδύνων υλών θα ευρεθούν, όπου ενδεικνύται, εις το Κεφάλαιον II του παρόντος Παραρτήματος (βλέπε επίσης τα περιθώρια τα διέποντα την μεταφοράν εντός CONTAINERS, την μεταφοράν στερεών υλών εις χύμα, την μεταφοράν εντός δεξαμενών, και τας δεξαμενές).

(3) Κόλα αποτελούμενα εκ συσκευασιών γενομένων από υλικά ευαίσθητα εις την υγρασίαν θα φορτώνονται εις κλειστά ή σκεπασμένα οχήματα.

IO IO5-

IO IO7

Πλήρες φορτίο

IO IO8

Οσάκις εφαρμόζονται αι διατάξεις αι διέπουσες μεταφοράν "πλήρους φορτίου", αι αρμόδιες αρχές μπορούν να απαιτήσουν όπως το όχημα ή το μεγάλο CONTAINER το χρησιμοποιούμενο δια την τοιαύτην μεταφοράν φορτωθεί μόνον ~~α~~ ^ε ένα σημείον και εκφορτωθεί μόνον ~~δύ~~ ^ε ένα σημείον.

IO IO9-

IO IIO

Μεταφορά εις χύμα

IO III

(I). Στερεές επικίνδυνες ύλες δεν μπορούν να μεταφερθούν εις χύμα εκτός εάν ο τρόπος αυτός της μεταφοράς επιτρέπεται για τις ~~κινούμενες~~ ^{κινούμενες} ύλες εκ των διατάξεων του Κεφαλαίου II του παρόντος Παραρτήματος, και τότε μόνον συμφώνως προς τούς όρους των διατάξεων αυτών. Παρ'όλον τούτο, κενές συσκευασίες, ακαθάριστες, μπορούν να μεταφερθούν εις χύμα εάν ο τρόπος αυτός δεν απαγορεύεται ρητώς εκ των διατάξεων του Παραρτήματος Α, Μέρος II.

(2) Δια μεταφοράν εις χύμα εντός CONTAINERS, βλέπε περιθώριον IO II8(2) και (5).

IO II2-

IO II7

Μεταφορά εντός CONTAINERS

IO II8

Σημείωση:- Αι διατάξεις που διέπουν την μεταφοράν εντός δεξαμενο-CONTAINERS ευρίσκονται εις τα περιθώρια τα τιτλοφορούμενα "Μεταφορά εντός δεξαμενών".

(I) Η μεταφορά κόλων εντός CONTAINERS εγκρίνεται.

(2) Αι ύλες δεν μπορούν να μεταφέρονται εις χύμα IO II8 εντός CONTAINERS εκτός εάν η μεταφορά εις χύμα ρητώς επι- (Συνεχί-
τρέπεται (βλέπε περιθώριο IO III)* μικρά CONTAINERS πρέπει ζεται)
να είναι του κλειστού τύπου και να έχουν πλήρη τοιχώματα.

(3) Τα μεγάλα CONTAINERS πρέπει να πληρούν τους ό-
ρους τους διέποντας το αμάξιμα του οχήματος οι οποίοι δια-
λαμβάνονται εις το παρόν Παράρτημα ~~για το φορτίο~~ ^{πρόκειται}
το αμάξιμα του οχήματος δεν χρειάζεται τότε να πλη-
ροί τις διατάξεις αυτές.

(4) Υπό την επιφύλαξη των διατάξεων της τελευταίας
φράσεως της (3) ανωτέρω, το γεγονός ότι επικινδύνες ύλες
εγκλείονται εις ένα ή περισσότερα CONTAINERS δεν θα επηρεά-
ζει τους όρους που απαιτούνται να πληροί το όχημα λόγω της
φύσεως και των μεταφερομένων ποσοτήτων των επικινδύνων υλών.

(5) Εάν αι επικινδύνες ύλες αι μεταφερόμεναι εντός
CONTAINER είναι ~~τέτοιες~~ ώστε, συμφώνως προς το Παράρτημα Α,
μία ή περισσότερες ετικέτες κινδύνου απαιτούνται να τεθούν
εις τα περιέχοντα αυτάς κόλα, η ίδια ετικέτα ή ετικέτες θα
τίθενται εις το εξωτερικόν του CONTAINER του περιέχοντος τις
ύλες αυτές σε κόλα ή χύμα. Εν τούτοις, η ετικέτα No.8 δεν
χρειάζεται να τεθεί εάν το CONTAINER διαθέτει μηχανισμόν ή
επιγραφήν εικονίζουσαν σαφώς κατά ποίον τρόπον πρέπει να τη-
ρείται δρθιον.

IO II9-

IO I20

Μεταφορά εντός δεξαμενών

IO I2I

(I) Οι επικινδύνοι ύλες μπορούν να μεταφέρονται

εντός δεξαμενών μόνον εάν ο τρόπος αυτός της μεταφοράς επιτρέπεται ρητώς για τις ύλες αυτές εκ των διατάξεων του Κεφαλαίου II του παρόντος Παραρτήματος· η μεταφορά πρέπει τότε να συμμορφούται προς τις διατάξεις του παρόντος Παραρτήματος. Δεξαμενές από ενισχυμένη πλαστική ύλη μπορούν να χρησιμοποιούνται μόνον εάν η χρήση των ρητώς επιτρέπεται εν Κεφαλαίω II. Η θερμοκρασία της μεταφερομένης ύλης δεν θα υπερβαίνει τους 50°C κατά τον χρόνο της πλήρωσως. Βλέπε περιθώριο IO 500 για το μαρκάρισμα και τις ετικέτες των οχημάτων.

IO I21
(Συνεχίζεται)

(2) Εάν οι ύλες οι μεταφερόμενες εντός λυομένης δεξαμενής, συστοιχίας δοχείων ή δεξαμενο-CONTAINER είναι τέτοιες ώστε, συμφώνως προς το Παράρτημα Α, μία ή περισσότερες ετικέτες κινδύνου απαιτούνται να τεθούν εις τα περιέχοντα αυτάς κόλα, η ίδια ετικέτα ή ετικέτες θα τίθενται εις το εξωτερικόν της λυομένης δεξαμενής, συστοιχίας δοχείων ή δεξαμενο-CONTAINER. Εν τούτοις, η ετικέτα Νο.8 δεν χρειάζεται να τεθεί εάν η δεξαμενή διαθέτει μηχανισμόν ή επιγραφήν εικονίζουσαν σαφώς τον τρόπον με τον οποίον πρέπει να τηρείται ορθά.

IO I22-

IO I26

Δεξαμενές

IO I27

(I) Αι διατάξεις αι διέπουσας το σχέδιον, επιθεώρηση, πλήρωση και χρήση σταθερών δεξαμενών, λυομένων δεξαμενών και συστοιχιών δοχείων, και διάφοροι διατάξεις διέπουσας τα βυτιοφόρα και την χρήση των, ευρίσκονται εις την Προσθήκην Β.Ια και, όσον αφορά το σχέδιον των σταθερών δε-

ξερμένων, λυομένων δεξαμενών και συστοιχιών δοχείων των προοριζομένων δια την μεταφοράν κατεψυγμένων υγροποιημένων αερίων της Κλάσεως 2, ευρίσκονται εις την Προσθήκην Β.Ιδ (για την έγκρισιν δεξαμενο-οχημάτων (βυτιοφόρων), βλέπε περιθώριον ΙΟ Ι82)).

ΙΟ Ι27
(Συνεχίζεται)

(2) Αι διατάξεις αι διέπουσας την κατασκευήν, ελδή εξοπλισμού, έγκρισιν του τύπου, δοκιμάς, μαρκάρισμα, κλπ. δεξαμενο-CONTAINERS ευρίσκονται εις την Προσθήκην Β.Ιβ και, όσον αφορά την κατασκευήν δεξαμενο-CONTAINERS προοριζομένων δια την μεταφοράν βαθειά-κατεψυγμένων υγροποιημένων αερίων της Κλάσεως 2, ευρίσκονται εις την Προσθήκην Β.Ιδ.

(3) Αι διατάξεις οι διέπουσας την κατασκευήν σταθερών δεξαμενών και λυομένων δεξαμενών δι' ενισχυμένης πλαστικής ύλης ευρίσκονται εις την Προσθήκην Β.Ιγ.

(4) Αι κοινές των Προσθηκών Β.Ι διατάξεις ευρίσκονται εις περιθώριον 200 000.

(5) Δια τα δοχεία (υποδοχείς), βλέπε Παράρτημα Α.

ΙΟ Ι28-

ΙΟ Ι70

Πληρώματα οχημάτων: Εποπτεία

ΙΟ Ι7Ι

(Ι) Οσάκις αι διατάξεις του παρόντος Παραρτήματος αι διέπουσας ειδικά εμπορεύματα απαιτούν όπως ο οδηγός συνοδεύεται από βοηθό, ο βοηθός θα πρέπει να είναι ικανός να αντικαταστήσει τον οδηγόν.

(2) Αι διατάξεις του παρόντος περιθωρίου οι διέπουσας την εποπτεϊαν (επίβλεψιν) διαρκούντος του χρόνου που το όχημα είναι σταθμευμένο (παρκαρισμένο) έχουν εφαρμογήν

πρνον ~~θα~~ επικίνδυνες ύλες μεταφερόμενες εις ποσότητες 10 171
 άνω των εξαιρουμένων ορίων. (Συνεχί-
 ζεται)

Μονάδες μεταφοράς μεταφέρουσ~~αι~~ επικίνδυνα εμπο-
 ρεύματα δια τα οποία το εξαιρούμενον όριον είναι μικρότε-
 ρον των 1.000 KG θα εποπτεύονται κατά πάντα χρόνον προς
 αποφυγήν οιασδήποτε κακόβουλλ~~ης~~ πράξεως και τηρούν ~~σε~~ επι-
 φυλακή τον οδηγόν και τις αρμόδιες αρχές ~~σε~~ περίπτωσ~~ει~~ ζη-
 μιών ή πυρκαϊάς.

Μονάδες μεταφοράς μεταφέρουσ~~αι~~ επικίνδυνα εμπο-
 ρεύματα ~~για~~ τα οποία το εξαιρούμενον όριον είναι 1.000 KG
 και άνω είτε θα εποπτεύονται είτε εναλλακτικώς θα σταθμεύουν,
 άνευ εποπτείας εις μεμονωμένην θέσιν εις το ύπαιθρον εις
 ασφαλές ντεπώ ή ασφαλές εγκαταστάσεις του εργοστασίου. Εάν
 τ~~ε~~ι~~σ~~ο~~τε~~ς εγκαταστάσεις δεν διατίθενται, η μονά~~δα~~ μεταφοράς,
 αφού εξασφαλισθεί κανονικώς, μπορεί να σταθμεύει εις μεμο-
 νωμένην θέσιν πληρούσαν τους όρους των κατωτέρω παραγράφων
 (I), (II) ή (III). Οι εγκαταστάσεις σταθμεύσεως ~~αι~~ επιτρε-
 πόμε~~ναι~~ εις παράγραφον (II) θα χρησιμοποιούνται μόνον εάν
~~αι~~ περιγραφόμεν~~αι~~ εις παράγραφον (I) δεν διατίθενται, και
~~αι~~ περιγραφόμεν~~αι~~ ~~εις~~ παράγρα~~φον~~ (III) δύνανται να χρησι-
 μοποιηθούν μόνον εάν ~~αι~~ εγκαταστάσεις ~~αι~~ περιγραφόμεν~~αι~~ εις
 τ~~ας~~ παραγράφους (I) και (II) δεν διατίθενται.

(I) Χώρος σταθμεύσεως οχημάτων επιβλεπόμενος υπό προ-
 σώπου εις το οποίον έχει γίνει γνωστή η φύσις του
 φορτίου και που ευρίσκεται ο οδηγός.

(II) Δημόσιος ή ιδιωτικός χώρος σταθμεύσεως οχημάτων
 όπου η μονάς μεταφοράς δεν πρόκειται να υποστεί

ζημίας από άλλα οχήματα, ή

- (III) Κατάλληλος υπαίθριος χώρος διαχωρισμένος από την ταί (Συνεχίζε-
δημοσίαν εθνικήν οδόν και οικισμόν, ~~όπου~~ το κοι-
νόν κανονικώς δεν διέρχεται ή συγκεντρούται.

Μεταφορά επιβατών

IO I72

Επιβάτες μη-μέλη του πληρώματος του οχήματος δεν θα μεταφέρονται δια μονάδων μεταφοράς μεταφερουσών επικινδύνες ύλες.

IO I73-

IO I80

Έγγραφα μεταφοράς

IO I81

(I) Επιπροσθέτως των εγγράφων των προβλεπομένων δυνάμει ετέρων διατάξεων, τα ~~κατά~~ έγγραφα θα μεταφέρονται επί της μονάδας μεταφοράς:

- (α) τα έγγραφα μεταφοράς τα προβλεπόμενα εν Παραρτήματι Α, περιθώριον 2002(3) και (4), τα καλύπτοντα όλων των μεταφερομένων επικινδύνων εμπορευμάτων και
- (β) οδηγίες, ως προβλέπονται εν περιθώριω IO I85, αφορώσας όλες τις μεταφερόμενες επικινδύνες ύλες.

(2) Οσάντις οι διατάξεις του παρόντος Παραρτήματος απαιτούν την σύνταξιν των ~~παρακάτω~~ εγγράφων, τα ~~αναφερόμενα~~ έγγραφα θα μεταφέρονται ομοίως επί της μονάδας μεταφοράς:-

- (α) το ειδικό πιστοποιητικό εγκρίσεως το αναφερόμενο εις το περιθώριο IO I82, ~~φιδέκον~~ όχημα και
- (β) την άδεια την εξουσιοδοτούσα την επιχείρησιν της μεταφοράς.

Εγκρίσεις οχημάτων

IO 182

(1) Βυτιοφόρα και, και οσάνκις τούτο αιτείται εκ των διατάξεων του Κεφαλαίου II του παρόντος Παραρτήματος, ~~έχον~~ οχήματα, θα υποβάλλονται εις τεχνικήν επιθεώρησιν εις την χώραν της εγγραφής των ~~για~~ να εξασφαλίζεται το γεγονός ότι συμμορφούνται προς τας διατάξεις του παρόντος Παραρτήματος, συμπεριλαμβανομένων των Προσθηκών αυτού και των πενικών περί ασφαλείας κανονισμών (συμπεριλαμβανομένων των φρένων, φωτισμού κλπ.) των ισχυόντων εις την χώραν της προελεύσεώς των· εάν τα οχήματα αυτά είναι ρυμουλκούμενα (τρέϊλερς) ή ημι-ρυμουλκούμενα (SEMI-TRAILERS) τα οποία ζευγνύονται όπισθεν σύροντος αυτά οχήματος, το σύρον όχημα θα υποβάλεται ~~σε~~ επιθεώρησιν ~~για~~ τους αυτούς σκοπούς.

(2) Ειδικόν πιστοποιητικόν εγκρίσεως θα εκδίδεται υπό της αρμοδίας αρχής της χώρας της εγγραφής δι'έκαστον όχημα η επιθεώρησιν του οποίου παρέχει ικανοποιητικὰ αποτελέσματα. Τούτο θα συντάσσεται εις την γλώσσα ή εις μία των γλωσσών της εκδίδούσης τούτο χώρας, και επίσης, εάν η γλώσσα αυτή δεν είναι η Αγγλική, ή η Γαλλική, ή η Γερμανική, εις την Αγγλικήν, Γαλλικήν ή Γερμανικήν, εκτός εάν συμβάσεις συναφθείσας μεταξύ των χωρών ~~για τις οποίες πρόκειται~~ και αφορώσας επιχειρήσεις μεταφοράς προβλέπουν άλλως. Τούτο θα συμμορφούται προς το μοντέλλο το εικονιζόμενον εις την Προσθήκην Β.3.

(3) Ειδικόν πιστοποιητικόν εγκρίσεως εκδιδόμενον υπό των αρμοδίων αρχών ενός Συμβαλλομένου Μέρους ~~για~~ όχημα εγγεγραμμένον εις την επικράτειαν του Συμβαλλομένου τούτου Μέρους θα γίνεται δεκτόν, εφ'όσον εξακολουθεί η ισχύς του, υπό των

αρμοδίων αρχών των ετέρων Συμβαλλομένων Μερών.

ΙΟ 182

(4) Η ισχύς των ειδικών πιστοποιητικών εγκρίσεως (Συνεχίζεται), θα εκπνέει όχι βραδύτερον του ενός έτους από της ημερομηνίας της τεχνικής επιθεωρήσεως του οχήματος που προηγείται της εκδόσεως του πιστοποιητικού. Εν τούτοις, προκειμένου περί δεξαμενών που υποβάλλονται εις αναγκαστικήν περιοδικήν επιθεώρησιν η παρούσα διάταξις δεν θα απαιτεί αι δοκιμές στεγανότητας, υδραυλικής πιέσεως ή αι εσωτερικάς επιθεωρήσεις των δεξαμενών (βυτίων) να διεξάγονται σε χρονικά διαστήματα βραχύτερα των αναφερομένων εις την Προσθήκην Β.Ια και Β.Ιγ.

ΙΟ 183-

ΙΟ 184

Γραπτές οδηγίες

ΙΟ 185

(Ι) Ως μέτρον προφυλάξεως κατά οιοδήποτε ατυχήματος ή καταστάσεως επειγούσης ανάγκης που ενδέχεται να συμβούν διαρκούσης της μεταφοράς, θα δίδονται εις τον οδηγόν γραπτές οδηγίες καθορίζουσαι:-

- (α) την φύσιν του κινδύνου του ενυπάρχοντος όπτος υπό μεταφοράν επικίνδυνας ύλης, και τα μέτρα ασφαλείας τα οποία πρέπει να ληφθούν προς αποτροπήν αυτού·
- (β) τα μέτρα που πρέπει να ληφθούν και την θεραπείαν για πρόσωπα που ήλθον εις επαφήν με τα μεταφερόμενα εμπορεύματα ή με οιοδήποτε ύλην που ενδέχεται να διέφυγαν από αυτά·
- (γ) τα μέτρα που πρέπει να ληφθούν εις την περίπτωσιν

πυρκαϊάς και, ειδικώτερον, τον πυροσβεστικόν πυροσβεστήρα (Συνεχίζεται)
 εξοπλισμόν ή τον εξοπλισμό ο οποίος δεν θα πρέπει να χρησιμοποιηθεί.

- (δ) τα μέτρα που πρέπει να ληφθούν ~~δε~~ περίπτωσιν
 θραύσεως ή φθοράς συσκευασιών ή των μεταφερο-
 μένων επικινδύνων υλών, ειδικώτερον όσάκις
~~τέτοιαις~~ επικινδύνες ύλες έχουν χυθεί εις τόν
 δρόμον.

(2) ~~Αι οδηγίες~~ αυτές θα πρέπει να ετοιμάζονται ^(συντάσσονται) ~~για~~
~~επικινδύνων~~ επικινδύνων ύλην ή Κλάσιν επικινδύνων υλών υπό του
 κατασκευαστού ή του αποστολέα, ~~α~~ γλώσσαν της χώρας της
 προελεύσεως· όσάκις η γλώσσα αυτή δεν είναι η ίδια με την
 γλώσσα των χωρών τράξιτε ή προορισμού, ~~αι οδηγίες~~ θα πρέπει
 να συντάσσονται επίσης ~~εν~~ στην γλώσσα των χωρών αυτών.
 Μία σειρά των οδηγιών αυτών θα πρέπει να τηρείται ~~εξ~~ στην
 θέσιν του οδηγού.

(3) ~~Αι οδηγίες~~ αυτές θα δίδονται εις τον μεταφορέα
 το βραδύτερον όταν η εντολή μεταφοράς δοθεί, ώστε να δο-
 νάται ~~αυτός~~ να λάβει άπαντα τα απαραίτητα μέτρα και εξα-
 σφαλισθεί ότι οι περί ων πρόκειται υπάλληλοι έχουν λάβει
 γνώσιν των οδηγιών αυτών και είναι ικανοί να εκτελέσουν
 αυτές αποδοτικώς.

IO I86-

IO I99

Άρθρο 2

Ειδικοί όροι τους οποίους πρέπει να πληρούν τα οχήματα και
ο εξοπλισμός τους

IO 200-

IO 203

Οπισθία προστασία οχημάτων μεταφερόντων σταθερές δεξαμενές (βυτία), λυόμενες δεξαμενές ή συστοιχίες δοχείων

IO 216

Προφυλακτήρας επαρκώς ανθεκτικός σε οπίσθιες προσκρούσεις θα εφαρμόζεται καθ' όσον το πλάτος της δεξαμενής (βυτίου) εις το πίσω μέρος του οχήματος. Θα πρέπει να υπάρχει διάκενο τουλάχιστον 100 MM (χιλιοστών) μεταξύ του οπίσθιου τοιχώματος της δεξαμενής (βυτίου) και του πίσω μέρους του προφυλακτήρα, το διάκενο τούτο θα μετράται εκ του ακραίου οπίσθιου σημείου του τοιχώματος της δεξαμενής (βυτίου) ή εκ προεξεχόντων εξαρτημάτων ή παρακολουθημάτων ερχομένων εις επαφήν με την μεταφερομένην ύλην.

IO 217-

IO 239

Πυροσβεστικές συσκευές

IO 240

(I) Κάθε μονάδα μεταφοράς μεταφέρουσα επικίνδυνες ύλες θα είναι εφοδιασμένη με

- (α) τουλάχιστον ένα φορητόν πυροσβεστήρα καταλήλλου ολικής χωρητικότητας, κατάλληλ~~η~~^ο για την καταπολέμηση του πυρός εις τον κινητήρα ή εις οιονδήποτε έτερον μέρος της μονάδος μεταφοράς, και τ~~α~~^α~~ύτη~~^α ώστε, εάν χρησιμοποιηθεί για καταπολέμηση

πυρκαϊάς στο φορτίο, να μην επιδεινώνει το ΙΟ 240
 πύρ και, ει δυνατόν να το ελέγχει· εν τού- (Συνεχίζε-
 ται)
 τοις, εάν το δχημα είναι εφωδιασμένον με στα-

θερόν (στερεωμένον) πυροσβεστήρα, αυτομάτως
 ή ευχερώς τιθέμενον εις κίνησιν, για κατάσβε-
 σιν πυρκαϊάς εις τον κινητήρα, ο φορητός πυρο-
 σβεστήρας δεν χρειάζεται να είναι κατάλληλος
 δια την κατάσβεσιν πυρκαϊάς εις τον κινητήρα·

- (β) επιπροσθέτως του εν (α) ~~παράρτησιν~~ προβλεπομένου
 εξοπλισμού, τουλάχιστον ένα φορητόν πυροσβεστή-
 ρα επαρκούς ολικής χωρητικότητας, κατάλληλ~~ον~~
 δια την κατάσβεσιν πυρκαϊάς εις το φορτίο, και
~~το φορτίον~~ ώστε, εάν χρειασθεί να χρησιμοποιηθεί
 δια την κατάσβεσιν πυρκαϊάς εις τον κινητήρα
 ή εις οιονδήποτε έτερον μέρος της μονάδος μετα-
 φοράς, να μην επιδεινώνει το πυρ και, ει δυνα-
 τόν να το ελέγχει·

(2) Οι πυροσβεστικοί άγοντες οι περιεχόμενοι εις τους
 πυροσβεστήρες με τους οποίους μία μονάδα μεταφοράς είναι εφω-
 διασμένη θα είναι ~~το φορτίον~~ ώστε να μην απελευθερώνουν τοξικά
 αέρια εις την θέσιν του οδηγού ή να είναι υπό την επίδρασιν
 της θερμότητας του πυρός.

(3) Οσάκις μονάς μεταφοράς περιλαμβάνει ρυμουλκούμενον
 δχημα (τρέϊλερ) το οποίον δεν είναι συζευγμένον αλλά έχει αφε-
 θελ εις την δημοσίαν εθνικήν οδόν, εις απόστασιν από το ρυ-
 μουλκούν δχημα, το ρυμουλκούμενο δχημα (τρέϊλερ) πρέπει να
 είναι εφωδιασμένο με τουλάχιστον ένα πυροσβεστήρα συμμορφόμε-

νον προς τας διατάξεις του εδαφίου (Ι)(β) του παρόντος περιθωρίου.

ΙΟ 24Ι-

ΙΟ 250

Ηλεκτρικός εξοπλισμός

ΙΟ 25Ι

Αι διατάξεις οι διέπουσες τον ηλεκτρικόν εξοπλισμόν οχημάτων μεταφερόντων διάφορες επικίνδυνες ύλες εϋρίσκονται εις την Προσθήκην Β.2.

ΙΟ 252-

ΙΟ 259

Διάφορος εξοπλισμός

ΙΟ 260

(Ι) Κάθε μονάδα μεταφοράς μεταφέρουσα επικίνδυνα εμπορεύματα θα είναι εφοδιασμένη με:-

- (α) κιβώτιον εργαλείων (εργαλειοθήκη) ~~για~~ επισκευές επειγούσας ανάγκης εις το όχημα·
- (β) ~~φιδέ~~καστον όχημα, τουλάχιστον ένας τάκος μεγέθους καταλλήλου με το βάρος του οχήματος και την διάμετρο των τροχών·
- (γ) δύο κίτρινα φώτα (σημάτων τροχαίας). Τα φώτα αυτά θα είναι ανεξάρτητα του ηλεκτρικού εξοπλισμού του οχήματος και θα είναι έτσι σχεδιασμένα ώστε η χρήση των να μη μπορεί να προκληθεί ανάφλεξις των μεταφερομένων εμπορευμάτων· θα είναι σταθερά ή φωτεινά (ακτινοβολούντα).

(2) Οι διατάξεις του εδαφίου (Ι)(γ) του παρόντος περιθωρίου δεν θα έχουν εφαρμογήν εις την επικράτειαν του Ηνωμένου Βασιλείου.

IO 261-

IO 299

Άρθρο 3Διατάξεις Γενικών Υπηρεσιών

IO 300-

IO 339

Πυροσβεστικές συσκευές

IO 340

Το πλήρωμα του οχήματος πρέπει να γνωρίζει την
χρήση των πυροσβεστικών συσκευών.

IO 341-

IO 352

Φορητή συσκευή φωτισμού

IO 353

Εις το όχημα δεν θα μπαίνουν άτομα τα οποία θα
μεταφέρουν συσκευήν φέρουσαν φλόγα. Επιπροσθέτως, η συ-
σκευή φωτισμού δεν θα εκθέτει οιαδήποτε μεταλλική επι-
φάνεια υποκειμένην εις την δημιουργίαν σπινθήρων.

IO 354-

IO 373

Απαγόρευση καπνίσματος

IO 374

Το κάπνισμα θα απαγορεύεται κατά τας εργασίας χει-
ρισμού, εγγύς των κόλων των αναμενόντων χειρισμόν, εγγύς
σταθμευμένων οχημάτων, και εις το εσωτερικόν των οχημάτων.

IO 375-

IO 399

Άρθρο 4Ειδικές διατάξεις για φόρτωση, εκφόρτωση και χειρισμό

IO 400

Περιορισμός των μεταφερομένων ποσοτήτων

IO 401

Το γεγονός ότι επικίνδυνες ύλες εγκλείονται εις ένα ή περισσότερα CONTAINERS δεν θα επηρεάζει τους εις βάρος περιορισμούς τους προβλεπομένους υπό του παρόντος Παραρτήματος αναφορικώς με μεταφοράν εντός ενός οχήματος ή εντός μίας μονάδος μεταφοράς.

IO 402

Απαγόρευση μικτής φορτώσεως ενός οχήματος

IO 403

Εκτός εάν το αντίθετον ρητώς προβλέπεται υπό των διατάξεων του Άρθρου 4 του Κεφαλαίου II του παρόντος Παραρτήματος, αι απαγορεύσεις μικτής φορτώσεως εις ένα όχημα δεν θα έχουν εφαρμογήν βιά αποστολές εμπορευμάτων συσκευασμένων κατ'όν τρόπον επιτρέπεται υπό των διατάξεων μικτής συσκευασίας των περιεχομένων εις το Παράρτημα Α.

Η συμμόρφωσις προς τας απαγορεύσεις μικτής φορτώσεως θα βασίζεται επί των ετικετών κινδύνου της Προσθήκης Α.9, αι οποίαι θα τοποθετούνται εις κόλλα συμφώνως προς τας διατάξεις των διαφόρων Κλάσεων του Παραρτήματος Α.

Απαγόρευση μικτής φορτώσεως ενός CONTAINER

IO 404

Αι απαγορεύσεις μικτής φορτώσεως ενός οχήματος θα τηρούνται επίσης εντός εκάστου CONTAINER.

Απαγόρευση μικτής φορτώσεως με εμπορεύματα περιεχόμενα σε CONTAINER

IO 405

Προς τον σκοπόν της εφαρμογής των απαγορεύσεων μικτής φορτώσεως επί ενός οχήματος, δεν θα λαμβάνονται υπόψη οι

Όλες οι περιεχόμενες σε κλειστά CONTAINERS με πλήρεις πλευρές.

IO 406-

IO 4I2

Καθάρισμα προ της φορτώσεως

IO 4I3

Όλες αι διατάξεις του παρόντος Παραρτήματος αι οποίες αναφέρονται εις το καθάρισμα των οχημάτων προ της φορτώσεως θα ισχύουν επίσης ~~για~~ το καθάρισμα των CONTAINERS.

Χειρισμός και στοιβάδα

IO 4I4

(I) Τα διάφορα συστατικά μέρη φορτίου αποτελούμενου από επικινδύνες ύλες θα είναι καταλλήλως στοιβαγμένα επί του οχήματος και σφηνωμένα με κατάλληλα μέσα ώστε να αποφεύγεται η με οποιονδήποτε τρόπον μετατόπισή ~~αυτών~~ ~~μετρί~~ τους και προς τα τοιχώματα του οχήματος.

(2) Εάν το φορτίον αποτελείται ~~από~~ εμπορεύματων διαφόρων κατηγοριών τα κόλα των επικινδύνων υλών θα διαχωρίζονται από τα άλλα κόλα.

(3) Όλες αι διατάξεις του παρόντος Παραρτήματος αι οποίες αναφέρονται εις την φόρτωσιν και εκφόρτωσιν οχημάτων και εις την στοιβάσαν και τον χειρισμόν υλών θα έχουν επίσης εφαρμογήν εις την φόρτωσιν, στοιβάσαν και εκφόρτωσιν των CONTAINERS επί, εις και από τα οχήματα.

(4) Τίποτε δεν πρέπει να φορτώνεται επάνω από εύθραστο κόλον.

(5) Ο οδηγός ή βοηθός οδηγού δεν πρέπει να ανοίγει κόλον περιέχον επικινδύνους ύλες.

Καθάρισμα μετά την εκφόρτωση

IO 4I5

(I) Εάν, όταν ένα όχημα το οποίον έχει φορτωθεί με

επισκευασμένες επικινδύνες ύλες ξεφορτώνεται, μερικό από το περιεχόμενο ευρίσκεται να έχει διαφύγει από τις συσκευασίες, το όχημα θα καθαρίζεται ευθύς ως είναι δυνατόν και ~~εάν~~ ~~κατά~~ περίπτωση προ της εκ νέου φορτώσεως. (Συνεχίζεται)

(2) Οχήματα τα οποία έχουν φορτωθεί με επικινδύνες ύλες εις χύμα θα καθαρίζονται καταλλήλως προ της εκ νέου φορτώσεως, εκτός εάν το νέον φορτίον αποτελείται εκ της αυτής επικινδύνου με το προηγούμενον φορτίον ύλης.

(3) Όλες οι διατάξεις του παρόντος Παραρτήματος οι οποίες αναφέρονται εις το καθάρισμα ή την απολύμανση των οχημάτων θα έχουν επίσης εφαρμογήν δια το καθάρισμα ή απολύμανση των CONTAINERS.

IO 416-

IO 418

Φόρτωση και εκφόρτωση επικινδύνων υλών σε CONTAINERS

IO 419

Οι διατάξεις του παρόντος Παραρτήματος οι οποίες αναφέρονται εις την φόρτωση και εκφόρτωση οχημάτων και την στοιβάσαν και χειρισμόν επικινδύνων υλών θα έχουν επίσης εφαρμογήν εις την φόρτωση και εκφόρτωση επικινδύνων υλών σε CONTAINERS.

IO 420-

IO 430

Λειτουργία του κινητήρα (μηχανής) κατά τη φόρτωση και εκφόρτωση

IO 431

Εκτός οσάντις ο κινητήρας (μηχανή) πρόκειται να χρησιμοποιηθεί για να θέσει σε κίνηση αντλίες ή έτερους μηχανισμούς γοα τη φόρτωση ή εκφόρτωση του οχήματος και οι νόμοι

της χώρας εις την οποίαν το όχημα κινείται επιτρέπουν την τοιαύτην χρήσιν, ο κινήτης (μηχανή) θα είναι σβυσμένος (Συνεχίζεται),
κατά τας εργασίας φορτώσεως και εκφορτώσεως.

IO 432-

IO 499

Άρθρο 5

Ειδικές διατάξεις για τη λειτουργία των οχημάτων

Σήματα Οχημάτων

IO 500

(I) Οι μονάδες μεταφοράς οι μεταφέρουσες τις επικίνδυνες ύλες τις οριζομέναις εις τα περιθώρια ... 500 θα διαθέτουν δύο ορθογώνιες ανακλαστικές πορτοκαλί-χρώματος πλάκες, βάσεως 40 CM και ύψους όχι μικρότερου των 30 CM, τοποθετημένες σε κάθετο επίπεδο. Οι πλάκες θα έχουν μαύρο πλαίσιο (περιθώριο), πλάτους όχι μεγαλύτερου των 15 MM. Θα είναι τοποθετημένες μία εις το πρόσθιον τμήμα και μία εις το οπίσθιον τμήμα της μονάδας μεταφοράς, και οι δύο κάθετως του επιμήκους άξονος της μονάδας μεταφοράς. Θα είναι ευκρινώς ορατές.

Σημειώσεις.- Το χρώμα των πορτοκαλί πλακών υπό συνθήκες κανονικής χρήσεως δέον να έχει συντεταγμένες ποιότητας χρώματος (CHROMATICITY CO-ORDINATES) κείμενες εντός της ζώνης του διαγράμματος ποιότητας χρώματος που σχηματίζεται δι' ενώσεως των κατωτέρω συντεταγμένων:-

Συντεταγμένες ποιότητας χρώματος (CHROMATICITY CO-ORDINATES)
σημείων στις γωνίες της ζώνης του εν λόγω διαγράμματος

| | | | | |
|---|------|------|-------|-------|
| X | 0.52 | 0.52 | 0.578 | 0.618 |
| Y | 0.38 | 0.40 | 0.422 | 0.38 |

Παράγων φωτεινότητας του ανακλαστικού χρώματος: B 0.12 IO 500
Κέντρον αναφοράς E, Πρότυπον Διαφωτιστικόν C, κανονική (Συνεχί-
γωνία προσπτώσεως 45° και θεωμένη (VIEWED) εις 0° . ζεται)

Συντελεστής εντάσεως ανακλαστικού φωτισμού εις γωνίαν
φωτισμού 5° , θεωμένην (VIEWED) εις 0.2° : όχι κάτω των
20 κηρίων ανά λούξ (μονάς φωτός) ανά μ^2 .

(2) Μονάδες μεταφοράς με σταθερές δεξαμενές μεταφέ-
ρουσες μόνον μία των υλών των αναφερομένων εις την Προ-
σθήκη B.5 θα διαθέτουν πλάκες χρώματος-πορτοκαλί ως προ-
βλέπεται ανωτέρω, επί των οποίων οι αριθμοί αναγνώρισεως
οι εικονιζόμενοι εις την ανωτέρω Προσθήκη θα εμφανίζονται.

(3) Εν τούτοις, όταν δύο διαφορετικές ύλες μεταφέ-
ρονται εντός μονάδας μεταφοράς αποτελουμένης εκ βυτιοφό-
ρου ρυμουλκούντος δεξαμενο-ρυμουλκούμενον/ (TANK-TRAILER),
το δχημα και το ρυμουλκούμενον δχημα θα διαθέτουν έκαστον
τόσον εις το εμπρόσθιον όσον και εις το οπίσθιον μέρος αυτών
πλάκα χρώματος πορτοκαλί φέρουσα τους αντίστοιχους αριθμούς
αναγνώρισεως των μεταφερομένων υλών.

(4) Όταν ένας αριθμός διαφορετικών υλών μεταφέρε-
ται επί βυτιοφόρου εις χωριστές δεξαμενές (βυτρία) ή διαμερί-
σματα δεξαμενών, πλάκες χρώματος πορτοκαλί εντελώς όμοιες
με τις περιγραφόμενες εις την παράγραφον (I), τοποθετημένες
παραλλήλως του επιμήκους άξονος του οχήματος και φέρουσαι
τους ενδεδειγμένους αριθμούς αναγνώρισεως, θα εκτίθενται
στις πλευρές έκαστου βυτρίου (δεξαμενής) ή διαμερίσματος-δεξα-
μενής ώστε να είναι ευκρινώς ορατές. Στη περίπτωση αυτή οι
πλάκες οι προβλεπόμενες στην παράγραφο (I) ανωτέρω ουδένα

αριθμόν θα εκθέτουν.

IO 500

(5) Οι αριθμοί αναγνωρίσεως θα είναι κατασκευασμένοι με μαύρα ψηφία ύψους 100 MM (χιλιοστών) και πλάτους πινελιάς 15 MM. Ο αριθμός αναγνωρίσεως κινδύνου (HAZARD-IDENTIFICATION) θα εγγράφεται εις το άνω μέρος της πλάκας και ο αριθμός αναγνωρίσεως της ύλης (SUBSTANCE-IDENTIFICATION) εις το κάτω μέρος· θα διαχωρίζονται με οριζόντια μαύρη γραμμή, πλάτους πινελιάς 15 MM (χιλιοστών), εκτεινομένη από πλευράν εις πλευράν της πλάκας εις το μέσον ύψος (βλέπε Προσθήκην Β.5). Οι αριθμοί αναγνωρίσεως θα είναι ανεξίτηλοι και θα παραμένουν ευανάγνωστοι μετά από 15-λεπτον βύθισμά τους εις το πύρ.

(Συνεχίζεται)

(6) Οι ανωτέρω διατάξεις ισχύουν επίσης για κενές, ακαθάριστες και μη-απαερωθείσες δεξαμενές (βυτία). Μετά την εκφόρτωση των επικινδύνων υλών και τον καθαρισμόν και απαερισμόν των δεξαμενών, αι πορτοκαλί χρώματος πλάκες δεν θα είναι του λοιπού ορατές.

(7) Τα βυτιοφόρα οφείλουν επίσης να φέρουν εις αμφότερες τις πλευρές και εις το πίσω μέρος τις ετικέτες τις προβλεπόμενες υπό του Άρθρου 5 δι' εκάστην Κλάσιν.

IO 501-

IO 502

Στάθμευση (παρκάρισμα) εν γένει

IO 503

Καμμία μονάδα μεταφοράς μεταφέρουσα επικίνδυνες ύλες μπορεί να σταθμεύει χωρίς να έχει πεδήσει.

IO 504

Σταθμευση (παρκάρισμα) τη νύκτα ή όταν η ορατότητα
είναι μικρή

IO 505

(Ι) Εάν όχημα σταθμεύσει (παρκάρει) τη νύκτα, ή όταν η ορατότητα είναι μικρή, και τα φώτα του δεν λειτουργούν, τα κίτρινα φώτα (σημάτων τροχαίας), τα αναφερόμενα εις το περιθώριον IO 260 (Ι)(γ) θα τοποθετηθούν επί του δρόμου,

το ένα περίπου IO μ. εμπροσθεν του οχήματος,
και το άλλο περίπου IO μ. οπισθεν του οχήματος.

((2) Οι διατάξεις του παρόντος περιθωρίου δεν θα ισχύουν εις την επικράτειαν του Ηνωμένου Βασιλείου.

IO 506

Σταθμευση οχήματος παρουσιάζοντος ειδικόν κίνδυνον

IO 507

Επιφυλασσομένων των μέτρων των προβλεπομένων εις περιθώριον IO 505 ανωτέρω, εάν η φύσις των επικινδύνων υλών των μεταφερομένων εις το σταθμευμένο (παρκάρισμένο) όχημα αποτελεί πηγήν ειδικού κινδύνου δια τους χρήστες του δρόμου (π.χ. προκειμένου περί υλών επικινδύνων ή δια τους πεζούς, ζώα ή οχήματα χυμένων εις τον δρόμον) και το πλήρωμα του οχήματος αδυνατεί να εξαλείψει τον κίνδυνον ταχέως, ο οδηγός οφείλει να ειδοποιήσει ή μεριμνήσει όπως ειδοποιηθούν και τεθούν εν επιφυλακή πάσαντα αι πλησιέστερες αρμόδιες αρχές. Επίσης, εάν χρειασθεί, θα λάβει τα μέτρα τα προβλεπόμενα μέτρα των οδηγιών των οριζομένων εις το περιθώριον IO I85.

IO 508-

IO 598

Άλλες διατάξεις

IO 599

Ως προς διατάξεις μη συμπεροληφθείσες εις το παρόν Κεφάλαιον ή το Κεφάλαιον II του παρόντος Παραρτήματος που αφορούν την λειτουργίαν οχημάτων μεταφερόντων επικίνδυνα εμπορεύματα, τα οικεία μέτρα τα υιοθετηθέντα εις την σφαίραν ταύτην υπό εκάστου Συμβαλλομένου Μέρους επί τη βάσει της εσωτερικής του νομοθεσίας και αφορώντα την εις το εσωτερικόν μεταφοράν θα ισχύουν επί διεθνούς μεταφοράς χρησιμοποιούσας την επικράτειάν του.

Άρθρο 6

Μεταβατικές διατάξεις, ανακηρύξεις, και διατάξεις
ειδικές για ωρισμένες χώρες

IO 600-

IO 60I

Ταχεία διαδικασία για εξουσιοδότηση ανακηρύξεων προς τον IO 602
σκοπόν διεξαγωγής δοκιμών

Προς τον σκοπόν της διεξαγωγής των απαιτητήτων δοκιμών για την τροποποίηση των διατάξεων του παρόντος Παραρτήματος ~~για~~ υιοθετηθούν (προσαρμοσθούν) αυτές ~~σε~~ τεχνολογικές και βιομηχανικές αναπτύξεις, οι αρμόδιες αρχές των Συμβαλλομένων Μερών μπορούν να συμφωνήσουν απ' ευθείας μεταξύ των να εξουσιοδοτήσουν ~~ορισμένες~~ επιχειρήσεις μεταφοράς εις τις επικράτειές των διά προσωρινής ανακήρυξης των διατάξεων του παρόντος Παραρτήματος. Η αρχή η οποία ανέλαβε τη πρωτοβουλία ~~σε~~ σχέσει με την έγκρισιν της τοιαύτης ανακήρυξης οφείλει να ειδοποιήσει την αρμόδιαν υπηρεσίαν/των Ηνωμένων Εθνών περί της ανακήρυξης, η οποία υπηρεσία θα την θέσει ~~υπόψη~~ των Συμβαλλομένων Μερών.

IO 603-

IO 999

Κεφάλαιο II

ΕΙΔΙΚΑΙΣ ΔΙΑΤΑΞΕΙΣ ΙΣΧΥΟΥΣΑΙΣ ΓΙΑ ΤΗΝ ΜΕΤΑΦΟΡΑΝ
ΕΠΙΚΙΝΔΥΝΩΝ ΥΛΩΝ ΚΛΑΣΕΩΝ I έως 8

Κλάσεις Iα.- Εκρηκτικές ύλες και αντικείμενα

Iβ.- Αντικείμενα γεμισμένα με εκρηκτικές ύλες

Iγ.- Αναφλεκτήρες, πυροτεχνήματα και παρεμφερή
εμπορεύματα

Άρθρο IΓενικά

II 000-

II 103

Τύποι Οχημάτων

II 104

(Βλέπε επίσης περιθώρια Iα 105 και II 106)

Επικίνδυνες ύλες των Κλάσεων Iα, Iβ και Iγ μπορούν να μεταφέρονται μόνον σε κλειστά οχήματα ή σε οχήματα σκεπασμένα στα οποία υπάρχουν πλαϊνά και οπίσθια σανίδα. Το σκέπασμα του σκεπασμένου οχήματος πρέπει να είναι από αδιάπεραστο υλικό όχι ευχερώς εύφλεκτο. Θα πρέπει να τεντώνεται εις τρόπον ώστε να καλύπτει το όχημα σ' όλες τις πλευρές, και να εξέχει όχι λιγότερο των 20 CM (εκ.) κάτω των πλευρών του οχήματος, και να τηρείται στη θέση του με δυνάμεις να κλειδώνουν μεταλλικές μπάρες ή αλυσίδες.

Κατηγορίες οχημάτων

II 105

Δια την εφαρμογήν του παρόντος Παραρτήματος, μονάδες μεταφοράς εξουσιοδοτημένες να μεταφέρουν επικίνδυνες ύλες των Κλάσεων Ια, Ιβ και Ιγ ταξινομούνται ως εξής :-

(1) Μονάδες Μεταφοράς "Α": Μονάδες Μεταφοράς των οποίων οι κινητήρες χρησιμοποιούν υγρόν καύσιμον ύλην με σημείον αναφλέξεως κάτω των 55°C.

(2) Μονάδες Μεταφοράς "Β": Μονάδες Μεταφοράς των οποίων οι κινητήρες χρησιμοποιούν υγρόν καύσιμον ύλην με σημείον αναφλέξεως 55°C και άνω· η κατηγορία αυτή "Β" περιλαμβάνει τις εξής υπο-κατηγορίες:-

(α) Μονάδες Μεταφοράς "Β.Ι":

Αυτές είτε δεν έχουν ρυμουλκούμενο όχημα είτε έχουν ρυμουλκούμενο όχημα πληρούν τους εξής όρους:-

ο μηχανισμός συζεύξεως μπορεί να λυθεί αμέσως και είναι γερός· και

εφοδιασμένον με αποτελεσματικόν μηχανισμόν πεδήσεως ενεργούντα επί όλων των τροχών, τιθέμενον εις λειτουργίαν υπό του χειριστηρίου πέδης του ρυμουλκούντος οχήματος, και ακινητοποιούντα αυτομάτως το ρυμουλκούμενον όχημα εν περίπτωσει θραύσεως της συζεύξεως.

(β) Μονάδες Μεταφοράς "Β.ΙΙ":

Αυτές έχουν τα εξής χαρακτηριστικά επιπροσθετως εκείνων της υπο-κατηγορίας "Β.Ι":

Ι.- Κινητήρας και Σύστημα Εξαγωγής

Ο κινητήρας και το σύστημα εξαγωγής II. 105
 είναι τοποθετημένα εμπροσθεν του προσθίου τοιχώματος του πηγματος (καρότσας). Η έξοδος του σω-
 λήνος εξαγωγής βγαίνει έξω από το όχημα. (Συνεχίζεται)

2.- Δεξαμενή Καύσιμης Ύλης

Η δεξαμενή καύσιμης ύλης είναι τοποθετημένη αρκετά μακριά του κινητήρα, της ηλεκτρικής συνδεσμολογίας και της σωληνώσεως αερίων εξαγωγής (καυσαερίων), και κατά τέτοιο τρόπο ώστε σε περίπτωση διαρροής εκ της δεξαμενής η καύσιμη ύλη να εκκενούνται απ' ευθείας εις το έδαφος και να μη μπορεί να φθάσει το φορτίο των εκρηκτικών. Η δεξαμενή καυσίμου είναι αρκετά μακριά του συσσωρευτού (μπαταρίας), ή τουλάχιστον διαχωρίζεται αυτής με στεγανό χώρισμα. Τοποθετείται έτσι ώστε να προστατεύεται όσο είναι δυνατόν σε σύγκρουση. Ο κινητήρας δεν τροφοδοτείται δια της βαρύτητας.

3.- Θέση Οδηγού (Κουβούκλιον)

Ουδέν εύφλεκτον υλικόν έχει χρησιμοποιηθεί κατά την κατασκευήν του κουβουκλίου του οδηγού, εκτός του εξοπλισμού του καθίσματος.

(γ)) Μονάδες Μεταφοράς "B.III"

Έχουν όλες τα χαρακτηριστικά της υπο-κατηγορίας B.II και, επιπροσθέτως, το πηγμα (καρότσα) των έχει τα παρακάτω χαρακτηριστικά:-

I.- Είναι κλειστό και έχει συνεχή επιφάνεια·

χωρίζεται από το κουβούκλιο του οδηγού δι' απο- II 105
στάσεως όχι μικρότερης των 15 CM (εκ.)· είναι (Συνεχίζεται)
γερής κατασκευής και με υλικό το οποίο προστα-
τεύει καταλλήλως τα μεταφερόμενα εμπορεύματα·
τα υλικά τα χρησιμοποιηθέντα δια την επένδυσιν
δεν είναι ικανά να παράγουν σπινθήρες· οι ιδιο-
τητες μονώσεως και αντοχής εις την θερμότητα
του πύργματος είναι εις όλα τα σημεία τουλάχιστον
ισοδύναμες με εκείνες χωρίσματος αποτελουμένου
εκ στρώματος αμιαντο-χαρτονίου πάχους 5 MM (χιλ.)
μεταξύ των μεταλλικών τοιχωμάτων ή με εκείνες
χωρίσματος αποτελουμένου εξ εξωτερικού μεταλλικού
τοιχώματος επενδεδυμένου με ένα στρώμα πυριμάχου
ξύλου πάχους 10 MM (χιλ.).

2.- Η θύρα ή θύρες είναι εφωδιασμένες με κλει-
δαριά και κλειδί· όλες αι ενώσεις και τα κλεισίμα-
τα είναι τύπου επικαλύψεως (OVERLAPPING TYPE). Η
θύρα ή θύρες πρέπει να είναι έτσι κατασκευασμένες
ώστε να ελαττώνουν την αντοχήν του πύργματος όσο το
δυνατόν ολιγώτερο.

Περιορισμοί στη χρήση οχημάτων συγκεκριμένων κατηγοριών II 106

(1) Οι μονάδες μεταφοράς "Α" μπορούν να μεταφέρουν
μόνον αντικείμενα της Κλάσεως Ιβ, 2^ο(β), 4^ο(α), (β) και (ε),
και της Κλάσεως Ιγ, 1^ο(α) και 3^ο.

Ουδείς ειδικός περιορισμός του βάρους προβλέπεται
δια την τοιαύτην μεταφοράν.

(2) Οι μονάδες μεταφοράς "Β.Ι" μπορούν να μεταφέρουν

(α) χωρίς ειδικούς περιορισμούς του βάρους, II 106
αντικείμενα της Κλάσεως Ιβ, 2^ο (β) και 4^ο, (Συνεχίζεται)
και της Κλάσεως Ιγ, 1^ο (α) και 3^ο.

(β) υπό την επιφύλαξιν των περιορισμών του βάρους των προβλεπομένων εις το περιθώριον II 40I, τις επικίνδυνες όλες τις αναφερδμενες εις το ανωτέρω περιθώριον.

(3) Οι διατάξεις αι διέπουσαι τις απαγορεύσεις (περιορισμούς), υπό το φως του βάρους και της φύσεως του φορτίου, επί της χρήσεως των μονάδων μεταφοράς "B.II" και "B.III", ευρίσκονται εις περιθώριον II 40I.

II 107-

II 117

Μεταφορά σε CONTAINERS

II 118

Μικρά CONTAINERS θα πληρούν τους όρους τους προβλεπομένους ~~σε~~ σχέσει με το πήγμα του οχήματος δια την πρόκειμένη επιχείρησιν μεταφοράς· δεν θα είναι τότε απαραίτητον για το πήγμα του οχήματος να πληροί τους όρους τούτους.

II 119-

II 170

Πληρώματα οχημάτων: Επίβλεψιν (Εποπτεία)

II 171

(I) Βοηθός οδηγού θα υπάρχει ~~σε~~ κάθε μονάδα μεταφοράς. Εάν οι εθνικοί κανονισμοί προβλέπουν τούτο, η αρμόδια αρχή συμβαλλομένης χώρας μπορεί να ζητήσει όπως εγνεκριμένον επίσημον πρόσωπον (αξιωματούχος) ενυπάρχει εις το όχημα^η έξοδα του μεταφορέως.

(2) Οι διατάξεις του περιθωρίου IO I7I (2) θα ισχύουν II I7I μόνον για τα επικίνδυνα εμπορεύματα τα αναγραφόμενα ~~παρα~~ (Συνεχίζεται) κάτω σε ποσότητες υπερβαίνουσες τις οριζόμενες ~~παρακάτω~~:

Κλάση Ια: Ύλεις και αντικείμενα^(εξέδ.) των I^ο - I4^ο: 5 KG.

Κλάση Ιβ: Αντικείμενα^(εξέδ.) των I^ο (β), (γ) και (δ),
5^ο - 7^ο και 9^ο - II^ο : 50 KG. και

Κλάση Ιγ: Αντικείμενα (εξέδ.) των 2I^ο - 23^ο : 50 KG.

II I72-

II I8I

Έγκριση οχημάτων

II I82

Οι όροι του περιθωρίου IO I82 θα ισχύουν για τις μονάδες μεταφοράς "B.III".

II I83-

II I99

Άρθρο 2

Ειδικό όροι πληρούμενοι υπό οχημάτων και του εξοπλισμού αυτών

Υλικά που πρέπει να χρησιμοποιούνται κατά την κατασκευή II 200
πηγμάτων οχημάτων

Κατά την κατασκευή (για την κατασκευή) του πηγματος, δεν θα χρησιμοποιείται υλικό που οποιονδήποτε ενδέχεται να σχηματίσει επικίνδυνες ενώσεις με τα μεταφερόμενα εκρηκτικά (π.χ. μόλυβδος στη περίπτωση της μεταφοράς εξυλίου (HEXYL), πικρικού οξέος, πικρικών αλάτων, εκρηκτικών οργανικών αρωμάτων ενώσεων διαλυτών στο νερό, ή εκρηκτικών φύσεως οξέος (βλέπε επίσης περιθώριο II IO5(2) (γ)).

II 20I-

II 2I5

Κουβούκλιον (θέρσις) Οδηγού

II 216

(Βλέπε περιθώριον II 105(2)(β)3)).

II 217

II 224

Συνδυασμός ρυμουλκούντος οχήματος και ρυμουλκουμένου

II 225

(Βλέπε περιθώριον II 105(2)(α)).

II 226-

II 230

Κινητήρας και Σύστημα Εξαγωγής

II 231

Βλέπε περιθώριον II 105(2)(β)1.)).

II 232-

II 239

Πυροσβεστικές Συσκευές

II 240

Οι διατάξεις του περιθωρίου IO 240(I)(β) και 3) δεν θα ισχύουν για την μεταφοράν επικινδύνων υλών της Κλάσεως Ιγ, I^ο έως 3^ο, 5^ο έως 20^ο, 24^ο, 25^ο και 27^ο.

II 241-

II 250

Ηλεκτρικός Εξοπλισμός

II 251

(1) Το διατετιμημένο βολτάζ του ηλεκτρο-φωτιστικού συστήματος δεν θα υπερβαίνει τα 24 Βόλτ.

(2) Ουδέν κύκλωμα θα εγκαθίσταται εσωτερικώς των πηγμάτων των μονάδων μεταφοράς "B.II".

(3) Οι διατάξεις της Προσθήκης B.2, περιθώριον 220 000(2), δεν θα ισχύουν για τον ηλεκτρικόν εξοπλισμόν οχημάτων μεταφερόντων είδη της Κλάσεως Ιγ, I^ο(α) και 3^ο, ή μεταφερόντων είδη της Κλάσεως Ιγ, I^ο(β) σε ποσότητα μη υπερβαίνουσαν

τα 500 KG.

II 252-

II 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

II 300-

(Δεν υπάρχουν ειδικές διατάξεις)

II 399

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωση,

εκφόρτωση και χειρισμόν

Μέθοδος αποστολής και περιορισμοί επί προώθησεως

II 400

Υλεις της Κλάσεως Ια, Ι3^ο και Ι4^ο (α) και (β), μπορούν να μεταφέρονται μόνον ως πλήρες φορτίο. Εν τούτοις, κδλα ζυγίζοντα όχι άνω των 10 KG και παραδιδόμενα δια μεταφοράν σε ποσότητα μη υπερβαίνουσαν τα 100 KG μπορούν να μεταφέρονται διαφορετικώς της μεταφοράς πλήρους φορτίου.

Περιορισμός των μεταφερομένων ποσοτήτων

II 401

Η ποσότητα επικινδύνων υλών της Κλάσεως Ια, Κλάσεως Ιβ και Ιγ που μπορεί να μεταφερθεί επί μονάδας μεταφοράς θα περιορίζεται όπως παρακάτω (βλέπε επίσης περιθώρια II 402 και II 403 αναφορικώς με την απαγόρευση μικτής φορτώσεως).

(I) Μονάδα Μεταφοράς "B.I" μπορεί να μεταφέρει μόνον

(α) εν των φορτίων των εξουσιοδοτημένων υπό

των περιθωρίων II 106(I) και (2)(α)· ή

(β) όχι περισσότερα των 500 KG των ειδών της

Κλάσεως Ιγ, Ι^ο(β)· ή

(γ) όχι περισσότερα των 300 KG των υλών της

Κλάσεως IIα, I2⁰ ή

II 40I

- (δ) όχι περισσότερα των 100 KG των υλών της (Συνεχίζεται)
Κλάσεως Iα, II⁰, I3⁰ και I4⁰.

(2) Μονάδα Μεταφοράς "B.II" μπορεί να μεταφέρει μόνον

- (α) ένα των φορτίων των εξουσιοδοτημένων εν

(I) ανωτέρω για τις μονάδες μεταφοράς

"B.I" ή

- (β) όχι περισσότερα των 500 KG των υλών της

Κλάσεως Iα, I⁰ έως I0⁰ και I2⁰ των ει-

δών της Κλάσεως Iβ, I⁰ έως 4⁰ και 6⁰ έως

II⁰ ή των επικινδύνων υλών της Κλάσεως

Iγ. Εν τούτοις, αι ύλες της Κλάσεως Iα,

3⁰, 4⁰ και 5⁰ πρέπει να συσκευάζονται με

δ,τι προβλέπεται για αποστολές εμπορευμάτων

μεταφερομένων διαφορετικώς της μεταφοράς

πλήρους φορτίου.

(3) Μονάδα Μεταφοράς "B.III" μπορεί να μεταφέρει μόνον

- (α) ένα των φορτίων των εξουσιοδοτημένων εν

(2) ανωτέρω για μονάδες μεταφοράς "B.II" ή

ή

- (β) υπό τον όρον ότι το βάρος του φορτίου των

επικινδύνων υλών δεν υπερβαίνει το 90% του

εκατόν του βάρους του φορτίου συνήθων εμ-

πορευμάτων του δηλωθέντος ως επιτρεπού

δια το όχημα υπό της αρμοδίας αρχής της χώ-

ρας εγγραφής του οχήματος, όχι περισσότερα

των 9.000 KG των επικινδύνων υλών των Κλά-

σεων Ια, Ιβ ή Ιγ ανά αρθρωτόν όχημα ή όχη- II 401
μα με ρυμουλκούμενον όχημα, ή των 15.000KG (Συνεχι-
ζεται
των επικινδύνων υλών δια μονάδα μεταφοράς
ετέρου είδους. Εν τούτοις, εάν το φορτίον
περιλαμβάνει μία ή περισσότεράς ύλης της
Κλάσεως Ια, II^ο, Ι3^ο ή Ι4^ο, ή ένα ή περισσό-
τερα είδη της Κλάσεως Ιβ, 5^ο, 6^ο και II^ο, τα
ανωτέρω όρια θα μειώνονται σε 6.000 KG και
10.000 KG αντίστοιχως.

II 402

Απαγόρευση μικτής φορτώσεως σε όχημα

II 403

(Ι) Ύλεις και είδη της Κλάσεως Ια δεν θα φορτώνονται
μαζί επάνω σε ένα όχημα: μαζί με:

(α) είδη της Κλάσεως Ιβ κλεισμένα σε κόλα φέροντα δύο
ετικέτες συμφώνως προς το μοντέλο Νο. Ι* μαζί με:

(β) κόλα φέροντα ετικέτα οιασδήποτε των μοντέλων Νο. 2D,
4, 4A, 6A, 6B και 6Γ* ή μαζί με:

(γ) κόλα φέροντα ετικέτα ή ετικέτες οιασδήποτε των
μοντέλων Νο. 2A, 2B, 2Γ και 5.

(2) Είδη της Κλάσεως Ιβ κλεισμένα σε κόλα φέροντα ετι-
κέτα σύμφωνα προς το μοντέλο Νο. Ι δεν θα φορτώνον-
ται μαζί πάνω σε ένα όχημα με:-

(α) είδη της Κλάσεως Ιβ κλεισμένα σε κόλα φέροντα δύο
ετικέτες συμφώνως προς το μοντέλο Νο. Ι* με

(β) κόλα φέροντα ετικέτα οιασδήποτε των μοντέλων Νο. 2A,
4, 4A, 6A, 6B και 6Γ* ή με

(γ) κόλα φέροντα ετικέτα ή ετικέτες οιασδήποτε των μον-
τέλων Νο. 2A, 2B, 2Γ, 3 και 5.

(3) Είδη της Κλάσεως Ιβ κλεισμένα σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο Νο.Ι δεν θα φορτώνονται στο αυτό δχημα με:-

II 403

(Συνεχίζεται)

((α)) ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ κλεισμένα σε κόλα φέροντα ετικέτα σύμφωνον προς το μοντέλο Νο.Ι* ή με

(β) τις ύλες τις οριζόμενες υπό στοιχείον (2)(β) και (2)(γ) ανωτέρω.

(4) Είδη της Κλάσεως Ιγ κλεισμένα σε κόλα φέροντα ετικέτα σύμφωνη προς το μοντέλλο Νο.Ι δεν θα φορτώνονται μαζί σε δχημα με:-

(α) είδη της Κλάσεως Ιβ κλεισμένα σε κόλα φέροντα δύο ετικέτες συμφώνως προς το Μοντέλο Νο.Ι* με

(β) κόλα φέροντα ετικέτα οινωδήποτε των μοντέλων Νο. 2Δ, 4, 4Α, 6Α, 6Β και 6Γ* ή με

(γ) κόλα φέροντα ετικέτα ή δύο ετικέτες οινωδήποτε των μοντέλων Νο. 2Α, 2Β, 2Γ, 3 και 5.

II 404

Απαγόρευση μικτής φορτώσεως με εμπορεύματα περιεχόμενα σε CONTAINER

II 405

(1) Οι απαγορεύσεις μικτής φορτώσεως εμπορευμάτων αναφερομένων εις περιθώριον II 403 θα ισχύουν/εντός εκάστου CONTAINER.

(2) Οι διατάξεις του περιθωρίου II 403 θα ισχύουν ~~για~~ επικίνδυνες ύλες περιεχόμενες εις CONTAINER και τις άλλες επικίνδυνες ύλες τις φορτωμένες στο ίδιο δχημα, ανεξαρτήτως εάν οι τελευταίες ύλες εγκλείωνται ή όχι σε ένα ή περισσότερα άλλα CONTAINERS.

II 406

II 407

Τόποι Φορτώσεως και Εκφορτώσεως

(I) Οι παρακάτω εργασίες απαγορεύονται:-

(α) φόρτωσις ή εκφόρτωσις επικινδύνων υλών Κλάσεων Ια, Ιβ και Ιγ εις δημόσιον χώρον κατοικουμένης περιοχής άνευ ειδικής άδειας των αρμοδίων αρχών.

(β) φόρτωσις ή εκφόρτωσις επικινδύνων υλών των ρηθισών Κλάσεων εις δημόσιον χώρον διάφορον της κατοικουμένης περιοχής άνευ προηγουμένης σχετικής ειδοποιήσεως των αρμοδίων αρχών, εκτός εάν οι αναφερόμενες εργασίαι δικαιολογούνται δια σοβαρούς λόγους ασφαλείας.

(2) Εάν, δι' οιονδήποτε λόγον, εργασίαι χειρισμού πρέπει να διεξαχθούν εις δημόσιον χώρον, τότε:

- ύλες και είδη διαφόρων ειδών θα διαχωρίζονται συμφώνως προς τις ετικέτες και
κόβλα εφωδιασμένα με χειρολαβές ή υποστηρίγματα θα τηρούνται ίσα.

II 408-

II 412

Καθάρισμα προ της φορτώσεως

II 413

Προτού επικίνδυνες ύλες Κλάσεων Ια, Ιβ ή Ιγ φορτωθούν, όλα τα υπολείμματα αχύρου, ρακών, χάρτου και παρομοίων υλικών, και όλων των σιδηρών αντικειμένων (καρφιά, βίδες, κλπ.) που δεν αποτελούν αναπόσπαστον τμήμα του πηγματος του οχήματος, θα αφαιρεθούν.

Χειρισμός και στοιβάδα

II 414

(1) Η χρήση ευχερώς ευφλέκτων υλών για κόλα στοιβάδας σε οχήματα απαγορεύεται.

(2) Κόλα περιέχοντα επικινδύνες ύλες των Κλάσεων Ια, Ιβ και Ιγ θα φορτώνονται κατά ~~τάδεον~~ τρόπον ώστε να μπορούν να εκφορτώνονται ένα ένα εις το σημείον του προορισμού χωρίς να υπάρχει ανάγκη νέας διευθετήσεως του φορτίου.

(3) Τα κόλα θα στοιβάζονται στο όχημα έτσι ώστε να μη μπορούν να μετατοπίζονται. Θα προστατεύονται έναντι οιασδήποτε τριβής ή προσκρούσεως. Εάν βυτία (κάδοι) μεταφέρονται κείμενα επί των πλευρών των, θα διευθετούνται κατά ~~τάδεον~~ τρόπον ώστε ο επιμήκης άξοναυτών να είναι παραλλήλως προς τον άξονα του οχήματος και ξύλινες σφήνες θα χρησιμοποιούνται για να αποφεύγεται οποιαδήποτε πλευρική μετακίνηση.

II 415-

II 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσας την λειτουργίαν
οχημάτων

Σήματα Οχήματος

II 500

Αι διατάξεις του περιθωρίου IO 500, παράγραφοι (1) και (6), θα ισχύουν για την μεταφοράν επικινδύνων υλών των Κλάσεων Ια, Ιβ και Ιγ.

II 501-

II 507

Διακοπή για την διέλευσιν μέσω Τελωνείου

II 508

Όταν μονάχα μεταφοράς ή φάλαγγ οχημάτων μεταφέ-

ρουσα επικίνδυνες όλες των Κλάσεων Ια, Ιβ και Ιγ πρό- II 508
κειται να περάσει από συνοριακό Τελωνείο, η μονάδα μετα- (Συνεχίζεται)
φοράς (ή φάλαγγα) θα σταματήσει τουλάχιστον 50 μ. από το
Τελωνείο. Ο βοηθός οδηγού θα μεταβεί στο Τελωνείο να γνω-
ρίσει στις αρχές την άφιξη της μονάδας μεταφοράς (ή φά-
λαγγας) της μεταφερούσας τις επικινδύνες όλες.

Διακοπές περιωρισμένης διάρκειας δι' ανάγκες σέρβις II 509

Εφ' όσον είναι δυνατόν, διακοπές δι' ανάγκες σέρβις
δεν θα γίνονται πλησίον κατοικημένων τόπων ή τόπων διαμονής
(παραθερισμού, κλπ.). Σταμάτημα πλησίον τέτοιου τόπου δεν
θα παρατείνεται εκτός κατόπιν εγκρίσεως των αρμοδίων αρχών.

II 510-

II 519

Φάλαγγες (Κονβόι)

II 520

(1) Οσάντις οχήματα μεταφέροντα επικίνδυνες όλες
των Κλάσεων Ια, Ιβ και Ιγ ταξειδεύουν σε φάλαγγα, μία από-
στασις όχι μικροτέρα των 80 μ. θα πρέπει να τηρείται μεταξύ
κάθε μονάδας μεταφοράς και της επομένης.

(2) Εάν, βιολιονδήποτε λόγον, η φάλαγγα υποχρεωθεί
να σταματήσει και εάν, ειδικότερα, αι εργασίες φορτώσεως ή
εκφορτώσεως πρέπει να διεξαχθούν σε δημόσιον τόπον, μία
απόστασις όχι μικροτέρα των 50 μ. θα πρέπει να τηρείται
μεταξύ των σταματημένων οχημάτων.

(3) Οι αρμόδιες αρχές ενδέχεται να εκδώσουν κανόνες
για την σειράν ή σύνθεσιν των φαλάγγων (κονβόι).

II 521-

II 599

Άρθρο 6

Μεταβατικές διατάξεις, ανακλήσεις, και
διατάξεις ειδικές για ωρισμένες χώρες

II 600-

II 604

Μεταβατικές διατάξεις

II 605

Δι' ανακλήσεως του άρθρου 4, Παράγραφος 2, της Συμφωνίας, οχήματα τα οποία ήσαν ~~ε~~ υπηρέσια εις την επικράτειαν Συμβαλλομένου Μέρους όταν τέθηκε σε ισχύ το παρόν Παράρτημα ή τέθηκαν σε υπηρέσια εκεί εντός δύο μηνών αφότου τέθηκε σε ισχύ, μπορούν να χρησιμοποιηθούν για τη διεθνή μεταφορά επικινδύνων υλών των Κλάσεων Ια, Ιβ, και Ιγ μόνον διαρκούσης περιόδου ενός έτους από της τοιαύτης θέσεως ~~ε~~ ισχύ εάν το σχέδιον και ο εξοπλισμός των δεν πληρούν πλήρως τους δια την τοιαύτην μεταφοράν όρους του παρόντος Παραρτήματος.

II 606-

II 609

Διατάξεις ειδικές για ωρισμένες χώρες

II 610

Η μεταφορά επικινδύνων υλών των Κλάσεων Ια, Ιβ και Ιγ θα υπόκειται εις τους ισχύοντες εις τον Ηνωμένον Βασίλειον κανονισμούς κατά την εις την επικράτειαν της χώρας ταύτης μεταφοράν.

II 611-

20 999

Κλάση 2

Αέρια: πεπιεσμένα, υγροποιημένα ή διαλυόμενα υπό πρессиΆρθρο IΓενικά

2I 000-

2I II7

Μεταφορά σε CONTAINERS

2I II8

Η μεταφορά σε μικρά CONTAINERS κδλων περιεχόντων αέρια των 7^ο(α) και 8^ο(α) απαγορεύεται.

2I II9-

2I I20

Μεταφορά σε δεξαμενές (βυτία)

2I I2I

(I) Αέρια της Κλάσεως 2 πλην των κατωτέρω αναφερομένων μπορούν να μεταφέρονται σε σταθερές δεξαμενές, λυόμενες δεξαμενές, ή σε συστοιχίες δοχείων: φθόριο και τετραφθοριούχο πυρίτιον (I^ο (A T)), οξείδιο του αζώτου (I^ο (C T)), μίγματα υδρογόνου με όχι άνω του 10 τοις εκατόν υδρογονούχου SELENIDE ή φωσφίνης ή υδρογονούχου πυριτίου (SILANE) ή γερμανίου (GERMANE) κατ'όγκον ή με όχι άνω των 156 τοις εκατόν αρσίνης κατ'όγκον· μίγματα αζώτου ή σπανίων αερίων (περιέχοντα όχι άνω του 10 τοις εκατόν ξένο (XENON) κατ'όγκον) με όχι άνω του 10 τοις εκατόν υδρογονούχου SELENIDE ή φωσφίνης ή υδρογονούχου πυριτίου ή γερμανίου κατ'όγκον ή με όχι άνω του 156 τοις εκατόν αρσίνης κατ'όγκον (2^ο (B T)), μίγματα υδρογόνου με όχι άνω του 10 τοις εκατόν DIBORANE κατ'όγκον· μίγματα αζώτου ή σπανίων αερίων (περιέχοντα όχι άνω του 10 τοις εκατόν ξένο (XENON) κατ'όγκον)) με όχι άνω του 10 τοις εκατόν.

εκατόν DIBORANE κατ'όγκον (2° (C T))· βοριοχλωρίδιο, τρι- 2I I2I
 φθοριούχο χλώριο, νιτροξυχλωρίδιο, φθοριούχο SULPHURYL (Συνεχι-
 και εξαφθοριούχο βολφράμιο (3° (A T))· μεθυλικό υδρογο- ζεται)
 νούχο πυρίτιο (METHYLSILANE) (3° (B))· αρσίνη, διχλωρο-
 υδρογονούχο πυρίτιο (DICHLOROSILANE), διμεθυλικό υδρο-
 γονούχο πυρίτιο (DIMETHYLSILANE), υδρογονούχο SELENIDE
 και τριμεθυλικό υδρογονούχο πυρίτιο (TRIMETHYLSILANE)
 (3° (B T))· κυάνιο, χλωριούχο κυάνιο και οξείδιο αιθυλε-
 νίου (3° (C T))· μίγματα μεθυλικών υδρογονούχων πυριτίων
 (METHYLSILANES) (4° (B T))· οξείδιο αιθυλενίου περιέχον
 όχι άνω του 50 τοις εκατόν αλάτων μεθυλικού μυρμηκικού
 οξέος κατά βάρος (4° (C T))· υδρογονούχο πυρίτιο (SILANE)
 (5° (B))· όλες των 5° (B T) και (C T)· διαλελυμένο ακετυ-
 λένιο (9° (C))· και αέρια των $I2^{\circ}$ και $I3^{\circ}$.

(2) Αέρια της Κλάσεως 2 πλην των κατωτέρω αναφερο-
 μένων μπορούν να μεταφέρονται σε δεξαμενο-CONTAINERS:
 φθόριο και τετραφθοριούχο πυρίτιο (I° (A T))· οξείδιο του
 αζώτου (I° (C T))· μίγματα υδρογόνου με όχι άνω του 10
 τοις εκατόν υδρογονούχου SELENIDE ή φωσφίνης ή υδρογονού-
 χου πυριτίου (SILANE) ή γερμανίου (GERMANE) κατ'όγκον ή
 με όχι άνω των 15 τοις εκατόν αρσίνης κατ'όγκον· μίγματα
 αζώτου ή σπανίων αερίων (περιέχοντα όχι άνω του 10 τοις
 εκατόν ξένο (XENON) κατ'όγκον) με όχι άνω του 10 τοις εκα-
 τόν υδρογονούχου SELENIDE ή φωσφίνης ή υδρογονούχου πυρι-
 τίου ή γερμανίου κατ'όγκον ή με όχι άνω του ± 5 τοις εκατόν
 αρσίνης κατ'όγκον (2° (B T))· μίγματα υδρογόνου με όχι
 άνω του 10 τοις εκατόν β DIBORANE κατ'όγκον· μίγματα αζώ-

του ή σπανίων αερίων (περιέχοντα όχι άνω του 106τοι, εκα- 21 121
 τόν ξένον (XENON) κατ'όγκον)) με όχι άνω του 106τοι. (Συνεχίζε-
 εκατόν DIBORANE κατ'όγκον (2° (C T))· βοριοχλωρίδιο, ται)
 τριφθοριούχο χλώριο, νιτροζυχλωρίδιο, φθοριούχο SULPHURYL
 και εξαφθοριούχο βολφράμιο (3° (A T))· μεθυλικό υδρογο-
 νούχο πυρίτιο (METHYLSILANE) (3° (β))· αρσίνη, διχλωρο-
 υδρογονούχο πυρίτιο (DICHLOROSILANE), διμεθυλικό υδρογο-
 νούχο πυρίτιο (DIMETHYLSILANE), υδρογονούχο SELENIDE και
 τριμεθυλικό υδρογονούχο πυρίτιο (TRIMETHYLSILANE) (3° (B T))·
 κυάνιο, χλωριούχο κυάνιο και οξείδιο αιθυλενίου (3° (C T))·
 μίγματα μεθυλικών υδρογονονούχων πυριτίων (METHYLSILANES)
 (4° (B T))· οξείδιο αιθυλενίου περιέχον όχι άνω του 50
 6τοι, εκατόν αλάτων μεθυλικού μυρμηκικού οξέος κατά βάρος
 (4° (C T))· υδρογονούχο πυρίτιο (SILANE) (5° (β))· και τα
 αέρια των 12° και 13°. Εν τούτοις, χλώριον και φωσγένιον
 (3° (A T)) δεν θα μεταφέρονται σε δεξαμενο-CONTAINERS κυ-
 βικής χωρητικότητας υπερβαίνουσας το 1μ³.

(3) Δεξαμενο-CONTAINERS περιέχοντα όλες των 1° (β)·
 2° (β)· 3° (β)· χλωροαιθάνιον (χλωριούχον αιθύλιον) ή διμε-
 θυλικόν αιθέρα της 3° (B T)· όλες της 3° (γ)· βρωμιούχο βινύ-
 λιο ή μεθυλικόν βινυλικόν αιθέρα της 3° (C T)· ή όλες της
 4° (β), 4° (γ), 5° (β), 6° (γ), 7° (β) ή 8° (β), θα φέρουν και
 6τοι δύο πλευρές τους ετικέτα σύμφωνα προς το μοντέ-
 λο No. 2A.

Δεξαμενο-CONTAINERS περιέχοντα οξυγόνον της 1° (α)·
 τριφθοριούχο βόριο της 1° (A T)· μίγματα περιέχοντα άνω
 του 206τοι εκατόν οξυγόνον κατ'όγκον, της 2° (α)· μονοξεί-

διο του αζώτου της 5^ο (α)• μονοξειδίο του αζώτου ή οξυγό- 2Ι Ι2Ι
 νον της 7^ο (α)• ή υγρόν αέρα ή μίγματα περιέχοντα άνω (Συνεχί-
 του 20 θέτοι εκατόν οξυγόνον κατά βάρος, της 8^ο (α), θα ζεται)
 φέρουν και δύο δυνό πλευρές τους ετικέτα σύμφωνα
 προς το μοντέλο Νο. 3.

Δεξαμενο-CONTAINERS περιέχοντα αέρια των Ι^ο (B T)
 ή 2^ο (B T), ή διμεθυλαμίνη, αιθυλαμίνη, υδροθειον, μεθυ-
 λαμίνη, χλωριούχο μεθύλιο, μεθυλικό MERCAPTAN, ή τριμε-
 θυλαμίνη, της 3^ο (B T), θα φέρουν και δύο δυνό πλευ-
 ρές τους ετικέτες σύμφωνα προς τα μοντέλα Νο. 2Α και 4.

Δεξαμενο-CONTAINERS περιέχοντα διοξειδίο του α-
 ζώτου ή φωσγένιο της 3^ο (A T) θα φέρουν και δύο δυνό
 πλευρές τους ετικέτες σύμφωνα προς τα μοντέλα Νο. 3 και 4.

Δεξαμενο-CONTAINERS περιέχοντα υδροβρωμίδιο της
 3^ο (A T) ή υδροχλώριο της 5^ο (A T) θα φέρουν και δύο δυνό
 πλευρές τους ετικέτες σύμφωνα προς τα μοντέλα Νο. 4
 και 5.

2Ι Ι22-

2Ι Ι27

Κενά βιτλά (δεξαμενές)

2Ι Ι28

(Ι) Για κενές σταθερές δεξαμενές, κενές συστοι-
 χίες δοχείων και κενές λυόμενες δεξαμενές, βλέπε Παράρτη-
 μα Α, περιθώριο 220Ι, Ι4^ο, Σημείωσις Ι.

(2) Για δεξαμενο-CONTAINERS, βλέπε περιθώριο
 2Ι2 Ι77.

2Ι Ι29

2Ι Ι70

Πληρώματα οχημάτων: Επίβλεψη (Εποπτεία)

2I 171

ΑΙ διατάξεις του περιθωρίου IO 171(2) θα ισχύουν μόνον για τα επικίνδυνα εμπορεύματα τα αναγραφόμενα κατωτέρω σε προσότητες υπερβαίνουσες τα οριζόμενα βάρη:

- τριφθοριούχο βόριο και φθόριο (I^0 (A T))· οι ύλες της 3^0 (A T)· της 3^0 (B T) πλην του διμεθυλικού αιθέρα και του χλωριούχου αιθυλίου· και της 3^0 (C T)· υδροχλώριο της 5^0 (A T)· και τα βαθεία κατεψυγμένα υγροποιημένα αέρια της 7^0 (α) και 8^0 (α): 1.000 KG
- οι ύλες της 3^0 (β)· διμεθυλικός αιθέρας και χλωριούχο αιθύλιο της 3^0 (B T)· χλωριούχο βινύλιο της 3^0 (γ)· οι ύλες της 4^0 (β)· και τα εύφλεκτα υγροποιημένα αέρια της 7^0 (β) και 8^0 (β): 10.000 KG.

2I 172-

2I 199

Άρθρο 2

Ειδικοί όροι που πρέπει να πληρούν τα οχήματα
και ο εξοπλισμός των

2I 200

2I 211

Εξαερισμός

2I 212

Εάν κδλα περιέχοντα αέρια των I^0 έως 6^0 και 9^0 (γ) μεταφέρονται σε κλειστό όχημα, το όχημα θα πρέπει να ελ-
ναι εφοδιασμένο με κατάλληλον εξαερισμόν.

2I 213-

2I 230

Κινητήρας και σύστημα εξαγωγής

2I 231

Ο κινητήρας οχήματος μεταφέροντος αέριον της Κλάσεως 2 σε σταθερό βυτίο (δεξαμενή), σε λυομένη δεξαμενή ή συστοιχία δοχείων, και οσάνις ενδεικνύται ο κινητήρας που κινεί την αντλία αποστάξεως (DECANTING PUMP), θα είναι έτσι εξοπλισμένος και τοποθετημένος, και οι σωλήνες εξαγωγής θα έχουν τέτοια κατεύθυνση ή προστατεύονται, ώστε να αποφεύγεται οιοσδήποτε για το φορτίο κίνδυνος εκ θερμάνσεως ή αναφλέξεως.

2I 232-

2I 239

Πυροσβεστικές συσκευές

2I 240

Οι διατάξεις του περιθωρίου IO 240 (I) (β) και (3) δεν θα ισχύουν για μεταφοράν πλην εκείνης των ευφλέκτων αερίων ή ειδών των αναφερομένων εις περιθώριον 220 002, ή των κενών συσκευασιών της I4^ο οι οποίες περιέχον τα τοιαύτα αέρια.

2I 24I-

2I 250

Ηλεκτρικός εξοπλισμός

2I 25I

Οι διατάξεις της προσθήκης B.2 δεν θα ισχύουν δια μεταφοράν πλην εκείνης των ευφλέκτων αερίων ή ειδών των αναφερομένων εις περιθώριον 220 002, ή των κενών συσκευασιών της IO^ο που περιέχον τα τοιαύτα αέρια.

2I 252-

2I 259

Ειδικός εξοπλισμός

2I 260

Οσάντις μεταφέρονται πεπιεσμένα αέρια ή υγροποιημένα αέρια επικίνδυνα (βλαβερά) για τα αναπνευστικά όργανα ή εγκυμονούντα κίνδυνον δηλητηρίασεως και προσδιοριζόμενα με το γράμμα "T" εις την κατάσταση των υλών, το πλήρωμα του οχήματος θα είναι εφοδιασμένον με αναπνευστικές μάσκες του καταλλήλου των μεταφερομένων αερίων τύπου.

2I 26I-

2I 299

Άρθρο 3Διατάξεις Γενικών Υπηρεσιών

2I 300-

2I 352

Φορητή συσκευή φωτισμού

2I 353

Οσάντις μεταφέρονται αέρια ή είδη του περιθωρίου 220 002, εις το κλειστό όχημα δεν επιτρέπεται να εισέρχονται πρόσωπα μεταφέροντα συσκευήν φωτισμού πλην φορητών λυχνιών έτσι σχεδιασμένων και κατασκευασμένων που να μη μπορούν να αναφλέξουν οιαδήποτε αέρια που ενδέχεται να εισέδυσαν στο εσωτερικό του οχήματος.

2I 354-

2I 399

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωση, εκφόρ-
τωση και χειρισμόν

Μέθοδος αποστολής και περιορισμοί προώθησεως
μον

2I 400

Διοξείδιον του άνθρακος και/οξείδιον του αζώτου

της 7^ο (α), μίγματα περιέχοντα διοξείδιο του άνθρακος και 2I 400 μονοξείδιο του αζώτου της 8^ο (α), και τα αέρια της 8^ο (Συνεχίζεται) (β), και τα αέρια της 8^ο (β) μπορούν να μεταφέρονται μόνον σε σταθερές δεξαμενές, λυόμενες δεξαμενές ή συστοιχίες δοχείων ή σε δεξαμενο-CONTAINERS.

2I 401-

2I 402

Απαγόρευση μικτής φοερτώσεως σε ένα όχημα

2I 403

Είδη της Κλάσεως 2 κλεισμένα σε κόλα φέροντα επικέτα σύμφωνον προς το μοντέλο Νο. 2A δεν θα φορτώνονται μαζί σε ένα όχημα με όλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ κλεισμένα σε κόλα φέροντα επικέτα ή δύο επικέτες σύμφωνες προς το μοντέλο Νο.Ι.

2I 404-

2I 406

Τόποι φορτώσεως και εκφορτώσεως

2I 407

(I) Οι παρακάτω εργασίες απαγορεύονται:-

(α) φόρτωση ή εκφόρτωση των κατωτέρω υλών σε δημόσιο χώρο κατακτημένης περιοχής χωρίς την άδεια των αρμοδίων αρχών: υδροβρωμίδιον, χλώριον, διοξείδιον του αζώτου, διοξείδιον του θείου ή φωσγένιον (3^ο (A T))· υδροθειον (3^ο (B T))· και υδροχλώριον (5^ο (A T))·

(β) φόρτωση ή εκφόρτωση των υλών των αναφερομένων υπό στοιχείον (α) ανωτέρω εις δημόσιον χώροσ αλλαχού όχι εις δημόσιον χώρον άνευ προηγουμένης ειδοποιήσεως των αρμοδίων αρχών, εκτός εάν αι ανα-

γερμένους εργασίες δικαιολογούνται για σοβα-
ρούς λόγους ασφαλείας.

2I 407

(Συνεχίζε-
ται)

(2) Εάν βιάζονταν ποτέ λόγον εργασιών χειρισμού πρέ-
πει να εκτελεσθούν σε δημόσιο χώρο, τότε:-

- όλες και είδη διαφόρων ειδών θα διαχωρίζονται συμ-
φάνως προς τις ετικέτες· και
- κόλα εφοδιασμένα μέσα χειρισμού θα τηρούνται (σα
(επίπεδα) κατά τον χειρισμόν των.

2I 408-

2I 4I3

Χειρισμός και στοιβάδα

2I 4I4

(I) Τα κόλα δεν θα ρίπτονται ή υποβάλλονται σε πρόσκρουση.

(2) Τα δοχεία θα στοιβάζονται κατά τέτοιο τρόπο στο όχη-
μα ώστε να μη μπορούν να αναποδογυρίσουν ή πέσουν και όπως
πληρούνται οι παρακάτω όροι:-

(α) οι κύλινδροι οι αναφερόμενοι στο περιθώριο

22I2 (I) (α) θα τοποθετούνται παράλληλα ή εις
ορθές γωνίες προς τον επιμήκη άξονα του οχήματος·
εν τούτοις, οι ευρισκόμενοι πλησίον του προσθίου
εγκαρσίου τοιχώματος θα τοποθετούνται εις ορθές
γωνίες προς ^{τον} ~~αντικαταρκτικό~~ άξονα.

Κοντοί κύλινδροι μεγάλης διαμέτρου (πε-
ρίπου 30 CM και άνω) μπορούν να στοιβάζονται
κατά μήκος των μηχανισμών των προστασίας δια-
βαλβίδας (VALVE-PROTECTING DEVICES) με κατεύθυν-
ση προς το μέσον του οχήματος.

Κόλινδροι οι οποίοι είναι αρκετά σταθεροί

| | | |
|--|--------|---------------|
| Βουταδιένιον | 2A | 2I 500 |
| Βουτάνιον | 2A | (Συνεχίζεται) |
| Βουτυλένιον | 2A | |
| Χλώριον | 4 | |
| Κυκλοπροπάνιον | 2A | |
| Διμεθυλικός Αιθήρ | 2A | |
| Χλωριούχον Αιθόλιον | 2A | |
| Αιθυλένιον | 2A | |
| Αιθυλένιον, υγρόν (κατεψυγμένον) | 2A | |
| Υδρογονάνθρακες, μίγματα αυτών (Μίγματα Α, ΑΟ, ΑΙ, Β και Γ) | 2A | |
| Υδροβρωμίδιον | 4 / 5 | |
| Υδροχλώριον | 4 / 5 | |
| Ισοβουτάνιον | 2A | |
| Ισοβουτυλένιον | 2A | |
| Μεθάνιον, υγρόν (κατεψυγμένον) | 2A | |
| Μεθυλαμίνη, άνυδρος | 4 | |
| Μεθυλικόν Βρωμίδιον | 4 | |
| Χλωριούχον Μεθόλιον | 2A / 4 | |
| Μεθυλικός Βινυλικός Αιθήρ | 2A | |
| Φυσικόν αέριον, υγρόν (κατεψυγμένον) | 2A | |
| Διοξείδιον του Αζώτου NO ₂ | 3 / 4 | |
| Μονοξείδιον του Αζώτου N ₂ O | 3 | |
| Οξυγόνον (κατεψυγμένον) | 3 | |
| Φωσγένιον | 3 / 4 | |
| Προπυλένιον | 2A | |
| Τριμεθυλαμίνη, άνυδρος | 2A / 4 | |

Χλωριούχον Βινύλιον

2Α

2I 500

2I 50I-

2I 508

Διακοπές (Σταματήματα) περιορισμένης διάρκειας για ανάγκες
σέρβις 2I 509

Κατά την μεταφορά επικινδύνων υλών της Κλάσεως 2 πλην των I^ο, (α) και (Α Τ)· 2^ο(α)· 7^ο(α)· 8^ο(α)· και IO^ο, διακοπές (σταματήματα οχημάτων) για ανάγκες σέρβις δεν θα πρέπει όσον είναι δυνατόν να γίνονται ηγίον κατακρημένων πε-
 ριοχών ή τόπων διαμονής. Σταμάτημα ηγίον τοιούτου τόπου δεν επιτρέπεται να παραταθεί εκτός κατόπιν εγκρίσεως των αρμοδίων αρχών.

2I 5IO-

2II 599

Μεταβατικές διατάξεις, ανακλήσεις και
διατάξεις ειδικές για ωρισμένες χώρες

2I 600-

2I 609

Διατάξεις ειδικές για ωρισμένες χώρες

2I 6IO

Η μεταφορά επικινδύνων υλών της Κλάσεως 2 θα υπό-
 κείται στην επικρατεία του Ηνωμένου Βασιλείου εις τους κα-
 νονισμούς τους ισχύοντες εις την χώραν αυτήν κατά τον χρό-
 νον της μεταφοράς.

2I 6II-

30 999

Κλάση 3Εύφλεκτα ΥγράΆρθρο IΓενικά

3I 000-

3I 117

Μεταφορά σε CONTAINERS

3I 118

Εύθραυστα κόλα εντός της εννοίας του περιθωρίου
IO IO2 (I) δεν επιτρέπεται να μεταφέρονται σε μικρά
CONTAINERS.

3I 119-

3I 120

Μεταφορά σε δεξαμενές (βυτία)

3I 121

(I) Όλα τα υγρά της Κλάσεως 3 πλην νιτρομεθάνης
(3^ο) επιτρέπεται να μεταφέρονται σε σταθερές δεξαμενές και
λυόμενες δεξαμενές.

(2) Όλες οι ύλες της Κλάσεως 3 πλην νιτρομεθάνης
(μονο-νιτρομεθάνη) (3^ο) επιτρέπεται να μεταφέρονται σε δε-
ξαμενο-CONTAINERS.

(3) Αι κατωτέρω ύλες επιτρέπεται να μεταφέρονται
σε ενισχυμένες πλαστικές δεξαμενές συμμορφούμενες προς τις
διατάξεις της Προσθήκης Β.Ιγ:

Ακαθάρτον πετρέλαιον και λοιπά αργά πετρέλαια·
πτητικά προϊόντα εκ της αποστάξεως ακαθάρτου πετρελαίου
και λοιπών αργών πετρελαίων (I^ο(α)).

Ημι-βαρέα προϊόντα εκ της αποστάξεως πετρελαίου
και λοιπών αργών πετρελαίων (3^ο).

Πετρέλαια θερμάνσεως και πετρέλαια ντήζελ (4^ο).

3I I22-

3I I27

Κενές δεξαμενές (βυτία)

3I I28

(1) Για να γίνουν δεκτές για μεταφορά, κενές σταθερές δεξαμενές και κενές λυόμενες δεξαμενές που περιείχαν εύφλεκτα υγρά της Κλάσεως 3 θα κλείονται κατά τον αυτόν τρόπον και θα είναι του αυτού βαθμού στεγανές ως εάν ήσαν πλήρεις.

(2) Για δεξαμενο-CONTAINERS, βλέπε περιθώριον 2I2 I77.

3I I29-

3I I70

Πληρώματα οχημάτων· Επίβλεψη (Εποπτεία)

3I I7I

Οι διατάξεις του περιθωρίου IO I7I (2) θα ισχύουν μόνον δια τα κατωτέρω αναφερόμενα επικίνδυνα εμπορεύματα σε ποσότητες υπερβαίνουσες τις κατωτέρω οριζόμενες:-

- Όλες της I^ο πλην διθειούχου άνθρακος, αλδεϋδης του αλκοολικού πνεύματος (ακρολεΐνη) και χλωροπρένιον (χλωτοβουταδιένιον), και αι όλες της 5^ο: 10.000 KG
- Διθειούχος άνθρακας, αλδεϋδη του αλκοολικού πνεύματος (ακρολεΐνη) και χλωροπρένιον (χλωροβουταδιένιον) της I^ο: 1.000 KG

3I I72-

3I I99

Άρθρο 2Ειδικές Διατάξεις που πρέπει να πληρούν τα οχήματα
και ο εξοπλισμός των

3I 200-

3I 215

Κουβούκλιον (Θέσις Οδηγού)

3I 216

Ευχερώς εύφλεκτον υλικόν δεν θα χρησιμοποιείται για την κατασκευήν των κουβουκλίων οχημάτων μεταφερόντων υγρά της Ι^ο σε σταθερές δεξαμενές ή λυόμενες δεξαμενές.

3I 217-

3I 230

Κινητήρας (Μηχανή) και σύστημα εξαγωγής

3I 231

Ο κινητήρας (μηχανή) ενός οχήματος μεταφέροντος υγρόν της Ι^ο σε σταθερά δεξαμενή ή λυόμενη δεξαμενή θα είναι έτσι κατασκευασμένος και τοποθετημένος, και ο σωλήν εξαγωγής θα έχει τέτοια κατεύθυνσιν ή προστατεύεται, ώστε να αποφεύγεται οιοσδήποτε δια το φορτίο κίνδυνος εκ θερμάνσεως ή αναφλέξεως.

Σωλήνωσις Αεραγωγού Εισαγωγής

3I 232

Προκειμένου περί οχημάτων μεταφερόντων υγρών της Ι^ο σε σταθερές δεξαμενές ή σε λυόμενες δεξαμενές, η σωλήνωσις εισαγωγής κάθε πετρελαιομηχανής θα είναι εφοδιασμένη με φίλτρο ικανό να υπηρετεί ως φλογοπαγίδα.

3I 233-

3I 234

Πετρελαιοδεξαμενή (Δεξαμενή Βελζίνης)

3I 235

Η πετρελαιοδεξαμενή η τροφοδοτούσα τον κινητήρα

είναι οχήματος μεταφέροντος υγρόν της Ι^ο εντός σταθεράς δε- 3Ι 235
 ξαμενής ή λυομένης δεξαμενής θα είναι έτσι τοποθετημένη (Συνεχί-
 ζεται)
 ώστε να προστατεύεται όσον είναι δυνατόν κατά αναγκαστικής
 προσκρούσεως και όπως ~~σε~~ περίπτωση διαρροής καυσίμου το
 τελευταίον να μπορεί να εκκενούνται απ' ευθείας εις το έδα-
 φος. Η πετρελαιοδεξαμενή ~~σε~~ ~~καμία~~ περίπτωση θα τοποθε-
 τείται ακριβώς άνω της σωληνώσεως εξαγωγής. Εάν η δεξαμε-
 νή περιέχει καύσιμον, θα είναι εφοδιασμένη με κατάλληλον
 φλογοπαγίδα εφαρμόζουσαν εις το στόμιον πληρώσεως ή με μη-
 χανισμόν δια του οποίου το στόμιον πληρώσεως θα μπορεί να
 τηρείται ερμητικώς κλεισμένον.

3Ι 236-

3Ι 250

Ηλεκτρικός εξοπλισμός

3Ι 25Ι

Αι διατάξεις της Προσθήκης Β.2, περιθώριον 220 000,
 δεν θα ισχύουν δια την μεταφοράν επικινδύνων υλών της Κλά-
 σεως 3 πλην ευφλέκτων υγρών των Ι^ο, 2^ο και 3^ο και οξεικής
 αλδεΐνης, ακετόνης και μιγμάτων ακετόνης της 5^ο.

3Ι 252-

3Ι 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

3Ι 300

3Ι 352

Χρήσιμη φορητής συσκευής φωτισμού

3Ι 353

Σε κλειστό όχημα δεν επιτρέπεται να εισέρχονται
 πρόσωπα μεταφέροντα συσκευήν φωτισμού πλην φορητών λυχνιών

σχεδιασμένων και κατασκευασμένων κατά τέτοιον τρόπον ώστε να μη μπορούν να αναφλέξουν οιονδήποτε αέριον το οποίον ενδέχεται να εισχώρησεν εις το εσωτερικόν του οχήματος. (Συνεχίζεται)

3I 354-

3I 399

Άρθρο 4

Ειδικές Διατάξεις διέπουσας την φόρτωσιν, εκφόρτωσιν και χειρισμόν

3I 400-

3I 402

Απαγόρευση μικτής φορτώσεως επί ενός οχήματος

3I 403

(I) Υγρά της Κλάσεως 3, κλεισμένα σε κόλα φέροντα ετικέτα ή δύο ετικέτες συμμορφούμενες προς το μοντέλο Νο. 2Α δεν θα φορτώνονται μαζί σε ένα δχημα με ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ κλεισμένα σε κόλα φέροντα ετικέτα ή δύο ετικέτες συμμορφούμενες προς το μοντέλο Νο. Ι.

(2) Ύλες της Κλάσεως 3, κλεισμένες σε κόλα φέροντα δύο ετικέτες σύμφωνες με το μοντέλο Νο. 2Α δεν θα φορτώνονται μαζί σε ένα δχημα με:-

(α) ύλες των Κλάσεων 5.Ι ή 5.2 κλεισμένες σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο Νο. 3^ο ή με

(β) υγρά της Κλάσεως 8 κλεισμένα σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο Νο. 5.

3I 404-

3I 4I3

Χειρισμός και στοιβάσις

3I 4I4

Η χρήση ευχερώς ευφλέκτων υλών δια στοιβαζόμενα
κόλα σε οχήματα απαγορεύεται. 3I 4I4

3I 4I5

Προφυλάξεις κατά ηλεκτροστατικών φορτίσεων 3I 4I6

Προ της πληρώσεως ή εκκενώσεως δεξαμενών ~~αυτοεπισχυμέ-~~
νης πλαστικής ύλης με ύλες σημείου αναφλέξεως 55°C και κάτω,
μέτρα θα λαμβάνονται δια να υπάρχει καλή ηλεκτρική σύνδεση
του σασί του οχήματος με τη γη.

Ο ρυθμός πληρώσεως για ύλες με σημείον αναφλέξεως 3I 4I7
55°C και κάτω θα περιορίζεται εις τρόπον ώστε να αποφεύ-
γεται η δημιουργία μη-ασφαλών ηλεκτροστατικών φορτίσεων.

3I 4I8-

3I 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσας την λειτουργίαν
οχημάτων

Σήματα οχήματος 3I 500

(I) Αι διατάξεις του περιθωρίου IO 500, παράγραφοι
(I) και (6), θα ισχύουν δια την μεταφοράν υλών των I°, 3°,
4° και 5°. Αι διατάξεις των παραγράφων (2) έως (5) θα ι-
σχύουν δια την μεταφοράν υλών αναφερομένων εις την Προ-
σθήκη B.5.

(2) Σταθερές δεξαμενές περιέχουσας ύλες αναγραφόμε-
νες στην Προσθήκη B.5 θα φέρουν επιπροσθέτως ~~επί~~ ~~δυσ~~ ~~της~~
αριστερής και εις το πίσω μέρος ετικέτα σύμφωνα προς το
μοντέλο Νο. 2A* δεξαμενές περιέχουσας ή (κενές δεξαμενές,
μη-καθαρισθείσας) που περιείχον ACRYLALDEHYDE (ακρολεΐνην)
ή χλωροπρένιον (χλωροβουταδιένιον) (I°(α)) ή μεθανάλην

(μεθυλικήν αλκοόλην) (5°) θα φέρουν επιπροσθέτως ετικέ-
τες συμφώνως προς το μοντέλο Νο. 4.

3I 500
(Συνεχί-
ζεται)

3I 50I-
3I 599

Άρθρο 6

Μεταβατικές Διατάξεις, ανακλήσεις, και
διατάξεις ειδικές για ωρισμένες χώρες

3I 600-
3I 604

Μεταβατικές διατάξεις

3I 605

Δεξαμενές που ήσαν ~~σε~~ υπηρεσία εις την επικράτεια
του Συμβαλλομένου Μέρους όταν η Σύμβασις ετέθη ~~σε~~ ισχύ
συμφώνως προς το άρθρον 7, παράγραφος I, ή ετέθησαν ~~σε~~
υπηρεσία εντός δύο μηνών από της ημερομηνίας θέσεως ~~σε~~ ι-
σχύος της Συμβάσεως, μπορούν να χρησιμοποιηθούν ~~για~~ την
διεθνή μεταφοράν επικινδύνων υλών διαρκούσης περιόδου τριών
ετών από της της τοιαύτης ημερομηνίας ακόμη και εάν το σχέ-
διον και ο εξοπλισμός αυτών δεν πληρούν πλήρως τους όρους
της Προσθήκης B.I.

3I 606-
3I 609

Διατάξεις ειδικές για ωρισμένες χώρες

3I 610

Η μεταφορά υγρών της Κλάσεως 3, το σημειον αναφλέ-
ξεως των οποίων είναι κάτω των 23° C θα υπόκειται εις την επι-
κράτειαν του Ηνωμένου Βασιλείου εις τους κανονισμούς τους
ισχύοντας εις την χώραν αυτήν κατά τον χρόνον της μεταφοράς.

3I 61I
40 999

Κλάση 4.1Εύφλεκτα στερεάΆρθρο IΓενικά

4I 000-

4I 103

Τύποι οχημάτων

4I 104

Κόλα περιέχοντα ύλες των 4^ο έως 8^ο θα φορτώνων-
ται σε κλειστά οχήματα ή σε σκεπασμένα οχήματα.

4I 105-

4I 110

Μεταφορά εμπορευμάτων εις χύμα

4I 111

(1) Θελον της 2^ο(α) μπορεί να μεταφερθεί εις χύμα.

(2) Ναφθαλίνη της II^ο(α) και (β) μπορεί να μεταφερ-
θεί εις χύμα· στη περίπτωση αυτή πρέπει να μεταφέρεται σε
κλειστά οχήματα με μεταλλικό πήγμα ή σε σκεπασμένα οχήμα-
τα με μη-εύφλεκτο κάλυμμα και είτε έχοντα μεταλλικό πήγμα
ή έχοντα κάλυμμα από στενά-υφασμένο υλικό απλωμένο εις το
δάπεδο. Για την μεταφοράν ναφθαλίνης της II^ο(α), τα δάπεδα
των οχημάτων θα προστατεύονται από πετρελαιοστεγανή επένδυση.

4I 112-

4I 117

Μεταφορά σε CONTAINERS

4I 118

Για την μεταφορά ναφθαλίνης της II^ο(α) και (β),
μικρά ξύλινα CINTAINERS (εμπορευματοκιβώτια) θα είναι εφο-
διασμένα με πετρελαιοστεγανή επένδυση.

4I 119-

4I 120

Μεταφορά σε δεξαμενές.

4I 121

(1) Θείον (2°), φωσφορική εξασουλφίδα (PHOSPHORUS SESQUISULPHIDE), φωσφορική πεντασουλφίδα (PHOSPHORUS PENTASULPHIDE) (8°) και ναφθαλίνη (11°) μπορούν να μεταφέρονται σε σταθερές ή λυόμενες δεξαμενές.

(2) Οι ίδιες αυτές ύλες μπορούν επίσης να μεταφερθούν σε δεξαμενο-CONTAINERS.

4I 122-

4I 127

Κενές δεξαμενές

4I 128

Για δεξαμενο-CONTAINERS, βλέπε περιθώριον 212 177.

4I 129-

4I 170

Πληρώματα οχημάτων. Επίβλεψες (Εποτεία)

4I 171

(1) Βοηθός οδηγού θα μεταφέρεται (υπάρχει) σε κάθε μονάδα μεταφοράς που μεταφέρει άνω των 300 KG υλών της 6° .

(2) Αι διατάξεις του περιθωρίου 10 171 (2) θα ισχύουν μόνον για τα παρακάτω αναφερόμενα επικίνδυνα εμπορεύματα σε ποσότητες υπερβαίνουσες τις παρακάτω οριζόμενες:

- Ύλες της 7° (α), (β) και (γ) : 1.000 KG

4I 172-

4I 199

Άρθρο 2

Ειδικές Διατάξεις αφορώσες τα οχήματα και τον
εξοπλισμόν αυτών

4I 200-

4I 250

Ηλεκτρικός εξοπλισμός

4I 251

Αι διατάξεις της Προσθήκης Β.2, περιθώριον 220 000,

δεν θα έχουν εφαρμογήν ~~για~~ μεταφοράν υλών πλην των υλών των 3^ο έως 7^ο.

4I 252-

4I 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

(Ουδεμία ειδική διάταξις)

4I 300-

4I 399

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωσιν, εκφόρ- τωσιν και χειρισμόν

Μέθοδος αποστολής και περιορισμοί προωθήσεως

4I 400

Θέλον εις τετηγμένην κατάστασιν (2^ο(β)) και ναφθα-
λίνη εις τετηγμένην κατάστασιν (II^ο(γ)) μπορούν να μεταφέ-
ρωνται μόνο σε βυτιοφόρα και δεξαμενο-CONTAINERS.

4I 40I-

4I 402

Απαγόρευση φικτής φορτώσεως επί ενός οχήματος

4I 403

(1) Ύλεις της Κλάσεως 4.I κλεισμένες σε κόλα φέρον-
τα ^{δύο} ετικέτα ή/ετικέτες συμφώνως προς το μοντέλο No. 2B δεν
θα φορτώνονται μαζί επάνω σε όχημα με ύλεις ή είδη των Κλά-
σεων Ia, Ib ή Ic κλεισμένα σε κόλα φέροντα ετικέτα ή δύο
ετικέτες συμφώνως προς το μοντέλο No.I.

(2) Ύλεις της Κλάσεως 4.I κλεισμένες σε κόλα φέροντα
^{δεν} δύο ετικέτες συμφώνως προς το μοντέλο 2B/θα φορτώνονται
μαζί επάνω σε όχημα με:-

(α) Ύλεις των Κλάσεων 5.I ή 5.2 κλεισμένες σε κόλα

φέροντα δύο ετικέτες συμφώνως προς το μοντέλο Νο. 3^ο 4I 403
ή με (Συνεχί-

(β) υγρά της Κλάσεως 8 κλεισμένα σε κόλα φέροντα δύο ετι-
κέτες συμφώνως προς το μοντέλο Νο. 5. ζεται)

4I 404-

4I 499

Άρθρο 5

Ειδικές διατάξεις διέπουσας την λειτουργία οχημάτων

Σήματα Οχημάτων

4I 500

(I). Οι διατάξεις του περιθωρίου IO 500, παράγραφοι (I) και (6), θα ισχύουν για την μεταφοράν υλών των 2^ο(β), 4^ο έως 8^ο και II^ο(γ). Οι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν επίσης δια την μεταφοράν των υλών των αναφερομένων εις την Προσθήκη Β.5.

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμενές, ακαθάριστες) που περιείχον ύλες αφαφερόμενες στην Προσθήκη Β.5 θα φέρουν επιπροσθέτως στις δύο τους πλευρές και πίσω ετικέτα συμφώνως προς το μοντέλο Νο. 2B.

4I 50I-

4I 599

Άρθρο 6

Μεταβατικές Διατάξεις, ανακλήσεις και
διατάξεις ειδικές για ωρισμένες χώρες

(Ουδεμία ειδική διάταξη)

4I 600-

4I 999

Κλάση 4.2Υλεις υποκειμενες σε αυτανάφλεξηΆρθρο IΓενικά

42 000-

42 103

Τύποι Οχημάτων

42 104

Κόλα περιέχοντα ύλες των 4^ο και 10^ο θα φορτώνονται σε κλειστά οχήματα ή σε σκεπασμένα οχήματα.

42 105-

42 110

Μεταφορά Εμπορευμάτων εις Χύμα

42 111

Υλεις της 5^ο, κόνις (σκόνη) από φίλτρα υφικαμίνων (6^ο(α)) και ύλες της 10^ο μπορούν να μεταφέρονται εις χύμα. Υλεις των 5^ο και 10^ο στη περίπτωση αυτή θα μεταφέρονται σε κλειστά οχήματα με μεταλλικό πηγμα, και κόνις από φίλτρα υφικαμίνων σε κλειστά οχήματα με μεταλλικό πηγμα ή σκεπασμένα οχήματα με μεταλλικό πηγμα.

42 112-

42 120

Μεταφορά σε δεξαμενές

42 121

(1) Λευκός ή κίτρινος φώσφορος (I^ο) και νεωστλ-σβυσμένος ξυλάνθραξ, σε κατάσταση κόνις ή κόκκων, (8^ο) μπορούν να μεταφέρονται σε σταθερές δεξαμενές ή λυόμενες δεξαμενές.

(2) Λευκός ή κίτρινος φώσφορος (I^ο), αλκυλία αλουμινίου, αλογονίδια και υδρογονούχα αλκυλίων αλουμινίου (3^ο) και νεωστλ-σβυσμένος ξυλάνθραξ σε κατάσταση κόνις ή κόκκων,

(8^ο) μπορούν να μεταφέρονται σε δεξαμενο-CONTAINERS.

42 I22-

42 I27

Κενές δεξαμενές

42 I28

(I) Θα γίνονται δεκτές για μεταφορά, κενές σταθερές δεξαμενές και κενές λυόμενες δεξαμενές που περιέχουν φώσφορον της I^ο ελτε:

- θα πληρούνται με άζωτον, οπότε το έγγραφο μεταφοράς θα πρέπει να πιστοποιεί ότι η δεξαμενή, μετά το κλείσιμο, είναι αεριο-στεγανή· ή
- θα πληρούνται μέχρι λιγότερο του 96 τοις εκατόν της χωρητικότητάς τους με νερό μεταξύ 1ης Οκτωβρίου και 31ης Μαρτίου το νερό αυτό θα περιέχει, ~~σε~~ συμπύκνωση που δεν θα επιτρέπει το νερό να ψυχθεί διαρκούς της μεταφοράς, έναν ή περισσότερους μη-διαβρωτικούς αντιψυκτικούς άγοντας μη-υποκειμένους ~~σε~~ αντίδραση με τον φώσφορον.

(2) Δια δεξαμενο-CONTAINERS, βλέπε 2I2 I77 και 2I2 474.

42 I29-

42 I70

Πληρώματα οχημάτων· Επίβλεψη (Εποπτεία)

42 I7I

(I) Βοηθός οδηγού θα μεταφέρεται (υπάρχει) σε κάθε μονάδα μεταφοράς μεταφέροντας ύλες των I^ο, 2^ο, 3^ο και 4^ο.

(2) Οι διατάξεις του περιθωρίου IO I7I (2) θα ισχύουν μόνον δια τα κατωτέρω αναφερόμενα επικίνδυνα εμπορεύματα σε ποσότητες μη υπερβαίνουσες τις παρακάτω οριζόμενες:

- Ύλες των I^ο - 3^ο, κόνις ζιρκονίου της 6^ο(α) και μέταλλα πυροφορικού τύπου της 6^ο(δ): IO.000 KG.

42 172-

42 199

Άρθρο 2

Ειδικές Διατάξεις τις οποίες πρέπει να πληρούν
τα οχήματα και ο εξοπλισμός των

42 200-

42 250

Ηλεκτρικός εξοπλισμός

42 25I

Αι διατάξεις της Προσθήκης Β.2, περιθώριον 220 000,
 δεν θα ισχύουν για την μεταφοράν επικινδύνων υλών της Κλά-
 σεως 4.2.

42 252-

42 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

42 300-

42 399

(Ουδεμία ειδική διάταξη)

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωση, εκφόρ-
τωση και εξοπλισμόν

42 400-

42 402

Απαγόρευση μικτής φορτώσεως επί ενός οχήματος

42 403

(I) Ύλεις της Κλάσεως 4.2 κλεισμένες σε κόλα φέρον-
 τα ετικέτα ή δύο ετικέτες συμφώνως προς το μοντέλο Νο. 2Γ
 δεν θα φορτώνονται μαζί επί ενός οχήματος με ύλεις ή είδη
 των Κλάσεων Ια, Ιβ ή Ιγ κλεισμένα σε κόλα φέροντα ετικέτα
 ή δύο ετικέτες συμφώνως προς το Μοντέλο Νο.Ι.

(2) Ύλεις της 4^ο κλεισμένες σε κόλα φέροντα δύο 42 403
ετικέτες συμφώνως προς το μοντέλο Νο. 2Γ δεν θα φορτώνων- (Συνεχί-
ται μαζί σε ένα όχημα με:- ζεται)

(α) ύλεις των Κλάσεων 5.1 ή 5.2 κλεισμένες σε κόλα
φέροντα δύο ετικέτες συμφώνως προς το μοντέλο
Νο.3^ο ή με

(β) υγρά της Κλάσεως 8 κλεισμένα σε κόλα φέροντα
δύο ετικέτες συμφώνως προς το μοντέλο Νο.5.

42 404-

42 413

Χειρισμός και στοιβάδα

42 414

(1) Δοχεία και κόλα περιέχοντα ύλεις των 1^ο και 3^ο
δεν πρέπει να υποβάλλονται σε πρόσκρουση. Θα τοποθετούνται
κατά τέτοιο τρόπο εις το όχημα ώστε να μη μπορούν να ανα-
ποδογυρίσουν ή πέσουν ή μετατοπισθούν κατά οιονδήποτε
τρόπον.

(2) Η χρήση ευχερώς ευφλέκτων υλών για στοιβαζόμε-
να κόλα σε οχήματα απαγορεύεται.

42 415-

42 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσας την λειτουργίαν οχημάτων

Σήματα Οχημάτων

42 500

(1) Οι διατάξεις του περιθωρίου IO 500, παράγραφοι

(1) και (6), θα ισχύουν δια την μεταφοράν υλών των 1^ο έως
4^ο και 6^ο. Οι διατάξεις των παραγράφων (2) έως (5) θα ισχύ-
ουν επίσης για την μεταφοράν των υλών των αναφερομένων εις
την Προσθήκην Β.5.

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξα- 42 500
μενές, ακαθάριστες) που περιείχαν ύλες αναφερόμενες εις (Συνεχί-
την Προσθήκη Β.5 θα φέρουν επιπροσθέτως 675 500 ζεται)

πλευρές τους και πίσω ετικέτα συμφώνως προς το μοντέ-
λο Νο. 2Γ.

42 501-

42 599

Άρθρο 6

Μεταβατικές διατάξεις, ανακλήσεις, και
διατάξεις ειδικές για ωρισμένες χώρες

42 600-

42 999

(Ουδεμία ειδική διάταξη)

Κλάση 4.3

Ύλες που αναδίδουν εύφλεκτα αέρια σε επαφή με
το νερό

Άρθρο Ι

Γενικά

43 000-

43 103

Τύποι Οχημάτων

43 104

Επικινδυνες ύλες της Κλάσεως 4.3 σε κόλα θα φορ-
τώνονται σε κλειστά ή σκεπασμένα οχήματα. Εν πούτοις, δο-
χεία περιέχοντα ανθρακασβέστιον (2^ο (α)) μπορούν επίσης να
φορτώνονται σε ανοικτά οχήματα.

43 105-

43 110

Μεταφορά Εμπορευμάτων εις χύμα

43 III

Ανθρακασβέστιον ($2^{\circ}(\alpha)$) και πυριτικόν ασβέστιον σε βάλους ($2^{\circ}(\delta)$) μπορούν να μεταφέρονται εις χύμα εις οχήματα με κινητά ή σταθερά δοχεία τα οποία πρέπει να πληρούν τους γενικούς όρους συσκευασίας τους διαλαμβανόμενους εις το περιθώριον 2472(I), (2) και (3). Τα τοιαύτα δοχεία πρέπει να είναι έτσι σχεδιασμένα ώστε τα στόμια τα χρησιμοποιούμενα δια την φόρτωσιν ή εκφόρτωσιν να μπορούν να κλείουν ερμητικώς.

43 II2-

43 II7

Μεταφορά σε CONTAINERS

43 II8

Μικρά CONTAINERS χρησιμοποιούμενα δια την μεταφορά εις χύμα των υλών των αναφερομένων εις το περιθώριον 43 III θα συμμορφούνται προς τις διατάξεις του περιθωρίου τούτου που διέπουν τα οχήματα και τα δοχεία των οχημάτων.

43 II9-

43 I20

Μεταφορά σε δεξαμενές

43 I2I

(I) Νάτριο, κάλιο, και κράματα νατρίου ή καλίου ($I^{\circ}(\alpha)$), και τριχλωριούχο υδρογονούχο πυρίτιο (TRICHLORO-SILANE) (SILICOCHLOROFORM) (4°), μπορούν να μεταφέρονται σε σταθερές δεξαμενές ή λυόμενες δεξαμενές.

(2) Οι ύλες αυτές μπορούν επίσης να μεταφέρονται σε δεξαμενο-CONTAINERS.

43 I22-

43 I27

Κενές δεξαμενές

43 I28

(I) Για να γίνουν δεκτές για μεταφορά, οι κενές δεξαμενές και κενές λυόμενες δεξαμενές που περιέχον νάτριο, κάλιο ή κράματα νατρίου και καλίου ($1^{\circ}(\alpha)$) θα κλειώνονται κατά τον αυτόν τρόπον και με τον αυτόν βαθμόν στεγανότητας ως εάν ήσαν πλήρεις.

(2) Για δεξαμενο-CONTAINERS, βλέπε περιθώριο 2I2 I77.

43 I29-

43 I70

Πληρώματα οχημάτων· Επίβλεψις (Βποπτεία)

43 I7I

(I) Βοηθός οδηγού θα μεταφέρεται (υπάρχει) σε κάθε μονάδα μεταφοράς μεταφέρουσα ύλες της Κλάσεως 4.3 πλην ανθρακασβεστίου ($2^{\circ}(\alpha)$) καθ πυριτινού ασβεστίου ($2^{\circ}(\delta)$).

(2) Αι διατάξεις του περιθωρίου IO I7I (2) θα ισχύουν μόνον δια τα κάτωθι αναφερόμενα επικίνδυνα εμπορεύματα σε ποσότητες υπερβαίνουσες τις κατωτέρω οριζόμενες:

- Αλκαλικά μέταλλα και ύλες περιέχουσες αλκαλικά μέταλλα της 1° , αλκαλικά μεταλλικά υδρογονούχα της $2^{\circ}(\beta)$ και τριχλωριούχο υδρογονούχο πυρίτιο (TRICHLOROSILANE) (SILICOCHLOROFORM) της 4° : 10.000 KG.

43 I72-

43 I99

Άρθρο 2

Ειδικές διατάξεις που πρέπει να πληρούν τα οχήματα

και ο εξοπλισμός αυτών

43 200-

(ουδεμία ειδική διάταξις)

43 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

43 300-

43 399

(Ουδεμία ειδική διάταξη)

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωση, εκφόρ-
τωση και χειρισμόν

43 400-

43 402

Απαγόρευση μικτής φορτώσεως επί ενός οχήματος

43 403

Υλεις της Κλάσεως 4.3 δεν θα φορτώνονται μαζί σε όχημα με ύλεις ή είδη των Κλάσεων Ια, Ιβ ή Ιγ κλεισμένα σε κόλα φέροντα ετικέτα ή δύο ετικέτες συμρώνως προς το μοντέλο Νο.Ι.

43 404-

43 413

Χειρισμός και στοιβάδα

43 414

Τα κόλα θα στοιβάζονται στο όχημα κατά τρόπον ώστε να μη μπορούν να μετατοπισθούν. Θα προστατεύονται κατά οιασδήποτε τριβής ή προσκρούσεως. Κατά τον χειρισμόν των κόλων, ειδικά μέτρα θα λαμβάνονται ώστε να αποφευχθεί η επαφή τους με το νερό.

43 415-

43 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσες την λειτουργίαν οχημάτωνΣήματα Οχημάτων

43 500

(Ι) Οι διατάξεις του περιθωρίου ΙΟ 500, παράγραφοι (Ι) και (6), θα ισχύουν για την μεταφοράν επικινδύνων υλών της Κλάσεως 4.3. Οι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν για την μεταφοράν των υλών των αναφερομένων εις την Προσθήκη Β.5.

43 500
(Συνεχίζεται)

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμενές, ακαθάριστες) που περιέχον ύλες αναφερόμενες στην Προσθήκη Β.5 θα φέρουν επιπροσθέτως στις δύο πλευρές τους και πίσω ετικέτα σύμφωνα προς το μοντέλο Νο. 2Δ.

43 50I-
43 599

Άρθρο 6

Μεταβατικές Διατάξεις, ανακλήσεις, και
διατάξεις ειδικές για ωρισμένες χώρες

43 600-
50 999

(Ουδεμία ειδική διάταξη)

Κλάση 4.Ι

Οξειδωτικές Ύλες

Άρθρο Ι

Γενικά

5I 000-
5I II0
5I III

Μεταφορά εις χύμα

(Ι) Ύλες των 4^ο έως 6^ο και 7^ο (α) και (β) μπορούν να μεταφέρονται εις χύμα ως πλήρες φορτίο.

(2) Ύλες των 4^ο και 5^ο θα μεταφέρονται σε ανοικτά

μεταλλικά "οχήματα κάδοι" (VAT VEHICLES) (VEHICULES CUVES) 5I III καλυμμένα με αδιαπέραστο μη-εύφλεκτο κάλυμμα, ή σε μεταλ- (Συνεχίζεται)
 λικά CONTAINERS (βλέπε περιθώριο 5I II8(2)).

(3) Ύλεις των 6^ο και 7^ο (α) και (β) θα μεταφέρονται σε κλειστά οχήματα ή σε οχήματα καλυμμένα με αδιαπέραστο μη-εύφλεκτο κάλυμμα, και τα οχήματα θα είναι έτσι κατασκευασμένα ώστε είτε η ύλη δεν θα μπορεί να έλθει σε επαφή με το ξύλο ή οιοδήποτε άλλο εύφλεκτο υλικό είτε η ολική επιφάνεια του δαπέδου και των τοιχωμάτων, εάν εύφλεκτος, θα έχει εφοδιασθεί με αδιαπέραστο και μη-εύφλεκτο επίστρωμα ή θα έχει κατεργασθεί με ύλην καθιστώσα το ξύλο άκαυστον (μη-εύφλεκτον).

5I II2-

5I II7

Μεταφορά σε CONTAINERS

5I II8

(I) Εύθραυστα κόλα εντός της εννοίας του περιθωρίου IO IO2(I) και κόλα περιέχοντα υπεροξειδίο του υδρογόνου ή διαλύματα υπεροξειδίου του υδρογόνου (I^ο) ή τετρανιτρομεθάνην (2^ο) δεν επιτρέπεται να μεταφέρονται σε μικρά CONTAINERS.

(2) CONTAINERS προοριζόμενα δια την μεταφοράν υλών των 4^ο και 5^ο θα είναι κατασκευασμένα από μέταλλο, θα είναι στεγανά, θα καλύπτονται με πώμα ή αδιαπέραστο κάλυμμα ανθεκτικόν εις την καύσιν, και θα είναι κατασκευασμένα έτσι ώστε η ύλη η υπάρχουσα εις τα CONTAINERS να μη μπορεί να έλθει σε επαφή με ξύλο ή οιοδήποτε άλλο καύσιμον (εύφλεκτον) υλικόν.

(3) CONTAINERS προοριζόμενα δια την μεταφοράν υλών της 6^ο και 7^ο (α) και (β) θα καλύπτονται με πώμα ή αδιαπέραστο

καλυμμα ανθεκτικόν εις την καύσιν, και θα είναι κατασκευασμένα έτσι ώστε η ύλη η υπάρχουσα εις τα CONTAINERS να μη μπορεί να έλθει σε επαφή με το ξύλο ή οιοδήποτε άλλο καύσιμο (εύφλεκτο) υλικό ή η ολική επιφάνεια του δαπέδου και των τοιχωμάτων, εάν είναι κατασκευασμένα από ξύλο, να έχει εφοδιασθεί με αδιαπέραστον επίστρωση ανθεκτικήν εις την καύσιν ή να έχει επιχρισθεί με πυριτικόν νάτριον ή παρεμφερή ύλην.

5I 118

(Συνεχίζεται)

5I 119-

5I 120

Μεταφορά σε δεξαμενές

5I 121

(I) Ύλεις των I^ο έως 3^ο διαλύματα της 4^ο (επίσης κονιοποιημένο χλωριούχο νάτριο σε υγρή ή ξηρή κατάσταση) και θερμά υδάτινα διαλύματα νιτρικού αμμωνίου της 6^ο (α) σε συμπύκνωσιν άνω του 80 ετοι εκατόν αλλά όχι άνω του 93 ετοι εκατόν υπό τον όρον ότι:-

- (α) η τιμή pH, μετρούμενη εις 10 ετοι εκατόν υδάτινον διάλυμα της μεταφερομένης ύλης, είναι μεταξύ 5 και 7, και ότι
- (β) τα διαλύματα τα μη περιέχοντα οιοδήποτε καύσιμον (εύφλεκτον) ύλην σε ποσότητα μεγαλύτερη του 0.2 ετοι εκατόν ή οιοδήποτε ένωση χλωρίου σε τοιαύτη ποσότητα ώστε το εις χλώριον περιεχόμενον να υπερβάλει το 0.02 ετοι εκατόν, μπορούν να μεταφέρονται σε σταθερές δεξαμενές και λυόμενες δεξαμενές.

(2) Οι ύλεις των I^ο έως 3^ο, τα διαλύματα της 4^ο και το υγρόν χλωριούχον νάτριο της κλάσεως 5.I μπορούν να

μεταφέρονται σε δεξαμενο-CONTAINERS.

5I I2I

(3) Διαλύματα της 4^ο(α) δύναται να μεταφέρονται σε ενισχυμένες-πλαστικές δεξαμενές συμπαρούμενες προς τις διατάξεις της Προσθήκης Β.Ιγ.

5I I22-

5I I27

Κενές δεξαμενές

5I I28

(I) Δια να γίνουν δεκτές δια μεταφοράν, κενές σταθερές δεξαμενές και κενές λυόμενες δεξαμενές που περιείχαν ύλες της Κλάσεως 5.Ι, θα είναι κλεισμένες κατά τον αυτόν τρόπον και θα είναι του αυτού βαθμού στεγανές ως εάν ήσαν πλήρεις.

(2) Δια δεξαμενο-CONTAINERS, βλέπε περιθώριον 2I2 I77.

(3) Κενές σταθερές δεξαμενές και κενές λυόμενες δεξαμενές που περιείχον χλωρικόν άλας, υπερχλωρικόν άλας, χλωρίτην (4^ο και 5^ο), ανδργανον αζωτούχον νιτρικόν άλας (8^ο) ή ύλες των 9^ο και 10^ο και έχουν υπολείμματα εκ προηγουμένου περιεχομένου αυτών προσκολλημένα εις το εξωτερικόν μέρος αυτών δεν θα γίνονται δεκτά για μεταφοράν.

5I I29-

5I I70

Πληρώματα οχημάτων: Επίβλεψις (Εποπτεία)

5I I7I

(I) Βοηθός οδηγού θα μεταφέρεται (υπάρχει) σε κάθε μονάδα μεταφοράς μεταφέρουσα ύλες της Κλάσεως 5.Ι, 1^ο, 2^ο και 3^ο.

((2)) Οι διατάξεις του περιθωρίου 10 I7I (2) θα ισχύουν μόνον για τα εξής αναφερόμενα επικίνδυνα εμπορεύματα σε ποσότητες υπερβαίνουσες τις κατωτέρω οριζόμενες:

- Ύλεις των I^ο έως 3^ο και 9^ο(α) : 10.000 KG.

5I 172-

5I 199

Άρθρο 2

Ειδικοί όροι τους οποίους πρέπει να πληρούν τα

οχήματα και ο εξοπλισμός των

(Ουδείς ειδικός όρος)

5I 200-

5I 215

Κουβούκλιον

5I 216

Αι κατωτέρω διατάξεις θα ισχύουν ~~για~~ την μεταφοράν υγρών της I^ο σε σταθερές δεξαμενές ή λυόμενες δεξαμενές:-

(1) εκτός εάν το κουβούκλιο του οδηγού είναι κατασκευασμένο από πυρίμαχον ύλην, ένα προστατευτικόν μεταλλικόν κάλυμμα του αυτού πλάτους με το πλάτος της δεξαμενής θα εφαρμόζεται εις το πίσω μέρος του κουβουκλίου.

(2) οιαδήποτε παράθυρα εις το πίσω μέρος του κουβουκλίου του οδηγού ή εις το μεταλλικό προστατευτικό κάλυμμα θα είναι ερμητικώς κλεισμένα. Θα είναι κατασκευασμένα με πυρίμαχον ύαλον ασφαλείας και θα έχουν πυρίμαχα πλαίσια και

Πήγμα (καρότσα) Οχήματος

5I 217

Για την μεταφοράν υγρών της I^ο εις σταθερές δεξαμενές ή εις λυόμενες δεξαμενές, ξύλο (εκτός εάν καλύπτονται με μέταλλο ή κατάλληλη συνθετική ύλη) δεν θα χρησιμοποιείται ~~για~~ την κατασκευή οιαυδήποτε εξαρτήματος του οχήματος κειμένου εις το πίσω μέρος του προστατευτικού καλύμματος του προβλεπομένου υπό του περιθωρίου 5I 216 (I).

5I 218-

5I 230

Κινητήρας (Μηχανή)

5I 231

Για τη μεταφορά υγρών της I^ο σε σταθερές δεξαμενές ή σε λυόμενες δεξαμενές, ο κινητήρας (μηχανή) και (εκτός οσάκις το όχημα κινείται με κινητήρα ντήζελ) η δεξαμενή καυσίμου θα είναι τοποθετημένα εμπροσθεν του πίσω τοιχώματος του κουβουκλίου του οδηγού ή του προστατευτικού καλύμματος, ή εάν είναι άλλώς τοποθετημένα θα προστατεύονται ειδικώς.

5I 232-

5I 259

Ειδικός Εξοπλισμός

5I 260

Οχήματα μεταφέροντα υγρά της I^ο σε σταθερές δεξαμενές ή λυόμενες δεξαμενές θα φέρουν σ' αυτά δεξαμενήν έχουσα χωρητικότητα περίπου 30 λιτρών νερού. Η δεξαμενή νερού θα είναι τοποθετημένη όσο είναι δυνατόν ασφαλώς, και θα αναμιχθεί εις το νερό το οποίον περιέχει ένα αντιψυκτικό παρασκεύασμα το οποίον δεν προσβάλλει το δέρμα ή τις βλενογόνους μεμβράνες και δεν αντιδρά χημικώς με το φορτίο.

5I 261-

5I 299

Άρθρο 3Διατάξεις Γενικών Υπηρεσιών

5I 300-

5I 302

Προφυλάξεις ~~σε~~ σχέση με αναλώσιμα ελδη

5I 303

Εις οχήματα και εις τρόπους φορτώσεως, εκφορτώσεως ή μεταφορτώσεως, τετρανιτρομεθάνη της 2^ο, χλωριούχον βάριο της 4^ο (α), υπερχλωριούχον βάριο της 4^ο (β), νι-

τρικάν βάριον και νιτρικὸς μόλυβδος τῆς 7^ο (γ), ανόργανα
νιτρῶδη ἄλατα τῆς 8^ο, διοξειδίου βαρίου τῆς 9^ο (β) και
υπερμαγγανικόν βάριον τῆς 9^ο (γ) θὰ τηροῦνται μακρὰν ἀπὸ
τρόφιμα και λοιπὰ ἀναλώσιμα εἶδη.

5I 303
(Συνεχι-

5I 304-
5I 399

Ἄρθρο 4

Ειδικαὶ Διατάξεις διέπουσαι τὴν φόρτωσιν, εκφόρ- τωσιν και χειρισμόν

5I 400-
5I 402

Απαγόρευση μικτῆς φορτώσεως ἐπὶ ἐνὸς οχήματος

5I 403

(1) Ὑλεις τῆς Κλάσεως 5.I κλεισμένες σε κὸλα φέροντα ετι-
κέτα ἢ δύο ετικέτες συμφώνως πρὸς τὸ μοντέλο Νο. 3 δὲν θὰ
φορτώνωνται μαζὶ σε ἓνα ὄχημα με ὕλεις ἢ εἶδη τῶν Κλάσεων
Iα, Iβ ἢ Iγ κλεισμένα σε κὸλα φέροντα ετικέτα ἢ δύο ετικέ-
τες συμφώνως πρὸς τὸ μοντέλο Νο. I.

(2) Ὑλεις τῆς Κλάσεως 5.I κλεισμένες σε κὸλα φέροντα δύο
ετικέτες συμφώνως πρὸς τὸ μοντέλο Νο. 3 δὲν θὰ φορτώνον-
ται μαζὶ σε ἓνα ὄχημα με:-

- (α) ὕλεις τῶν Κλάσεων 3, 4.I ἢ 4.2 κλεισμένες σε κὸλα
φέροντα δύο ετικέτες συμφώνως πρὸς τὰ μοντέλα
No. 2A, 2B ἢ 2Γ* ἢ με
- (β) ὑγρά τῆς Κλάσεως 8 κλεισμένα σε κὸλα φέροντα δύο
ετικέτες συμφώνως πρὸς τὸ μοντέλο Νο. 5.

5I 404-
5I 413

Χειρισμός και στοιβάσλα

5I 4I4

(I) Κόλλα περιέχοντα ύλες της Κλάσεως 5.I θα τοποθετούνται επίπεδα (Ισα), επί των πυθμένων τους. Επιπροσθέτως, δοχεία περιέχοντα υγρά της Κλάσεως 5.I θα σφηνώνονται κατά τέτοιο τρόπον ώστε να μη μπορούν να αναποδογυρίσουν.

(2) Η χρήση ευχερώς ευφλέκτων υλών δια στοιβαζόμενα κόλλα σε οχήματα απαγορεύεται.

Καθάρισμα μετά την εκφόρτωση

5I 4I5

Μετά την εκφόρτωση, οχήματα τα οποία μετέφεραν ύλες των 4^ο έως 6^ο και 7^ο (α) και (β) εις χύμα θα πλένονται με άφθονο νερό.

5I 4I6-

5I 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσες την λειτουργίαν
οχημάτων

Σήματα Οχημάτων

5I 500

(I) Αι διατάξεις του περίθωρου IO 500, παράγραφοι (I) και (6) θα ισχύουν δια την μεταφοράν των υλών των I^ο, 2^ο, 3^ο των χλωρικών αλάτων και ζιζανιοκτόνων ανοργάνων χλωρικών αλάτων της 4^ο (α), υπερχλωρικού βαρίου της 4^ο (β), υλών των 8^ο και 9^ο (β), και υπερμαγγανικού βαρίου της 9^ο (γ). Αι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν επίσης δια την μεταφοράν των υλών των αναφερομένων εις την Προσθήκη Β.5.

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμενές, ακαθάριστες) που περιείχαν ύλες αναγραφόμενες στην Προσθήκη

Β.5 θα φέρουν επιπροσθέτως ~~σε~~ ~~υπο~~ πλευρές 5I 500
των και στο πίσω μέρος ετικέτα συμφώνως προς το μοντέλο (Συνεχίζε-
No. 3. ται)

5I 50I-

5I 999

Άρθρο 6

Μεταβατικές Διατάξεις, αναλήψεις, και
διατάξεις ειδικές για ωρισμένες χώρες

5I 600-

(Ουδεμία ειδική διάταξη)

5I 999

Κλάση 5.2Οργανικά ΥπεροξειδίαΆρθρον ΙΓενικά

52.000-

52.103

Τύποι Οχημάτων

52.104

(1) Ύλεις των Ι^ο έως 22^ο, 30^ο και 31^ο θα φορτώνονται σε κλειστά ή σκεπασμένα οχήματα. Ύλεις των 45^ο έως 55^ο κλεισμένες σε προστατευτικές συσκευασίες γεμάτες με ψυκτικό υγρό θα φορτώνονται σε κλειστά ή σκεπασμένα οχήματα. Εάν τα χρησιμοποιούμενα οχήματα είναι κλειστά θα έχουν καταλλήλως εξαερισθεί. Σκεπασμένα οχήματα θα είναι εφοδιασμένα με σανίδες στα πλευρά (πλαϊνά) και στο πίσω μέρος. Τα σκεπάσματα των οχημάτων αυτών θα είναι από αδιάβροχο υλικό που δεν θα είναι ευχερώς εύφλεκτο.

(2) Οσάνκις, λόγω των διατάξεων του περιθωρίου 52.400, (ψυκτικά) οι ύλεις απαιτείται να μεταφέρονται σε μονωμένα, κατεψυγμένα ή μηχανικής-καταψύξεως οχήματα, τα οχήματα αυτά θα ικανοποιούν τους όρους του περιθωρίου 52.248.

52.105-

52.117

Μεταφορά σε εμπορευματοκιβώτια (CONTAINERS)

52.118

Εύθραυστα κόλα εντός της εννοίας του περιθωρίου 10.102(1) δεν θα μεταφέρονται σε μικρά CONTAINERS.

52.119-

52.120

Μεταφορά σε δεξαμενές

52.121

(1) Ύλεις των 1° , 10° , 14° , 15° και 18° θα μεταφέρονται σε σταθερές δεξαμενές και δυνάμενες να αφαιρεθούν δεξαμενές.

(2) Οι ύλεις αυτές μπορούν επίσης να μεταφέρονται σε CONTAINERS δεξαμενών.

52.122-

Κενές δεξαμενές

52.127

(1) Για να γίνονται δεκτές για μεταφορά, κενές σταθερές και κενές δυνάμενες να αφαιρεθούν δεξαμενές της 99° θα κλείνουν κατά τον αυτόν τρόπον και θα είναι του αυτού βαθμού στεγανές σάν νά ήσαν γεμάτες.

52.128

(2) Για CONTAINERS δεξαμενών, βλέπε περιθώριο 212.177.

52.129

52.170

Πληρώματα Οχημάτων: Εποπτεία (Επίβλεψη)

52.171

(1) Βοηθόν οδηγού θα φέρει κάθε μονάδα μεταφοράς φορτωμένη με ύλεις των $46^{\circ}(\alpha)$, $47^{\circ}(\alpha)$ και $49^{\circ}(\alpha)$ και κάθε μονάδα μεταφοράς φορτωμένη με άνω των 2.000 KG ύλεις των 45° , $46^{\circ}(\beta)$ και (γ) , 50° , 51° έως 53° και 55° .

(2) Οι διατάξεις του περιθωρίου 10.171(2) θα ισχύουν μόνον για επικίνδυνα εμπορεύματα αναγραφόμενα παρακάτω σε ποσότητες υπερβαίνουσες τις οριζόμενες παρακάτω:-

Ομάδα Α. Ύλεις των 4° , $8^{\circ}(\alpha)$, $9^{\circ}(\alpha)$, $13^{\circ}(\alpha)$ και

$17^{\circ}(\alpha)$:

1.000 KG

Ομάδα Γ. Ύλεις των 35° :

1.000 KG

Ομάδα Ε. Ύλεις των $46^{\circ}(\alpha)$, $47^{\circ}(\alpha)$ και

$49^{\circ}(\alpha)$:

100 KG

Υλεις των 45° , $46^{\circ}(\beta)$ και (γ) , $47^{\circ}(\beta)$,
 48° , $49^{\circ}(\beta)$, $50^{\circ}-55^{\circ}$:

2.000 KG

52.1729

52.199

Άρθρο 2

Ειδικές διατάξεις που πρέπει να πληρούν τα οχήματα
και ο εξοπλισμός τους

52.200-

52.247

Μονωμένα, φυκτικά και μηχανικής-καταψύξεως οχήματα χρη- 52.248
 σιμοποιούμενα ~~ένεκα~~ των διατάξεων του περιθωρίου 52.400
 θα πληρούν τους παρακάτω όρους:-

- (α) το χρησιμοποιούμενο όχημα θα είναι τέτοιο και έτσι εφοδιασμένο αναφορικά με τη μόνωσή του και τη πηγή ψύξεως ώστε η ανώτατη θερμοκρασία η προβλεπόμενη από το περιθώριο 52.400 να μην υπερβαίνεται αδιακρίτως ατμοσφαιρικών συνθηκών.
- (β) το όχημα θα είναι έτσι εφοδιασμένο ώστε οι ατμοί από τις μεταφερόμενες ύλεις να μη μπορούν να εισχωρήσουν εις το κουβούκλιον.
- (γ) κατάλληλος μηχανισμός θα υπάρχει που θα παρέχει τη δυνατότητα στη θερμοκρασία την ισχύουσα στον χώρο φορτώσεως να καθορίζεται οποτεδήποτε από τη θέση του οδηγού.
- (δ) ο χώρος φορτώσεως θα είναι εφοδιασμένος με οπές αερισμού (αεραγωγούς) ή βαλβίδες εξαερισμού εάν υπάρχει οιοσδήποτε κίνδυνος να εγερθεί επικίνδυνος υπερβολική πρесси. Θα λαμβάνεται μέριμνα οσάντις είναι απαραίτητον να εξασφαλισθεί ότι η κατάψυξη δεν εξασθενείται από τις

οπές αερισμού ή βαλβίδες εξαερισμού.

(ε) το χρησιμοποιούμενο ψυκτικό υγρό δεν θα είναι εύφλεκτο.

(στ) η συσκευή καταψύξεως μηχανικώς-ψυχομένου οχήματος θα είναι ικανή να λειτουργεί ανεξάρτητα της μηχανής που χρησιμοποιείται για να κινεί το όχημα.

Άρθρο 3

Γενικές Διατάξεις Σέρβις

(δεν υπάρχουν ειδικές διατάξεις)

52.300-

52.399

Άρθρο 4

Ειδικές διατάξεις αφορώσες την φόρτωση, εκφόρτωση και τον χειρισμόν

Μέθοδος αποστολής και περιορισμοί επί της προώθησεως

52.400

(I) Οι όλες της Ομάδος Ε θα προωθούνται κατά τέτοιο τρόπο ώστε να μην υπερβαίνονται οι παρακάτω σημειούμενες θερμοκρασίες του περιβάλλοντος:

| | | | |
|----------------------------|---|---------------------|--------|
| όλες της 45° | : | ανώτατη θερμοκρασία | ≠ 10°C |
| όλες της 46° (α) | : | " " | - 10°C |
| όλες των 46° (β) και (γ) | : | " " | - 10°C |
| όλες της 47° (α) | : | " " | - 10°C |
| όλες της 47° (β) | : | " " | - 10°C |
| όλες της 48° | : | " " | ≠ 2°C |
| όλες της 49° (α) | : | " " | - 10°C |
| όλες της 49° (β) | : | " " | - 10°C |
| όλες της " με PHLEGMATIZER | : | " " | ≠ 2°C |
| όλες της " με διαλυτικό | : | " " | - 5°C |

| | | | |
|--------------|---|---------------------|-------|
| ύλες της 50° | : | ανώτατη θερμοκρασία | 0°C |
| ύλες της 51° | : | " " | 0°C |
| ύλες της 52° | : | " " | +20°C |
| ύλες της 53° | : | " " | -10°C |
| ύλες της 54° | : | " " | +20°C |
| ύλες της 55° | : | " " | +10°C |

(2) Οσάκις ύλες της Ομάδος Ε δεν μεταφέρονται σε μηχανικώς-ψυχόμενα οχήματα, η ποσότητα του ψυκτικού εις την προστατευτικήν συσκευασίαν θα είναι τέτοιας αναλογίας ώστε οι θερμοκρασίες που ορίζονται στην ~~απαραγόμενη~~ παράγραφον (Ι) δεν υπερβαίνονται οπότεδήποτε διαρκούσης της μεταφοράς, εις τον δρόν δε αυτόν περιλαμβάνονται η φόρτωση και η εκφόρτωση.

(3) Η χρήση υγρού αέρα ή υγρού οξυγόνου ως ψυκτικού 52.400
απαγορεύεται. (Συνεχίζεται)

(4) Η θερμοκρασία της ψύξεως θα επιλέγεται κατά τρόπον ώστε να αποφεύγεται οιοσδήποτε κίνδυνος που θα ήτο δυνατόν να εγερθεί εκ του χωρισμού των φάσεων.

Όριοι μεταφερομένων ποσοτήτων 52.401

Μία μονάδα μεταφοράς δεν θα μεταφέρει άνω των 750 KG ύλες των 46°(α), 47°(α) και 49°(α), ούτε άνω των 5.000 KG ύλες των 45°, 46°(β) και (γ), 47°(β), 48°, 49°(β), 50° έως 53° και 55°, ούτε άνω των 10.000 KG ύλες της 54°.

52.402

Απαγόρευση μικτής φορτώσεως σ' ένα όχημα 52.403

Ύλες της Κλάσεως 5.2 δεν θα φορτώνονται μαζί σ' ένα όχημα με:

(α) ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ κλεισμένες σε

κδλα φέροντα ετικέττα ή δύο ετικέττες 52.403

σύμφωνα προς το μοντέλο Νο.Ι* με (Συνεχίζεται)

(β) ύλες των Κλάσεων 3, 4.Ι ή 4.2 κλεισμένες σε

κδλα φέροντα δύο ετικέττες σύμφωνα προς τα
μοντέλα 2Α, 2Β ή 2C: ή με

(γ) υγρά της Κλάσεως 8 κλεισμένα σε κδλα φέροντα

δύο ετικέττες σύμφωνα προς το μοντέλο Νο.5.

52.404-

52.4I2

Καθάρισμα προ της φορτώσεως

52.4I3

Οχήματα για τη μεταφορά κδλων περιεχόντων ύλες της
Κλάσεως 5.2 θα καθαρίζονται προσεκτικά.

Χειρισμός και στοιβάδα

52.4I4

(I) Κδλα περιέχοντα ύλες της Κλάσεως 5.2 θα φορτώ-
νονται κατά τέτοιο τρόπο ώστε να μπορούν να ξεφορτώνονται
ένα ένα εις το σημείο του προορισμού χωρίς να είναι απα-
ραίτητο να τακτοποιηθεί εκ νέου το φορτίο.

(2) Κδλα περιέχοντα ύλες της Κλάσεως 5.2 θα κρατούν-
ται όρθια και θα είναι έτσι ασφαλισμένα και στερεωμένα
ώστε να μη μπορούν να αναποδογυρίσουν ή πέσουν. Θα προστα-
τεύονται κατά οιασδήποτε ζημίας που θα ήταν δυνατόν να προ-
κληθεί από άλλα κδλα.

(3) Η χρήση ευχερώς ευφλέκτων υλικών για τη στοιβάδα
των κδλων σε οχήματα απαγορεύεται.

(4) Κδλα περιέχοντα ύλες της Ομάδος E δεν θα τοποθετούν-
ται πάνω από άλλα εμπορεύματα* επιπροσθέτως, θα είναι έτσι
στοιβαγμένα ώστε να είναι ευχερώς προσιτά (ευκολοπλησιάζατα).

(5) Ύλεις της Ομάδας Β θα φορτώνονται και εκφορτώνονται χωρίς ενδοιάρμεση αποθήκευση, και σε περίπτωση (Συνεχίζεται) μεταφορτώσεως θα μεταφέρονται απ'ευθείας από το ένα όχημα στο άλλο. Οι προβλεπόμενες ανώτατες θερμοκρασίες δεν θα υπερβαίνονται διαρκούντος του τριούτου χειρισμού (βλέπε περιθώριο 52.400 (I)).

52.415-

52.499

Άρθρο 5

Ειδικές διατάξεις διέπουσες τη λειτουργία των οχημάτων

Σήματα Οχημάτων

52.500

(I) Οι διατάξεις του περιθωρίου IO.500, παράγραφοι (I) και (6), θα ισχύουν για τη μεταφορά επικινδύνων υλών της Κλάσεως 5.2. Οι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν για τις ύλες που αναγράφονται στη Προσθήκη Β.5.

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμενές, ακαθάριστες) που περιείχαν ύλες που αναγράφονται στη Προσθήκη Β.5 θα φέρουν επιπροσθέτως ~~αρις~~ δύο πλευρές τους και πίσω ετικέττα σύμφωνα προς το μοντέλο Νο.3.

52.501-

52.508

Διακοπές (μεταφοράς) περιωρισμένης διάρκειας ~~για~~ ανάγκες σέρβις

52.509

Διαρκούσης της μεταφοράς των υλών 46°(α), 47°(α) και 49°(α), διακοπές ~~για~~ ανάγκες σέρβις δεν θα πρέπει να γίνονται ~~καθόσον~~ είναι δυνατόν ~~ημείον~~ κατανημένων τόπων ή τόπων διαμονής. Μία διακοπή ~~ημείον~~ ενός τέτοιου τόπου δεν θα

παρατείνεται εκτός κατόπιν συμφωνίας με τις αρμόδιες 52.509
 αρχές. Ο αυτός κανόνας θα ισχύει οσάντις μία μονάδα μεταφο- (Συνεχί-
 ράς φορτώνεται με ύλες των 45°, 46° (β) και (γ), 48°, 49° ζεται)
 (β) και 50° έως 55° άνω των 2.000 KG.

52.510-
 52.599

Άρθρο 6

Μεταβατικές διατάξεις, αναλήψεις και
διατάξεις ειδικές για ωρισμένες χώρες

(Καμμία ειδική διάταξη)

52.600-
 60.999

Κλάση 6.I

Τοξικές Ύλες

Άρθρο I

Γενικά

6I.000-
 6I.II0

Μεταφορά εις χύμα

6I.III

(1) Ύλες των 4I° και 73° μπορούν να μεταφέρονται εις
 χύμα ως πλήρης φόρτωσις.

(2) Ύλες της 4I° θα μεταφέρονται σε κλειστά ή σκεπα-
 σμένα οχήματα και ύλες της 73° σε ανοικτά, σκεπασμένα ή με
 κινητή σκεπή οχήματα.

6I.II2-
 6I.II7

Μεταφορά σε CONTAINERS

6I.II8

Εύθραυστα κόλα εντός της έννοιας του περιθωρίου

ΙΟ.ΙΟ2(Ι) δεν μπορούν να μεταφέρονται σε μικρά CONTAINERS.

6Ι.ΙΙ9-

6Ι.Ι20

Μεταφορά σε δεξαμενές

6Ι.Ι2Ι

(Ι) Οι παρακάτω ύλες μπορούν να μεταφέρονται σε σταθερές δεξαμενές ή δυνάμενες να αφαιρεθούν δεξαμενές:

(α) οι άκρως τοξικές ύλες οι κατ'ονομασίαν αναγραφόμενες εις Ι^ο(β) έως 5^ο.

(β) οι τοξικές ύλες, οι μεταφερόμενες σε υγρά κατάσταση, των ΙΙ^ο(α)· Ι2^ο, (β) έως (ε)· Ι3^ο(β)· Ι4^ο· 52^ο· 8Ι^ο(α)· και 82^ο(α)· και ύλες εφάμιλλες με αυτές·

(γ) οι λοιπές τοξικές και επιβλαβείς ύλες οι μεταφερόμενες σε υγρά κατάσταση, των ΙΙ^ο έως Ι3^ο· 2Ι^ο έως 23^ο· 3Ι^ο, (β) και (γ)· 32^ο(β)· 6Ι^ο· 62^ο· 8Ι^ο έως 83^ο· και ύλες εφάμιλλες με αυτές· και

(δ) οι ~~σε~~ κόνιη ή κόνιους τοξικές και επιβλαβείς ύλες των 2Ι^ο έως 23^ο· 3Ι^ο(α)· 4Ι^ο· 62^ο· 7Ι^ο· έως 75^ο· 82^ο έως 84^ο· και ύλες εφάμιλλες με αυτές.

(2) Οι παρακάτω ύλες του περιθωρίου 260Ι μπορούν να μεταφέρονται σε δεξαμενο-CONTAINERS:

Ακρυλονιτρίλιο (2^ο(α)), ακετρονιτρίλιο (μεθυλοκυανίδιο) (2^ο(β)), υδάτινα διαλύματα αιθυλένιοιμίνης (3^ο), αλλυλικό χλωρίδιο (4^ο(α)), χλωρομυρμηκικό μεθύλιο (4^ο(β)), χλωρομυρμηκικό αιθύλιο (4^ο(γ)), 2-κυανοπροπάνιο-2-ΟΙ (ακετόνη κυανο-

4-δρόνη) (II⁰(α)), ανιλίνη (II⁰(β)), 1-χλωρο-2,
 3-εποξυπροπάνιο (επιχλωροϋδρόνη) (I2⁰(α)), 2,2-
 διχλωροδιαιθρλαιθέρας (χλωροαιθυλαιθέρας) 2-χλωρο-
 αιθυλαιθέρας) (I2⁰(στ)), αλλυλική αλκοόλη (I3⁰(α)),
 διμεθυλοθειϊκό άλας (DIMETHYL SULPHATE) (I3⁰(β)),
 φαινόλη (I3⁰(γ)), αλκυλια μόλυβδου (I4⁰), 2-βρωμο-
 φαινυλακετονιτρίλιο (βρωμοβενζυλιοκυανίδιο)(2I⁰(α)),
 χλωριούχος φαινυλκαρβυλαμίνη (PHENYL CARBYLAMINE
 CHLORIDE) (2I⁰(β)), 2,4-διισοκυανατοτουλουόλη (2I⁰(γ)),
 και ταμίγματα αυτής με 2,6-διισοκυανατοτουλουόλη
 τα οποία αφομοιώνονται με αυτήν), αλλυλικό ισοθειο-
 κυανικό άλας (2I⁰(δ)), χλωροανιλίνες (2I⁰(ε)), μονο-
 νιτροανιλίνες και δινιτροανιλίνες (2I⁰(στ)), ναφθη-
 λαμίνες (2I⁰(ζ)), 2,4-διαμινοτολουόλη (2I⁰(η)), δινι-
 τροβενζόλια (2I⁰(ι)), χλωρονιτροβενζόλια (2I⁰(κ)),
 μονονιτροτολουόλαι (2I⁰(λ)), δινιτροτολουόλαι (2I⁰(μ)),
 νιτροξυλένια (2I⁰(ν)), τολουϊδίνες (2I⁰(ο)), ξυλιδ-
 νες (2I⁰(π)), κρεζόλια (22⁰(α)), ξυλένια (XYLENOLS)
 (22⁰(β)), βρωμιούχο ξυλόλιο (23⁰(α)), χλωριούχο φαινα-
 κύλιο (W-χλωροακετοφαινόνη) (23⁰(β)), βρωμιούχο φαι-
 νακύλιο (W-βρωμοακετοφαινόνη) (23⁰(γ)), 4-χλωροάκετο-
 φαινόνη (μεθυλο P-χλωροφαινυλακετόνη) (23⁰(δ)), συμμε-
 τρική διχλωροακετόνη (23⁰(ε)), διαλύματα ανοργάνων
 κυανιδίων (3I⁰(β)), διβρωμιούχο αιθυλένιο (συμμετρικο-
 διβρωμοαιθάνιο) (6I⁰(α)) και τετραχλωριούχος άνθραξ,
 χλωροφόρμιο και χλωριούχο μεθυλένιο (τα οποία αφομοι-
 ούνται με αυτό), μεθυλο-χλωρο-οξικό άλας (METHYL
 CHLOROACETATE) (6I⁰(ε)), αιθυλο-χλωρο-οξικό άλας (6I⁰(στ))

χλωριούχο βενζύλιο (61°), τριχλωριούχο βενζόλιο το οποίο απομοιούται με τις ύλες της 62° , και ύλες και παρασκευάσματα χρησιμοποιούμενα ως παρασιτοκτόνα (81° - 83°). (Συνεχίζεται)

6I.I22-

6I.I26

Δεξαμενές

6I.I27

Το εξωτερικόν των δεξαμενών δεν πρέπει να έχει μολυνθεί με τοξικές ύλες.

Κενές Δεξαμενές

6I.I28

(1) Για να γίνονται δεκτές για μεταφορά, κενές σταθερές δεξαμενές και κενές δυνάμενες να αφαιρεθούν δεξαμενές δεν πρέπει να έχουν μολυνθεί εξωτερικώς από τοξικές ύλες· θα είναι κλεισμένες κατά τον ίδιο τρόπο και θα είναι του αυτού βαθμού στεγανές ως εάν ήσαν πλήρεις (γεμάτες).

(2) Για δεξαμενο-CONTAINERS, βλέπε περιθώριο 2I2.I77.

(3) Κενές δυνάμενες να αφαιρεθούν (αποσυνδεθούν) δεξαμενές και κενά δεξαμενο-CONTAINERS της 91° , εάν προωθηθούν όχι ως πλήρες φορτίο, θα φέρουν ετικέττες σύμφωνες προς το μοντέλο Νο.4 (βλέπε Παράρτημα Α, Προσθήκη Α.9).

6I.I29-

6I.I70

Πληρώματα οχημάτων· Εποπτεία (Επιβλεψις)

6I.I7I

(1) Βοηθόν οδηγού θα φέρει κάθε μονάδα μεταφοράς μεταφέρουσα άνω του ενός μετρικού τόννου υλών της Κλάσεως 6.I 1° έως 5° και 14° , ή άνω των 250 KG ευθραύστων κόλων περιεχόντων τις ύλες αυτές.

(2) Οι διατάξεις της παραγράφου IO.I7I(2) θα ισχύουν

μόνον επί των επικινδύνων εμπορευμάτων των αναγραφόμε- 6Ι.Ι7Ι
νων κατωτέρω σε ποσότητες υπερβαίνουσες τις οριζόμενες (Συνεχίζε-
ται)
παρακάτω:-

- Οι ύλες των Ι^ο - 5^ο : 1.000 KG

- Οι ύλες των ΙΙ^ο(α), Ι2^ο(α), (β) και (δ),
Ι3^ο(α) και (β), Ι4^ο και 8Ι^ο : 5.000 KG

6Ι.Ι72-

6Ι.Ι84

Γραπτές Οδηγίες

6Ι.Ι85

Οσάνκις μεταφέρονται ύλες της Ι4^ο, ή δοχεία που πε-
ριείχαν αυτές, το κείμενο των γραπτών οδηγιών θα καθορί-
ζει, μεταξύ άλλων, τα κάτωθι:-

"(Α) Προφυλάξεις που πρέπει να λαμβάνονται

Η μεταφερομένη ύλη είναι άκρως τοξική. ~~Σε~~ περί-
πτωση διαρροής εξ ενός των δοχείων πρέπει να λαμβάνονται
αι ακραίες προφυλάξεις:-

Ι.- αποφεύγετε:

- (α) την επαφή με το δέρμα·
- (β) την εισπνοή ατμών
- (γ) την εισαγωγήν του υγρού εις το στόμα·

2.- οσάνκις χειρίζεσθε βαρέλια ανοιγμένα ή καταστραμμένα ή βρεγμένα με υγρό, η χρήση των παρακάτω είναι υποχρεω- τική:-

- (α) αναπνευστικές συσκευές (αναπνευστήρες)·
- (β) χειροκτια (γάντια) λαστιχένια ή από ^{κάποια} κατάλληλη πλα-
στική ύλη,
- (γ) υποδήματα λαστιχένια ή από κάποια κατάλληλη πλαστική
ύλη.

Ξε περίπτωση σοβαρού ατυχήματος συνεπαγομένου 6Ι.Ι85 παρεμπόδιση της κυκλοφορίας εθνικής οδού, είναι ουσιώ- (Συνεχί- ζεται)
δες όπως τα αφινοδύμενα να καθαρίσουν το εμπόδιο πρόσω-
πα ειδοποιούνται περί του δυνατού κινδύνου.

(Β) Ενέργεια που πρέπει να παρθεί

Όλα τα πρακτικώς δυνατά μέτρα, συμπεριλαμβανομέ-
νης της χρήσεως των ειδοποιήσεων των αναφερομένων εις το
περιθώριον 6Ι.260, θα παίρνονται ώστε να κρατούνται τα πρό-
σωπα σε απόσταση όχι μικρότερη των 15 μέτρων από τον τόπον
του ατυχήματος· οι ειδοποιήσεις που περιέχονται στο κιβώ-
τιο εξαρτημάτων θα τοποθετούνται γύρω του κλεισίματος και
οι θεατές θα κρατούνται μακριά.

Οι αναπνευστικές συσκευές, γάντια και υποδήματα
θα παρέχουν την δυνατότητα σε ένα πρόσωπο να πλησιάσει το
φορτίο και επαληθεύσει τη κατάσταση του.

Εάν οποιοδήποτε από τα βαρέλια ανοίξει, θα πρέπει
να γίνουν τα παρακάτω:-

- (α) πρόσθετες αναπνευστικές συσκευές, γάντια και υποδήματα
με τα οποία θα εφοδιασθούν οι εργάτες πρέπει να προμη-
θευθούν επείγοντως·
- (β) βαρέλια που εξακολουθούν να είναι άθικτα πρέπει να τί-
θενται κατά μέρος·
- (γ) το υγρό το χυμένο στο δχημα ή στο έδαφος πρέπει να εξου-
δετερώνεται με άφθονο πλύσιμο με υδατινο διάλυμα υπερ-
μαγγανικού καλλίου (άγοντος εξουδετερώσεως, φιάλη του ο-
ποίου τηρείται εις το κιβώτιο εξαρτημάτων)· το διάλυμα
παρασκευάζεται ευχερώς ανακατεύοντες 0.5 KG υπερμαγγανι-
κού με 15 λίτρες νερό σ'ένα κάδο· το πλύσιμο θα πρέπει

να γίνεται πολλές φορές, διότι χρειάζονται 2 KG υπερ- 6I.185
μαγγανικού καλίου για να εξουδετερώσουν εξ ολοκλήρου (Συνε-
I KG της μεταφερομένης ύλης. χρίζε-
ται)

Οσάκις είναι πρακτικώς δυνατόν, ο καλλίτερος τρό-
πος απολυμάνσεως της περιοχής είναι να χύσει κανείς στο
χυμένο υγρό βενζίνη και το αναφλέξει.

(Γ) Σημαντική παρατήρηση

~~Σε~~ περίπτωση ατυχήματος, ένα από τα πρώτα μέτρα
που πρέπει να παρθούν είναι η γνωστοποίησή του δια τηλε-
γραφήματος ή τηλεφωνικώς ... (παραθέσετε ενταύθα τις διευ-
θύνσεις και τους τηλεφωνικούς αριθμούς των ιδρυμάτων που
πρέπει να ειδοποιηθούν σε κάθε χώρα στην εδαφική περιοχή
της οποίας πρόκειται να λάβει χώρα η μεταφορά).

Όχημα το ποπολό έχει μολυνθεί από τη μεταφερομένη
ύλη δεν θα τρίθεται και πάλιν σε υπηρεσία μέχρις απολυμάν-
σεως του υπό την επίβλεψήν του αρμοδίου προσώπου. Οιαδή-
ποτε ξύλινα εξαρτήματα του οχήματος τα οποία προσβλήθησαν
από τη μεταφερόμενη ύλη θα αφαιρούνται και καίονται."

6I.186-

6I.199

Άρθρο 2

Ειδικοί όροι τους οποίους πρέπει να πληρούν
τα οχήματα και ο εξοπλισμός τους

6I.200-

6I.239

Πυροσβεστικές συσκευές

6I.240

Οι διατάξεις που περιθωρίου IO.240(I)(β) και (3)
δεν θα ισχύουν για τη μεταφορά επικινδύνων υλών της Κλά-
σεως 6.I.

6I.24I-

6I.250

Ηλεκτρικός Εξοπλισμός

6I.25I

(I) Οι διατάξεις της Προσθήκης Β.2, περιθώριο 220.000, δεν θα ισχύουν για τη μεταφορά επικινδύνων υλών της Κλάσεως 6.I.

(2) Εν τούτοις, οχήματα μεταφέροντα υγρά της I4^ο σε σταθερές δεξαμενές ή δυνάμενες να αφαιρεθούν δεξαμενές θα είναι εφοδιασμένα με διακόπτην ο οποίος παρέχει την δυνατότητα ολόκληρο το ηλεκτρικό κύκλωμα να ανοιγεί. Ο διακόπτης θα ευρίσκεται πλησίον των συσσωρευτών. Ο ηλεκτρικός εξοπλισμός θα ικανοποιεί τις διατάξεις του περιθωρίου 220.000(2)

(γ) 2.

6I.252-

6I.259

Ειδικός εξοπλισμός

6I.260

Όσakis μεταφέρονται όλες της I4^ο ή δοχεία που περιείχαν αυτές, ο οδηγός οφείλει, όταν του δίδουν το έγγραφο μεταφοράς, να του δίδουν ταυτοχρόνως φορητόν κιβώτιον εξαρτημάτων εφοδιασμένον με χειρολαβήν και περιέχον:-

- τρία αντίγραφα των γραπτών οδηγιών των οριζουσών την ενέργειαν που πρέπει να παρθεί σε περίπτωση ατυχήματος ή περιστατικού λαμβάνοντος χώραν διακοπής της μεταφοράς (βλέπε περιθώριο 6I.185)·
- δύο ζεύγη γάντια και δύο ζεύγη υποδήματα λαστιχένια ή από κάποια κατάλληλη πλαστική ύλη·

- δύο αναπνευστικές συσκευές με φυσιγγιον ενεργού ξυλάνθρακος χωρητικότητας 500 cm^3 . (Συνεχίζεται)
- μία φιάλη (κατασκευασμένη από βακελίτην, χπ.χ.) περιέχουσα 2 KG υπερμαγγανικού καλίου και φέρουσα την επιγραφήν "διαλύσατε δε ... προ της χρήσεως".
- έξι ειδοποιήσεις επί ινοσανίδας φέρουσες την επιγραφή "ΚΙΝΔΥΝΟΣ - χυμένο πτητικό δηλητήριο. Μη πλησιάζετε χωρίς αναπνευστική συσκευή" στη γλώσσα ή στις γλώσσες εκάστης των χωρών στην εδαφική περιοχή της οποίας λαμβάνει χώραν η μεταφορά.

Το κιβώτιο τούτο των εξαρτημάτων πρέπει να τηρείται στη θέση του οδηγού σε χώρο όπου εύκολα μπορεί να ευρεθεί από την ομάδα απολυμάνσεως.

6I.26I-

6I.299

Άρθρο 3

Γενικές Διατάξεις Σέρβις

6I.300-

6I.30I

Ενέργεια που πρέπει να παρθεί σε περίπτωση ατυχήματος

6I.302

(Βλέπε περιθώριο 6I.185)

Προφυλάξεις ~~σε~~ σχέση με αναλώσιμα είδη

6I.303

Σε οχήματα και τόπους φορτώσεως, εκφορτώσεως ή μεταφορτώσεως, επικίνδυνες ύλες της Κλάσεως 6.I θα τηρούνται μακριά από τρόφιμα και λοιπά αναλώσιμα είδη.

6I.304-

6I.352

Φορητή φωτιστική συσκευή

6I.353

Οι διατάξεις του περιθωρίου IO.353 δεν θα έχουν ισχύ.

6I.354-

6I.373

Απαγόρευση καπνίσματος

6I.374

Οι διατάξεις του περιθωρίου IO.374 δεν θα έχουν ισχύ.

6I.375-

6I.399

Άρθρο 4

Ειδικές Διατάξεις διέπουσαν την φόρτωση,
εκφόρτωση και χειρισμόν

Μέθοδος αποστολής και περιορισμοί προώθησεως

6I.400

Οι ύλες οι αναφερόμενες εις 2^ο(α) (ακυλονιτριλιο) και 6I^ο(I) (I-χλωρο-I-νιτροπροπάνιο) μπορούν να μεταφέρονται σε μη-επιστρεπτέα μεταλλικά βαρέλια (βλέπε περιθώριο 2604(I)(β)2 και 2623(2)(δ) μόνον ως πλήρες φορτίον σε ανοικτά οχήματα.

6I.401-

6I.402

Απαγόρευση μικτής φόρτώσεως σε ένα όχημα

6I.403

Ύλες της Κλάσεως 6.I κλεισμένες σε κόλα φέροντα ετικέττα σύμφωνα με τα μοντέλα 2A, 4 ή 4A δεν θα φορτώνονται μαζί σε ένα όχημα με ύλες ή είδη των Κλάσεων Ia, Ib ή Ic κλεισμένα σε κόλα φέροντα ετικέττα ή δύο ετικέττες σύμφωνα προς το μοντέλο No.I.

6I.404-

6I.406

6I.407

Τόποι φορτώσεως και εκφορτώσεως

(I) Αι κατωτέρω εργασίαι απαγορεύονται:-

(α) φόρτωσις ή εκφόρτωσις υλών των Ι^ο έως 5^ο, ΙΒ^ο (β),ΙΔ^ο και 8Ι^ο εις δημόσιον χώρον εις κατωκημένην περιοχήν χωρίς ειδική άδεια από τις αρμόδιες αρχές:

(β) φόρτωσις ή εκφόρτωσις των παραπάνω υλών σε δημόσιο χώρο εκτός κατωκημένης περιοχής χωρίς να προειδοποιηθεί η αρμοδία αρχή, εκτός εάν οι παραπάνω εργασίες δικαιολογούνται για σοβαρούς λόγους ασφαλείας.

(2) Εάν, για οποιοδήποτε λόγο, οι εργασίες χειρισμού πρέπει να διεξαχθούν σε δημόσιο χώρο, τότε οι ύλες και είδη διαφόρων ειδών θα χωρισθούν ανάλογα με τις ετικέτες.

6I.408-

6I.4I4

Καθάρισμα μετά την εκφόρτωση

6I.4I5

(I) Μετά την εκφόρτωση, οχήματα τα οποία μετέφεραν ύλες των 4I^ο και 73^ο εις χύμα θα πλένονται με άφθονο νερό.(2) Όχημα το οποίον εμολύνθη από ύλες της ΙΔ^ο ή μίγμα αυτών δεν θα τίθεται και πάλιν σε υπηρεσία μέχρις ότου απολυμανθεί υπό την επίβλεψη αρμοδίου προσώπου. Οποιαδήποτε ξύλινα εξαρτήματα του οχήματος τα οποία προσεβλήθησαν από ύλες της ΙΔ^ο θα αφαιρούνται και καίγονται.

6I.4I6-

6I.499

Άρθρο 5Ειδικαί διατάξεις διέπουναι την λειτουργίαν των οχημάτωνΣήματα Οχημάτων

6Ι.500

(Ι) Οι διατάξεις του περιθωρίου ΙΟ.500, παράγραφοι (Ι) και (6), θα ισχύουν για τη μεταφορά των υλών Ι^ο έως 5^ο, ΙΙ^ο έως Ι4^ο, 2Ι^ο έως 23^ο, 3Ι^ο έως 33^ο, 4Ι^ο, 5Ι^ο έως 54^ο, 6Ι^ο, 62^ο, 8Ι^ο και 82^ο. Οι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν επίσης για τη μεταφορά των υλών των αναγραφομένων στη Προσθήκη Β.5.

(2) Οσάκις μεταφέρονται ύλες της Ι4^ο, το όχημα θα φέρει σε κάθε πλευρά του προειδοποίησιν αναφέρουσα ότι, εάν οιοδήποτε υγρό διαφύγει, πρέπει να ασκηθεί η μεγαλύτερα προφύλαξις και το όχημα δεν θα πρέπει να πλησιάζει κανείς χωρίς αναπνευστική συσκευή (μάσκα-αερίου), γάντια και υποδήματα από λάστιχο ή κάποια κατάλληλη πλαστική ύλη.

(3) Σταθερές δεξαμενές περιέχουσες ύλες αναγραφόμενες στη Προσθήκη Β.5 θα φέρουν επιπροσθέτως σε αμφότερες τις πλευρές τους και πίσω ετικέττα σύμφωνον προς το μοντέλο Νο.4. Οι δεξαμενές που περιέχουν ή (κενές δεξαμενές, ακαθάριστες) που περιείχαν ακετονιτρίλιον, 2-κυανοπροπάνιο-2-ΟΙ (ακετόνη κυανοϊδρίνη), αλλυλικό χλωρίδιο ή ακρυλονιτρίλιο θα φέρουν επιπροσθέτως ετικέττες σύμφωνες προς το μοντέλο Νο. 2Α.

6Ι.50Ι-

6Ι.508

Διακοπαί (ταξιδιού), περιορισμένης διάρκειας για ανάγ- 6Ι.509
κες σέρβις

Διακοπαί (ταξιδιού) για ανάγκες σέρβις, δεν θα

γίνονται, όπου είναι δυνατόν, πλησίον κατωκημένων τόπων ή τόπων διαμονής. Μία διακοπή (ταξιδίου) ~~αυτά δε τέτοι~~ (Συνεχίζεται)
 τρόπος δεν θα πρέπει να παρατείνεται εκτός κατόπιν συμφωνίας με τις αρμόδιες αρχές.

6I.5I0-

6I.5I4

Προστασία κατά της ηλιακής ενεργείας

6I.5I5

Διαρκούσης της περιόδου Απριλίου - Οκτωβρίου συμπεριλαμβανομένων, όταν ένα όχημα μεταφέρει υδροκυανικά οξύ ($I^0(\alpha)$) είναι σταθμευμένο, τα οποία πρέπει, εάν η νομοθεσία της χώρας εις την οποίαν το όχημα είναι σταθμευμένο το επιβάλλει, να προστατεύονται αποτελεσματικά κατά της ηλιακής ενεργείας, π.χ. δια σκεπασμάτων τοποθετημένων όχι λιγώτερο των 20 CM άνωθεν του φορτίου.

6I.5I6-

6I.599

Άρθρο 6

Μεταβατικές διατάξεις, ανακηρύξεις και διατάξεις ειδικές για συγκεκριμένες χώρες

6I.600-

6I.604

Μεταβατικές διατάξεις

6I.605

Συμφώνως προς την τελευταία πρότασιν του άρθρου 4, παράγραφος 2, της Συμφωνίας, οχήματα τα οποία ήσαν ~~62~~ υπηρεσία στην εδαφική περιοχή Συμβαλλομένου Μέρους κατά τον χρόνον θέσεως ~~62~~ ισχύος της Συμφωνίας κατά το άρθρον 7, παράγραφος I, ή ετέθησαν ~~62~~ υπηρεσία εντός δύο μηνών ~~απο τότε που τέθηκε~~ ~~62~~ ισχύος, μπορούν να χρησιμοποιηθούν για τη διεθνή μεταφορά

υλών της Ι4^ο μόνον διαρκούσης περιόδου δύο ετών από της 6Ι.605
 θέσεως 62 ισχύει εάν το σχέδιόν των και ο εξοπλισμός δεν
 πληρούν πλήρως τους όρους του παρόντος Παραρτήματος για
τένια μεταφορά.

6Ι.606-

6Ι.999

Κλάσις 6.2

Απεχθείς ύλες και ύλες δυνάμενες να προκαλέσουν μόλυνση

Άρθρο Ι

Γενικά

62.000-

62.099

Εφαρμογή του Κεφαλαίου Ι του παρόντος Παραρτήματος

62.Ι00

Οι μόνες διατάξεις του παρόντος Παραρτήματος, πλην
 εκείνων των Άρθρων Ι έως 6 κατωτέρω, οι οποίες ισχύουν για
 τη μεταφορά επικινδύνων υλών της Κλάσεως 6.2 είναι εκείνες
 των περιθωρίων Ι0.00Ι, Ι0.Ι00, Ι0.Ι02, Ι0.ΙΙΙ, Ι0.ΙΙ8,
 Ι0.Ι8Ι(Ι)(α), Ι0.404, Ι0.405, Ι0.4Ι3, Ι0.4Ι4, Ι0.4Ι5 και
 Ι0.4Ι9.

62.Ι0Ι-

62.ΙΙ0

Μεταφορά εις χύμα

62.ΙΙΙ

(Ι) Οι ύλες των Ι^ο, 2^ο, 3^ο και 5^ο μπορούν να μετα-
 φέρονται εις χύμα. Οι ύλες της 9^ο δεν μπορούν να μεταφερ-
 θούν άλλως *παρά μόνον*^ε χύμα.

(2) Όταν είναι εις χύμα

(α) Οι ύλες των Ι^ο(α) και (γ) και 2^ο θα φορτώνων-

να σε ειδικά καλυμμένα (σκέπασμένα) οχήματα εφοδιασμέ- 62.III
να με εγκαταστάσεις εξαερισμού. Κατά τη διάρκεια των (Συνεχίζε-
ται)
μηνών Νοεμβρίου - Φεβρουαρίου οι ύλες αυτές μπορούν επί-
σης να φορτώνονται σε ανοικτά οχήματα υπό τον όρον ότι
θα έχουν φερασθεί με κατάλληλο απολυμαντικό προς αφάιρε-
σιν της κακής οσμής.

- (β) Οι κατωτέρω ύλες θα φορτώνονται σε ανοικτά οχήματα:
- ύλες της I^ο(β), αφού φερασθούν με κατάλληλα απο-
λυπαντικά προς αφάιρεσιν της κακοσμίας.
 - ύλες της 3^ο.
 - ύλες της 5^ο, αφού φερασθούν με ασβεστόνερο για να
μην είναι αισθητή η βρώμικη (χαλασμένη) οσμή και
 - ύλες της 9^ο.

(3) Επιπροσθέτως, όταν φορτωθούν σε ανοικτά οχήματα,
πρέπει να καλύπτονται με:

- (α) σκέπασμα βουτυγμένο σε κατάλληλα απολυμαντικά και
να είναι καλυμμένο με δεύτερο σκέπασμα: ύλες των
I^ο(α) και (γ) και 2^ο.
- (β) σκέπασμα ή πισσόχαρτο (και φερασμένα με κατάλληλα
απολυμαντικά): νωπά κέρατα, νύχια, οπλές ή κόκκαλα
(I^ο(β)).
- (γ) σκέπασμα: ύλες της 3^ο, εκτός εάν φερασθούν
με κατάλληλα απολυμαντικά προς αποφυγήν οιασδήποτε
κακοσμίας και
- (δ) σκέπασμα: ύλες της 9^ο.

62.II2-

62.II7

Μεταφορά σε CONTAINERS

62.II8

Η μεταφορά των υλών της 9^ο σε μικρά CONTAINERS απα-

γυρεύεται.

62.119-

62.170

Πληρώματα Οχημάτων· Εποπτεία (Επ(βλεφν))

62.171

Οι διατάξεις του περιθωρίου 10.171(2) δεν θα έχουν εφαρμογή.

62.172-

62.199

Άρθρο 2

Ειδικές διατάξεις που πρέπει να πληρούν
τα οχήματα και ο εξοπλισμός τους

62.200-

(Ουδεμία ειδική διάταξις)

62.299

Άρθρο 3

Γενικές διατάξεις σέρβις

62.300-

62.302

Προφυλάξεις σε σχέση με αναλώσιμα είδη

62.303

Σε οχήματα και τόπους φορτώσεως, εκφορτώσεως και μεταφορτώσεως, επικίνδυνες ύλες της Κλάσεως 6.2 πλην των υλών της 7^ο και πλην των υλών της 8^ο συσκευασμένων συμφώνως προς τις διατάξεις του Παραρτήματος Α. περίθωριου 2659 (2) (α) ή (β), θα τηρούνται μακριά από τρόφιμα και αναλώσιμα είδη.

62.304-

62.399

Άρθρο 4

Ειδικές Διατάξεις διέπουσαι την φόρτωση, εκφόρτωση
και χειρισμόν

62.400-

62.402

Απαγόρευση μικτής φορτώσεως σε ένα όχημα

62.403

Ύψες των 9^ο και 10^ο δεν θα φορτώνονται μαζί σε ένα όχημα με επικίνδυνες ύψες της Κλάσεως 5.2.

62.404-

62.414

Καθάρισμα μετά την εκφόρτωση

62.415

Μετά από εκφόρτωση, οχήματα τα οποία έχουν μεταφέρει ύψες της Κλάσεως 6.2 εις χύμα θα πλένονται με άφθονο νερό και θα απολυμαίνονται με κατάλληλα απολυμαντικά.

62.416-

62.499

Άρθρο 5Ειδικές Διατάξεις διέπουν τη λειτουργία των οχημάτων

(Ουδεμία ειδική διάταξη)

62.500-

62.599

Άρθρο 6

Μεταβατικές Διατάξεις, αναλήψεις και διατάξεις ειδικές για συγκεκριμένες χώρες

(Ουδεμία ειδική διάταξη)

62.600-

70.999

Κλάσις 7Ραδιενεργές ΎλεςΆρθρο IΓενικάΜεταφορά

7I.000

Για λεπτομέρειες βλέπε σχετική κατάσταση στο περι-
θώριο 2703.

7I.001-

7I.170

Πληρώματα Οχημάτων: εποπτεία

7I.171

Οι διατάξεις του περιθωρίου IO.I7I(2) θα έχουν εφαρ-
μογή για όλες τις ύλες, οποιασδήποτε ποσότητας. Εν τούτοις,
οι διατάξεις του περιθωρίου IO.I7I(2) δεν χρειάζεται να εφαρ-
μόζονται οσάκις:

- (α) το φορτωμένο διαμέρισμα είναι κλειδωμένο και τα μετα-
φερόμενα κόλα προστατεύονται κατά οιασδήποτε παρα-
νόμου εκφορτώσεως, και
- (β) η τιμή της δόσεως δεν υπερβαίνει τα 0.5 MR/ωριαίως
σε οποιοδήποτε προσιτό σημείο επί της επιφανείας
του οχήματος.

7I.172-

7I.199

Άρθρο 2

Ειδικές Διατάξεις που πρέπει να πληρούν τα οχήματα
και ο εξοπλισμός τους

Διατάξεις

7I.200

Για λεπτομέρειες βλέπε τη σχετική κατάσταση του περι-
θωρίου 2703.

7Ι.20Ι-

7Ι.299

Άρθρο 3Γενικές Διατάξεις ΣέρβιςΔιατάξεις

7Ι.300

Για λεπτομέρειες βλέπε το οικείο παράρτημα/πίνακα του περιθωρίου 2703.

7Ι.20Ι

7Ι.373

Απαγόρευση καπνίσματος

7Ι.374

Οι διατάξεις του περιθωρίου ΙΟ.374 δεν θα έχουν εφαρμογήν.

Άρθρο 4

Ειδικές διατάξεις διέπουναι την φόρτωση, εκφόρ-
τωση και χειρισμόν

Διατάξεις

7Ι.400

Για λεπτομέρειες βλέπε το οικείο παράρτημα/πίνακα του περιθωρίου 2703.

7Ι.40Ι

7Ι.499

Άρθρο 5

Ειδικές διατάξεις διέπουναι την λειτουργίαν των
οχημάτων

Σήματα Οχημάτων

7Ι.500

(Ι) Το περιθώριο ΙΟ.500 δεν θα έχει εφαρμογήν.

(2) Κάθε οχημα οδοῦ μεταφέρον ραδιενεργείς ύλες θα φέρει εις το εξωτερικόν των πλαϊνών και πίσω ετικέττα σύμφωνον προς το μοντέλο το εικονιζόμενον εις την Προσθήκην Β.4, περι-

θώριο 240.010. Εάν η φόρτωση γίνεται από τον αποστολέα, 7I.500
καθήκον του θα είναι να θέσει τις ετικέτες αυτές στα (Συνεχίζε-
οχήματα. ται)

7I.501-

7I.506

Στάθμευση οχήματος αποτελούμενος ειδικά κίνδυνος

7I.507

(Βλέπε, επιπροσθέτως του περιθωρίου IO.507, περι-
θώριον 3695 της Προσθήκης Α.6.)

7I.508-

7I.599

Άρθρο 6

Μεταβατικές Διατάξεις, ανακηρύξεις, και διατάξεις
ειδικά για συγκεκριμένες χώρες

7I.600-

80.999

Κλάσις 8

Διαβρωτικές Ύλες

Άρθρο I

Γενικά

8I.000-

8I.IIO

Μεταφορά εις χύμα

8I.III

(I) Ιλύς μολύβδου περιέχουσα θειϊκό δξύ (I^o(ε)) και
διθειϊκά (I3^o) μπορεί να μεταφερθεί σε χύμα ως πλήρες φορ-
τίο.

(2) Για τέτοια μεταφορά, το αμάξιμα του οχήματος θα
επενδύεται με μόλυβδο ή με επαρκούς πάχους κηρό παραφλ-

νης ή πισσόχαρτο και εάν το όχημα είναι σκεπασμένο το σκέπασμα θα τοποθετείται κατά τρόπο που να μη μπορεί να ακουμπά στο φορτίο. (Συνεχίζεται)

8Ι.ΙΙ2-

8Ι.ΙΙ7

Μεταφορά σε CONTAINERS (εμπορευματοκιβώτια)

8Ι.ΙΙ8

(1) Εύθραυστα κόλα εντός της εννοίας του περιθωρίου 10.102(1) και τα περιέχοντα επικίνδυνες ύλες των I^ο έως 7^ο, 9^ο, 14^ο, 33^ο και 41^ο δεν θα μεταφέρονται σε μικρά CONTAINERS.

(2) Μικρά CONTAINERS χρησιμοποιούμενα για τη μεταφορά διθειϊκών (I3^ο) εις χύμα θα έχουν επενδυθεί με μόλυβδο ή με επαρκείς πάχους κηρώ παραφίνης ή πισσόχαρτο.

(3) Η μεταφορά εις χύμα μικρών CONTAINERS με ιλύν μο-λύβδου περιέχουσας θειϊκόν οξύ της I^ο(ε) απαγορεύεται.

8Ι.ΙΙ9-

8Ι.Ι20

Μεταφορά σε δεξαμενές

8Ι.Ι2Ι

(1) Όλες οι ύλες του περιθωρίου 280Ι ή καλυπτόμενες υπό συλλογικού τίτλου μπορούν, εάν η φυσική τους κατάσταση το επιτρέπει, να μεταφέρονται σε στερεωμένες (σταθερές) δεξαμενές ή σε δυνάμενες να αποσυναρμολογηθούν δεξαμενές.

(2) Αυτές οι ίδιες ύλες μπορούν επίσης να μεταφέρονται σε δεξαμενο-CONTAINERS. Εν τούτοις, το υδροφθόριο (άνυδρο υδροφθορικό οξύ) (6^ο(α)) μπορεί να μεταφερθεί σε δεξαμενο-CONTAINERS κυβικής χωρητικότητας υπερβαινούσης το 1 M³.

(3) Οι παρακάτω ύλες μπορούν να μεταφέρονται σε ενισχυμένες-πλαστικές δεξαμενές συμμορφούμενες προς τις διατάξεις

της Προσθήκης Β.Ιγ:- όλες των I^ο(β), (γ) και (δ) και 2^ο 8I.I2I
(β) και (γ), διαλύματα υδροχλωρικού οξέως της 5^ο, και (Συνεχίζε-
ται)
όλες των 32^ο, 37^ο και 4I^ο.

8I.I22-

8I.I27

Κενές δεξαμενές

8I.I28

(I) Κενές σταθερές δεξαμενές και κενές αποσυναρμολο-
γούμενες δεξαμενές της 5I^ο θα κλείνονται κατά τον αυτόν
τρόπον και θα είναι του αυτού βαθμού στεγανές σαν νάσαν
πλήρεις. Σταθερές δεξαμενές που περιείχαν βρώμιο (I4^ο) θα
είναι ερμητικά κλεισμένες.

(2) Για δεξαμενο-CONTAINERS, βλέπε περιθώριο 222.I77.

(3) Τα δεξαμενο-CONTAINERS και οι αποσυναρμολογούμε-
νες δεξαμενές που περιείχαν υδροφθορικό οξύ (6^ο) ή βρώμιο
(I4^ο) θα φέρουν ετικέττα σύμφωνα προς το μοντέλο Νο.5
(Προσθήκη Α.9). Δεν θα έχουν ίχνη οξέως ή βρωμίου εις το
εξωτερικόν.

8I.I29-

8I.I70

Πληρώματα Οχημάτων· Επίβλεψη (Εποπτεία)

8I.I7I

(I) Βοηθός οδηγός θα φέρει κάθε μονάς μεταφοράς μετα-
φέρουσα άνω των 250 KG επικινδύνων υλών της Κλάσεως 8 σε
εύθραυστα κόλα, ή άνω των τριών μετρικών τόννων υλών των
6^ο, 7^ο, II^ο, I4^ο, 22^ο, 3I^ο, 32^ο και 37^ο.

(2) Οι διατάξεις του περιθωρίου IO.I7I(2) θα έχουν
εφαρμογήν μόνον επί επικινδύνων εμπορευμάτων αναφερμένων
κατωτέρω σε ποσότητες υπερβαίνουσες τις κατωτέρω ειδικώς
οριζόμενες. -

χλωροσουλφονικό οξύ, χλωρίδια και οξυχλωρίδια του 8Ι.171
 θείου, τετραχλωροπυρίτιο, της ΙΙ^ο(α), πενταφθορι- (Συνεχίζεται)
 ούχο αντιμόνιο της Ι5^ο(β), τριφθοριούχο βρώμιο και
 πενταφθοριούχο βρώμιο της Ι5^ο(δ), ακετυλοχλωρίδιο,
 ακετυλοβρωμίδιο και βενζυλοχλωρίδιο της 22^ο, και
 υδραζίνη σε υδάτινα διαλύματα περιέχοντα όχι άνω
 του 72% υδραζίνης, της 34^ο: 10.000 KG.
 Βρώμιον της Ι4^ο : 1.000 KG.

8Ι.172-

8Ι.199

Άρθρο 2

Ειδικές διατάξεις τις οποίες πρέπει να πληροϋν τα
οχήματα και ο εξοπλισμός τους

8Ι.200-

8Ι.239

Πυροσβεστικές συσκευές

8Ι.240

Οι διατάξεις του περιθωρίου Ι0.240(Ι)(β) και (3)
 δεν θα έχουν εφαρμογήν για τη μεταφορά επικινδύνων υλών της
 Κλάσεως 8 πλην εκείνων της 2^ο(α) και 3^ο(α).

8Ι.241-

8Ι.250

Ηλεκτρικός εξοπλισμός

8Ι.251

Οι διατάξεις της Προσθήκης Β.2, περιθώριο 220.000,
 δεν θα έχουν εφαρμογήν για τη μεταφορά επικινδύνων υλών της
 Κλάσεως 8 πλην εκείνων των 2^ο(α) και 3^ο(α).

8Ι.252-

8Ι.299

Άρθρο 3Γενικές διατάξεις σέρβις

8Ι.300-

8Ι.352

Φορητή συσκευή φωτισμού

8Ι.353

Η διατάξεις του περιθωρίου ΙΟ.353 δεν θα έχει εφαρμογήν.

8Ι.354-

8Ι.373

Απαγόρευση καπνίσματος

8Ι.374

Οι διατάξεις του περιθωρίου ΙΟ.374 δεν θα έχουν εφαρμογήν.

8Ι.375-

8Ι.399//

Άρθρο 4

Ειδικές διατάξεις διέπουσαι την φόρτωση, εκφόρτωση και χειρισμόν

8Ι.400-

8Ι.402

Απαγόρευση μικτής φορτώσεως σε ένα όχημα

8Ι.403

(Ι) Οι ύλες της Κλάσεως 8 οι κλεισμένες σε κδλα φέροντα ετικέττα ή δύο ετικέττες σύμφωνες προς το μοντέλο Νο.5 δεν θα φορτώνονται μαζί σε ένα όχημα με ύλες ή είδη των Κάσεων Ια, Ιβ ή Ιγ κλεισμένες σε κδλα φέροντα ετικέττα ή δύο ετικέττες σύμφωνες προς το μοντέλο Νο.Ι.

(2) Υγρά της Κλάσεως 8 κλεισμένα σε κδλα φέροντα δύο ετικέττες σύμφωνες προς το μοντέλο Νο. 5 δεν θα φορτώνονται μαζί σε ένα όχημα με:-

(α) ύλες των Κλάσεων 3, 4.1 ή 4.2 κλεισμένες σε κόλα 8I.403
φέροντα δύο ετικέττες σύμφωνα προς τα μοντέλα (Συνεχί-
ζεται)
No. 2A, 2B ή 2Γ· ή με

(β) ύλες των Κλάσεων 5.1 ή 5.2 κλεισμένες σε κόλα φέ-
ροντα δύο ετικέττες σύμφωνα προς το μοντέλο No.3.

8I.404-

8I.4I2

Καθάρισμα προ της φορτώσεως

8I.4I3

Οχήματα για τη μεταφορά κόλων περιεχόντων ύλες της
2^ο(α) και 3^ο(α) θα καθαρίζονται προσεκτικά και, ειδικότερον,
από οιαδήποτε εύκαυστα υπολείμματα (άχυρο, χαρτί, κλπ.).

Χειρισμός και στοιβάδα

8I.4I4

(1) Όλα τα κόλα τα περιέχοντα ύλες των 2^ο(α) και 3^ο(α)
θα τοποθετούνται σε γερό δάπεδο, με τα ανοίγματά τους προς
τα άνω, και καλά σφηνωμένα για να μη μπορούν να αναποδογυ-
ρίσουν.

(2) Η χρήση ευχερώς ευφλέκτων υλών για τη στοιβάδα
τοιούτων κόλων σε οχήματα απαγορεύεται.

(3) Εύθραυστα κόλα θα σφηνώνονται κατά τοιούτον τρόπον
ώστε να εμποδίζεται οιαδήποτε μετατόπισις των και οιονδήποτε
χύσιμον του περιεχομένου.

8I.4I5-

8I.499

Άρθρο 5

Ειδικώς διατάξεις διέπουν την λειτουργίαν των
οχημάτων

Σήματα Οχημάτων

8I.500

(I) Οι διατάξεις του περιθωρίου IO.500, φωτογραφία (I)

και (δ), θα έχουν εφαρμογή για τη μεταφορά υλών των I^ο 8I.500
 έως 7^ο, 9^ο, II^ο, I2^ο, I4^ο, I5^ο, 2I^ο(β), (γ) και (ε), (Συνεχίζε-
 22^ο, 3I^ο έως 35^ο, 37^ο και 4I^ο. Οι διατάξεις των παραγρά- ται)
 φων (2) έως (5) θα έχουν επίσης εφαρμογήν στις ύλες τις
 αναγραφόμενες στη Προσθήκη B.R.

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμε-
 νές, ακαθάριστες) που περιείχαν ύλες αναγραφόμενες στη Προ-
 σθήκη B.5 θα φέρουν επιπροσθέτως στα πλαϊνά (αμφότερες τις
 πλευρές) και στο πίσω μέρος ετικέττα σύμφωνα προς το μον-
 τέλο Νο.5.

8I.50I-

8I.599

Άρθρο 6

Μεταβατικά διατάξεις, αναλήψεις, και διατάξεις
ειδικές για συγκεκριμένες χώρες

(Ουδεμία ειδική διάταξη)

8I.600-

I99.999

ΠΡΟΣΘΗΚΑΙ

ΔΙΑΤΑΞΕΙΣ ΚΟΙΝΕΣ ΓΙΑ ΤΙΣ ΠΡΟΣΘΗΚΕΣ Β.Ι.-

(1) Το αντικείμενον εφαρμογής των διαφόρων Προσθη- 200.000
κών έχει ως κάτωθι:-

- (α) Προσθήκη Β.Ια, έχει εφαρμογήν εις δεξαμενές
πλην των δεξαμενο-CONTAINERS.
- (β) Προσθήκη Β.Ιβ, έχει εφαρμογήν εις δεξαμενο-
CONTAINERS.
- (γ) Προσθήκη Β.Ιγ, έχει εφαρμογήν εις δεξαμενές,
πλην των συσσωρευτών δοχείων και δεξαμενο-
CONTAINERS, κατασκευασμένες από ενισχυμένην
πλαστικήν ύλην.
- (δ) Για δοχεία, βλέπε τις οικείες διατάξεις του
Παραρτήματος Α (Κόλα) και
- (ε) Η Προσθήκη Β.Ιδ αφορά τα υλικά και την κατα-
σκευήν των σταθερών δεξαμενών, των αποσυναρ-
μολογούμενων δεξαμενών, και κελυφών των δε-
ξαμενο-CONTAINERS, των προοριζομένων για τη
μεταφορά των πολύ-κατεψυγμένων υγροποιημένων
αερίων της Κλάσεως 2.

(2) Δι'ανακλήσεως του ορισμού του διδομένου εις περι-
θώριον ΙΟ.ΙΟ2(Ι), ο όρος "δεξαμενή" χρησιμοποιούμενος μόνος
εις την Προσθήκην Β.Ια και την Προσθήκην Β.Ιγ δεν καλύπτει
τις δεξαμενο-CONTAINERS. Εν τούτοις, μερικά των διατάξεων
της Προσθήκης Β.Ια μπορούν να έχουν εφαρμογήν επί δεξαμενο-
CONTAINERS δια των διατάξεων του Παραρτήματος Β και της Προ-
σθήκης Β.Ιβ.

(3) Υπενθυμίζομεν ότι το περιθώριον ΙΟ.Ι2Ι(Ι) 200.000
 απαγορεύει τη μεταφορά επικινδύνων υλών σε δεξαμενές (Συνρχίζε-
 ται)
 χρησιμοποιούμενες για επιχειρήσεις μεταφοράς αι οποίαι
 απαγορεύονται ρητώς.

200.00Ι-

2ΙΙ.099

Προσθήκη Β.Ια

ΔΙΑΤΑΞΕΙΣ ΔΙΕΠΙΟΥΣΑΙ ΣΤΑΘΕΡΕΣ ΔΕΞΑΜΕΝΕΣ (ΒΥΤΙΟΦΟΡΑ),
 ΑΠΟΣΥΝΑΡΜΟΛΟΓΟΥΜΕΝΕΣ ΔΕΞΑΜΕΝΕΣ ΚΑΙ ΣΥΣΣΩΡΕΥΤΕΣ
 ΔΟΧΕΙΩΝ

Σημείωσις:- Το Κεφάλαιον Ι εκθέτει τις διατάξεις που έχουν
 εφαρμογήν επί σταθερών δεξαμενών (βυτιοφόρων), αποσυναρμο-
 λογούμενων δεξαμενών και συσσωρευτών δοχείων προοριζομένων
 για τη μεταφορά υλών οιασδήποτε Κλάσεως. Το Κεφάλαιον ΙΙ
 περιέχει ειδικές διατάξεις που συμπληρώνουν ή τροποποιούν
 τις διατάξεις του Κεφαλαίου Ι.

Κεφάλαιο Ι

ΔΙΑΤΑΞΕΙΣ ΠΟΥ ΕΧΟΥΝ ΕΦΑΡΜΟΓΗΝ ΣΕ ΟΛΕΣ ΤΙΣ

ΚΛΑΣΕΙΣ

Άρθρο Ι

Γενικά· αντικείμενον· ορισμός

Οι διατάξεις αυτές θα έχουν εφαρμογήν σε σταθε- 2ΙΙ.Ι00
 ρές δεξαμενές (βυτιοφόρα), αποσυναρμολογούμενες δεξαμε-
 νές και συσσωρευτές δοχείων που χρησιμοποιούνται για τη
 μεταφορά υγρών, αεριωδών, εις κόνιν ή κόκκους υλών.

(Ι) Επιπροσθέτως του κανονικού οχήματος, ή των 2ΙΙ.Ι0Ι
 μονάδων του μηχανισμού λειτουργίας των χρησιμοποιουμέ-

νων αντ' αυτού, το βυτιοφόρον αποτελείται από ένα ή περισ- 2II.ΙΟΙ
σότερα κελύφη, τα ανταλλακτικά των και εξαρτήματα της (Συνεχίζε-
συνδέσεώς των με το δχημα ή τας μονάδας μηχανισμού-λει-
τουργίας. ται)

(2) Όταν συνδέεται με το δχημα-μεταφορέα, η απο-
συναρμολογούμενη δεξαμενή ή ο συσσωρευτής δοχείων θα πλη-
ρούν τις διατάξεις τις προβλεπόμενες για τα βυτιοφόρα.

Στις παρακάτω διατάξεις:-

2II.ΙΟ2

(I) (α) Δια του όρου "κλύφος" νοείται η κανονική
δεξαμενή (συμπεριλαμβανομένων του στομίου
και πώματος αυτών)·

(β) Δια του όρου "εξοπλισμός εξυπηρετήσεως
του κελύφους" νοούνται η πλήρωσις, εκκέν-
ωσις, εξαερισμός, ασφάλεια, μηχανισμοί
(συσκευαί) θερμάνσεως και θερμο-μονώσεως
και τα όργανα μετρήσεως·

(γ) Δια του όρου "εξοπλισμός κατασκευής"
νοούνται τα εξωτερικά και εσωτερικά μέλη
ενισχύσεως, προσδέσεως, προστασίας και στα-
θεροποιήσεως του κελύφους·

(2) (α) Δια του όρου "πίεσις υπολογισμού" νοείται
μία θεωρητική πίεσις η οποία χρησιμοποι-
είται προς υπολογισμόν του πάχους των τοι-
χωμάτων του κελύφους. Ισοδυναμεί με την
πίεσιν δοκιμής εκτός εν σχέσει με ωρισμένα
επικίνδυνα εμπορεύματα δια τα οποία ειδική,
ανωτέρου υπολογισμού πίεσις καθορίζεται.

Εξωτερικοί ή εσωτερικοί μηχανισμοί ενισχύσεως δεν θα λαμβάνονται υπόψη κατά τον υπολογισμό αυτόν.

211.102

(Συνεχίζεται)

(β) Δια του όρου "ανωτάτη πίεσις λειτουργίας" νοείται η ανωτάτη των κατωτέρω τριών πιέσεων:

- 1.- της ανωτάτης δραστηκής πίεσεως της επιτρεπομένης εις το κέλυφος διαρκούσης της πληρώσεως (επιτρεπομένη ανωτάτη πίεσις πληρώσεως)·
- 2.- της ανωτάτης δραστηκής πίεσεως της επιτρεπομένης εις το κέλυφος διαρκούσης της εκκενώσεως (επιτρεπομένη ανωτάτη πίεσις εκκενώσεως)·
- 3.- της δραστηκής πίεσεως εις την οποίαν το κέλυφος υποβάλλεται εκ του περιεχομένου του (συμπεριλαμβανομένων τοιούτων ξένων αερίων τα οποία ενδέχεται να περιέχει) εις την ανωτάτην θερμοκρασίαν λειτουργίας·

(γ) Δια του όρου "πίεση δοκιμής" νοείται η ανωτάτη ουσιαστική πίεση που εφαρμόζεται κατά τη δοκιμή πίεσεως του κελύφους.

(δ) Δια του όρου "πίεση πληρώσεως" νοείται η ανωτάτη πίεση η πραγματικώς δημιουργουμένη εις το κέλυφος όταν τούτο πληρούται υπό πίεση.

(ε) Δια του όρου "πίεση εκκενώσεως" νοείται η ανωτάτη πίεση η πραγματικώς δημιουργουμένη εις το κέλυφος όταν τούτο εκκενούται υπό πίεση.

(3) Δια του όρου "δοκιμή διαρροής" ή "δοκιμή στεγανότητος" νοείται η δοκιμή η οποία συνίσταται εις την υποβολήν του κελύφους εις δραστηκήν εσωτερικήν πίεσιν ίσην προς την ανωτάτην πίεσιν λειτουργίας, αλλά όχι κάτω των 0.2 KG/CM^2

(πρέσιν θλιβομέτρου), διά τινος μεθόδου εγκριθείσης υπό 2II.Ι02 της αρμοδίου αρχής.

(Συνεχίζεται)

2II.Ι03-

2II.ΙΙ9

Άρθρο 2

Κατασκευή

Τα χρησιμοποιούμενα υλικά πρέπει να πληρούν τις παρακάτω διατάξεις:- 2II.Ι20

(1) Τα κελύφη θα είναι κατασκευασμένα από κατάλληλα μεταλλικά υλικά τα οποία, εκτός εάν άλλαι τιμαί θερμοκρασίας προβλέπονται για διάφορες Κλάσεις, θα αντέχουν εις το εύθραυστο ρήγμα και εις το ρήγμα εκ διαβρώσεως υπό πρέσιν εφελκυσμού μεταξύ των -20°C και $+50^{\circ}\text{C}$.

(2) Για συγκολλημένα κελύφη μόνο υλικά μη-ελαττωματικής συγκολλητικότητας, και των οποίων η κατάλληλος αντοχή εις κρούσιν εις θερμοκρασίαν περιβάλλοντος των -20°C μπορεί να εγγυηθεί, ειδικώτερον στα σημεία συγκολλήσεως και τις παρακείμενες αυτών ζώνες, θα χρησιμοποιούνται.

(3) Αι συγκολλήσεις θα γίνονται επιδέξια και θα παρέχουν την πληρεστέραν ασφάλειαν.

Αναφορικώς με την εκτέλεσιν και τον έλεγχον των λωρίδων συγκολλήσεως, βλέπε επίσης περιθώριον 2II.Ι27(7).

Κελύφη των οποίων το κατώτατον πάχος του τοιχώματος έχει καθορισθεί συμφώνως προς το περιθώριον 2II.Ι27 (3) έως (6) θα ελέγχωνται δια των μεθόδων των περιγραφομένων εις τον ορισμόν του συντελεστού συγκολλήσεως 0.8.

(4) Η προστατευτική επένδυσις θα έχει έτσι σχεδια-

σθελ' ώστε η στεγανότης της να μην εξασθενείται ανεξαρτή- 2II.I20
τως της παραμορφώσεως που ενδέχεται να προκύψει κατά (Συνεχί-
ζεται)
την συνήθη μεταφοράν (2II.I27(I)).

(5) Τα υλικά των κελυφών, ή των προστατευτικών των επενδύσεων των ερχομένων εις επαφήν με το περιεχόμενον, δεν θα περιέχουν ύλες υποκείμενες εις επικίνδυνον αντίδρασιν με το περιεχόμενον, εις τον σχηματισμόν επικινδύνων ενώσεων, ή ουσιαστικώς εξασθενήσουν το υλικόν.

(6) Εάν η επαφή μεταξύ της μεταφερομένης ύλης και του χρησιμοποιηθέντος διά την κατασκευήν του κελύφους υλικού συνεπάγεται προοδευτικήν μείωσιν του πάχους των τοιχωμάτων, το πάχος τούτο θα αυξηθεί κατά την κατασκευήν κατά κάποιον ενδεδειγμένο ποσό. Το πρόσθετον τούτο πάχος το αφορών την διάβρωσιν δεν θα λαμβάνεται υπόψη κατά τον υπολογισμόν του πάχους των τοιχωμάτων του κελύφους.

(I) Τα κελύφη, αι συνδέσεις των και ο εξοπλισμός 2II.I2I των εξυπηρέτησεως και κατασκευής θα είναι σχεδιασμένα κατά τρόπον ώστε να ανθίστανται άνευ απώλειας του περιεχομένου (πλην των ποσοτήτων αερίου που διαφεύγουν εκ των οπών απαερώσεως):

- εις την στατικήν και δυναμικήν πρέσιν συνήθους μεταφοράς·
- εις τις προβλεπόμενες κατώτατες πιέσεις ως ορίζονται εις τα περιθώρια 2II.I25 και 2II.I27.

(2) Εις την περίπτωσιν οχημάτων εις τα οποία το κέλυφος αποτελεί πιεζόμενο αυτο-υποστηριζόμενον μέλος, το κέλυφος θα είναι σχεδιασμένον να ανθίσταται κατά των ούτω

επιβαλλομένων πιέσεων επιπροσθέτως των εξ ετέρων πηγών πιέσεων.

Η πίεση επί της οποίας το πάχος του τοιχώματος II.I22 του κελύφους βασίζεται δεν θα είναι μικρότερα της πίεσης υπολογισμού, αλλά οι πιέσεις οι αναφερόμενες εις το περιθώριον II.I2I θα λαμβάνονται επίσης υπόψη.

Εκτός εάν άλλως ειδικώς προβλέπεται εις τις II.I23 διάφορες κλάσεις, τα κάτωθι στοιχεία θα λαμβάνονται υπόψη κατά την σχεδίασιν των κελυφών:-

(I) τα κελύφη εκκινώσεως δια βαρύτητος τα προοριζόμενα για τη μεταφορά υλών που έχουν εις τους 50°C ολική πίεση (τ.έ. πίεσις ατμού πλέον, τυχόν, μερικής πίεσης αδρανών αερίων) όχι άνω των 1.1 KG/CM² (απόλυτον) θα σχεδιάζονται δια πίεση υπολογισμού διπλασίαν της στατικής πίεσεως της υπό μεταφοράν ύλης, αλλά όχι κάτω της διπλασίας στατικής πίεσεως του ύδατος.

(2) πληρούμενα δια πίεσεως ή εκκινούμενα δια πίεσεως κελύφη προοριζόμενα για τη μεταφορά υλών έχουσών εις τους 50°C ολικήν πίεσιν (τ.έ. πίεσιν ατμού πλέον μερικής πίεσεως, τυχόν, αδρανών αερίων) όχι μεγαλύτεραν των 1.1 KG/CM² (απόλυτον) θα σχεδιάζονται δια πίεσιν υπολογισμού ίσην προς 1.3 φορές την πίεσιν πληρώσεως ή εκκινώσεως.

(3) κελύφη - ανεξαρτήτως του συστήματος πληρώσεως ή εκκινώσεως των - προοριζόμενα για την μεταφοράν υλών έχουσών εις τους 50°C ολικήν πίεσιν (τ.έ. πίεσιν ατμού πλέον μερικής πίεσεως, τυχόν, αδρανών αερίων) όχι μικρότεραν των 1.1 και όχι μεγαλύτεραν των 1.75 KG/CM² (απόλυτον) θα σχε-

διάζονται για πρέσιν υπολογισμού τουλάχιστον 1.5 KG/CM^2 2II.I23
(πρέσιν θλιβομέτρου), ή 1.3 φορές την πρέσιν πληρώσεως (Συνεχίζεται)
ως ή εκκενώσεως, οιασδήποτε τούτων ούσης υψηλότερας·

(4) κελύφη - ανεξαρτήτως του συστήματος πληρώσεως ή εκκενώσεως των - προοριζόμενα για τη μεταφορά υλών χυμωσών εις τους 50°C ολικήν πρέσιν (τ.έ. πρέσιν ατμού πόνου μερικής πίεσεως, τυχόν, αδρανών αερίων) άνω των 1.75 KG/CM^2 (απόλυτον) θα σχεδιάζονται για πρέσιν υπολογισμού ίσην προς την ανωτέραν των κάτωθι δύο πιέσεων:-

- 1.5 φορές την ολικήν πρέσιν εις τους 50°C , μέσον 1 KG/CM^2 , υπό την επιφύλαξιν κατωτέρας εκ 4 KG/CM^2 (θλιβομέτρου)·

- 1.3 φορές την πρέσιν πληρώσεως ή εκκενώσεως.

Δεξαμένεες προοριζόμενες να περιέχουν ωρισμέ- 2II.I24
νες επικίνδυνες ύλες θα είναι εφοδιασμένες με ειδικήν προστασίαν η οποία θα καθορίζεται για τις διάφορες Κλάσεις.

Κατά την πρέσιν υπολογισμού, η τάσις (πρέσις) 2II.I25
(σέγμα) εις το περισσότερον πιεζόμενον σημείον του κελύφους δεν θα υπερβαίνει τα εκ του υλικού εξαρτώμενα όρια τα προβλεπόμενα κατωτέρω. Ανοχή θα υπάρχει για κάθε εξασθένηση οφειλομένην στις συγκολλήσεις. Επιπροσθέτως, κατά την επιλογήν του υλικού και τον καθορισμόν του πάχους του τοιχώματος, θα λαμβάνωνται υπόψη αι ανώταται και κατώταται θερμοκρασίαι πληρώσεως και λειτουργίας.

(I) Για μέταλλα και κράματα που παρουσιάζουν σαφώς-οριζόμενον σημείον υποχωρήσεως η χαρακτηριζόμενα από ένα εγγυημένον συμβατικόν κρίσιμον σημείον ελαστικδ-

τητος (Re) (γενικώς 0.2 ~~στα~~ εκατό της υπολειμματικής 2II.I25
(παραμενούσης) επιμηκύνσεως και, προκειμένου περί (Συνεχίζεται)
ωστενίτου χάλυβος, I ~~στα~~ εκατό της ανωτάτης επιμηκύν-
σεως):

(α) όπου ο λόγος R_e/R_m δεν είναι άνω των 0.66:

(R_e = εμφανές κρίσιμον σημείον ελαστικότη-
τος, ή 0.2 ~~στα~~ εκατό πλείους δοκι-
μής ή I ~~στα~~ εκατό πλείους δοκιμής
προκειμένου περί ωστενίτου χάλυβος·

R_m = εγγυημένη κατωτάτη αντοχή εις εφελκυ-
σμόν):

$$\sigma \leq 0.75 R_e$$

(β) όπου ο λόγος R_e/R_m υπερβαίνει τα 0.66:

$$\sigma \leq 0.5 R_m$$

(2) Για μέταλλα και κράματα που παρουσιάζουν όχι σαφώς-
οριζόμενον κρίσιμον σημείον ελαστικότητος και χαρακτηριζό-
μενα από εγγυημένην κατωτάτην αντοχήν εις εφελκυσμόν R_m :

$$\sigma \leq 0.43 R_m$$

(3) Για χάλυβα, η επιμήκυνσις εις το ρήγμα δεν θα είναι
μικροτέρα του

$$\frac{1.000}{\text{οριζομένη αντοχή εις εφελκυσμόν εις KG/MM}^2}$$

αλλά εν πάση περιπτώσει δεν θα είναι μικροτέρα του 16 ~~στα~~
εκατό για λεπτόκοκκον χάλυβα και όχι μικροτέρα του 20 ~~στα~~
εκατό για άλλους χάλυβες. Για κράματα αλουμινίου η επιμή-
κυνσις του ρήγματος δεν θα είναι μικροτέρα του 12 ~~στα~~ εκατό.

(Προκειμένου περί ελάσματος ο άξων του τεμαχίου δοκιμής 2II.I25 της αντοχής εις εφελκυσμόν θα είναι δε δεξιές γωνίες (Συνεχίζεται) προς την κατεύθυνσιν του κυλίσματος. Η μόνιμος επιμήκυνσις εις ρήγμα ($I = 5\delta$) θα μετράται επί τεμαχίου δοκιμής κυκλικής διατομής εις την οποίαν το μήκος βαθμίσσεως I είναι ίσον προς πέντε φορές την διάμετρον δ · εάν χρησιμοποιηθούν τεμάχια-δοκιμής ορθογωνίου τομής, το μήκος της βαθμίσσεως θα υπολογίζεται δια του τύπου $I = 5.65 \sqrt{F_0}$, όπου F_0 είναι η αρχική επιφάνεια διατομής του τεμαχίου δοκιμής.)

Δεξαμενές προοριζόμενες για τη μεταφορά υγρών ε- 2II.I26 χόντων σημειών αναφλέξεως 55°C ή κάτω των 55°C και για τη μεταφορά ευφλέκτων αερίων θα συνδέονται με όλα τα εξαρτήματα του οχήματος με ισοδυναμικήν σύνδεσιν καθ' όσον είναι ικανές να γειωθούν ηλεκτρικώς. Κάθε μεταλλική επαφή ικανή να προκαλέσει ηλεκτροχημικήν διάβρωσιν θα αποφεύγεται.

Τα κελύφη και αι προσδέσεις των θα ανθίστανται 2II.I27 στις τάσεις (πιέσεις) τις οριζόμενες στην παράγραφο (I), και το πάχος του τοιχώματος των κελυφών θα είναι τουλάχιστον ως καθωρίσθη συμφώνως προς τας κατωτέρω παραγράφους (2) έως (6).

(I) Τα κελύφη και αι προσδέσεις των θα είναι ικανά να απορροούν, υπό το ανώτατον επιτρεπτόν φορτίον, τις κάτωθι τάσεις (πιέσεις):—

— προς την κατεύθυνσιν του ταξιδίου:

— δύο φορές το ολικόν βάρος·

— σε ορθές γωνίες προς την κατεύθυνσιν του τα-

Ξιδόλου: το ολικόν βάρος*

2II.I27

- καθέτως προς τα άνω: το ολικόν βάρος*

(Συνεχίζεται)

- καθέτως προς τα κάτω: δύο φορές το ολικόν βάρος.

Υπό τις τάσεις (πίεσεις) τις οριζόμενες ανωτέρω, η τάσις (πίεσις) εις το περισσότερον πιεζόμενον σημείον του κελύφους και τις προσδέσεις του δεν θα υπερβαίνει την τιμήν σ την οριζομένην εις το περιθώριον 2II.I25.

(2) Το πάχος του κυλινδρικού τοιχώματος του κελύφους θα είναι τουλάχιστον ίσον προς το λαμβανόμενον δια του κατωτέρω τύπου:

$$e = \frac{P \times D}{200 \times \sigma \times \lambda} \text{ MM},$$

όπου P = πίεσις υπολογισμού εις KG/CM^2 .

D = εσωτερική διάμετρος του κελύφους εις MM .

σ = επιτρεπτή τάσις (πίεσις), ως ορίζεται εις το περιθώριον 2II.I25(I), (α) και (β), και (2), εις KG/MM^2 . και

λ = συντελεστής, μη υπερβαίνων το I, επιτρέπων οιασδήποτε εξασθένεισιν οφειλομένην εις τις συγκολλήσεις.

Το πάχος εν ουδεμιά περιπτώσει θα είναι μικρότερον του οριζομένου στις παραγράφους (3) έως (6) κατωτέρω.

(3) Τα τοιχώματα και άκρα των κελυφών κυκλικής διατομής όχι μεγαλύτερας των I.80 μ εις διάμετρον, 2/ πλην των αναφερομένων εις την παράγραφον (6), δεν θα είναι πάχους μικροτέρου των 5 MM (χιλ.) προκειμένου περί μαλακού χάλυβος, 3/ ή ισοδυνάμου πάχους προκειμένου περί ετέρου μετάλλου. Εάν η διάμετρος υπερβαίνει τα I.80 μ, 2/ το πάχος τούτο θα αυξη-

νεταί εις 6 MM (χιλ.) εάν το κέλυφος είναι από μαλακόν 2ΠΙ.Ι27
 χάλυβα, 3/ ή ισοδυνάμου πάχους εάν το κέλυφος είναι από (Συνεχίζε-
 ται)
 έτερον μέταλλον. Δια του όρου "ισοδύναμον πάχος" νοείται
 το πάχος το λαμβανόμενον εκ του κατωτέρω τύπου:

$$\epsilon_I = \frac{I_0 \times \epsilon_0}{\sqrt[3]{R_{\mu_I} \times A_I}}$$

2/ Για κελύφη όχι κυκλικής διατομής, π.χ. κελύφη σχή-
 ματος κυτλού ή ελλειπτικά κελύφη, αι σημειούμεναι διάμετροι
 θα αντιστοιχούν προς τας υπολογιζόμενας βάσει κυκλικής δια-
 τομής της αυτής επιφανείας. Για τέτοια μεγέθη διατομής η
 ακτίς κυρτότητος (RADIUS OF CONVEXITY) του τοιχώματος του
 κελύφους δεν θα υπερβαίνει τα 2,000 MM (χιλ.) εις τα πλευρά
 ή τα 3,000 MM (χιλ.) εις το άνω καί κάτω μέρος.

3// Δια του όρου "μαλακός χάλυψ" νοείται ο χάλυψ ο έχων
 κατωτάτην αντοχήν θραύσεως μεταξύ 37 και 44 KG/MM².

(4) Οσάκις παρέχεται προστασία του κελύφους κατά
 ζημίας δια πλευρικής προσκρούσεως ή αναποδογυρίσματος, η
 αρμοδία αρχή μπορεί να επιτρέψει το προρρηθέν κατώτατον πά-
 χος να μειωθεί κατ'αναλογίαν με την παρεχομένην προστασίαν·
 εν τούτοις, το ρηθέν πάχος δεν θα είναι μικρότερον των 3 MM
 (χιλ.) προκειμένου περί μαλακού χάλυβος, 3/, ή του ισοδυνά-
 μου πάχους προκειμένου περί άλλων μετάλλων, για κελύφη δια-
 μέτρου όχι μεγαλύτερας των 1.80 μ. 2/ Για κελύφη με διάμε-
 τρον υπερβαίνουσιν τα 1.80 μ 2/ το προρρηθέν κατώτατον πάχος

θα αυξάνεται μέχρι 4 MM (χιλ.) προκειμένου περί μαλακού 2II.I27
 χάλυβος 3/ και μέχρι ισοδύναμου πάχους προκειμένου περί (Συνεχίζεται)
 άλλου μετάλλου. Δια του όρου "Ισοδύναμον πάχος" νοείται
 το πάχος το λαμβανόμενον δια του κάτωθι τύπου:-

$$\epsilon_I = \frac{I_0 \times \epsilon_0}{\sqrt[3]{R_{\mu_I} \times A_I}} \quad 4/$$

4/ Ο ανωτέρω τύπος προέρχεται από τον γενικόν τύπον

$$\epsilon_I = \epsilon_0 \sqrt[3]{\frac{R_{\mu_0} \times A_0}{R_{\mu_I} \times A_I}}$$

όπου $R_{\mu_0} = 37^\circ$

$A_0 = 27$ για τον χάλυβα παραπομπής.

R_{μ_I} = κατωτάτη αντοχή εις εφελκυσμόν του επιλεγέντος
 μετάλλου, εις KG/MM². και

A_I = κατωτάτη επιμήκυνσις του επιλεγέντος μετάλλου
 επί ρήγματος υπό πρέσιν (τάσιν) εφελκυσμού,
 εις ποσοστόν στα εκατό.

Σημειώσεις:- Τα παρακάτω μέτρα ή ισοδύναμα μέτρα μπορούν
 να υιοθετηθούν για τη προστασία του κελύφους κατά ζημιών:

(α) Στο κέλυφος μπορεί να παρασχεθεί σε αμφότερες τις πλευ-
 ρές, σε ύψος κείμενο μεταξύ της κεντρικής γραμμής/και
 και του κάτω ημίσεώς του, προστασία κατά της πλευρικής
 κρούσεως αποτελούμενη εκ κυλινδρωμένης μεταλλικής δοκού

εκτεινόμενης τουλάχιστον 25 MM (χιλ.) πέραν του με- 2II.I27
γίστου εξωτερικού άκρου του κελύφους. Η δοκός αυτή
θα είναι τέτοιας διατομής ώστε εάν είναι από μαλακόν
χάλυβα $\frac{3}{4}$ ή από ισχυρότερο υλικό να έχει ροπήν αντι-
στάσεως τουλάχιστον 5 CM^3 , της δυνάμεως κατευθυνομένης
οριζοντίως και σε ορθές γωνίες προς την κατεύθυνσιν
του ταξιδίου. Εάν γτιό αδύνατα υλικά χρησιμοποιηθούν,
η ροπή αντιστάσεως θα αυξάνεται αναλογικώς προς τα όρια
της επιμηκύνσεως. Η προστασία κατά του αναποδογυρίσμα-
τος μπορεί να πάρει τη μορφή ενισχυτικών δακτυλίων,
προστατευτικών προφυλακτικών καλυμμάτων (CANOPIES), ή
εγκασίων ή επιμήκων μελών τριούτου σχήματος που εν
περιπτώσει αναποδογυρίσματος ουδεμία ζημία να προκληθεί
εις τα εξαρτήματα και παρελκόμενα τα συναρμολογημένα
στο άνω μέρος του κελύφους.

·(β) Υπάρχει επίσης προστασία:

1.- οσάκις τα κελύφη είναι κατασκευασμένα με διπλά τοι-
χώματα, του χώρου μεταξύ των τελευταίων έχοντος εκ-
κενωθεί από τον αέρα. Το ολικόν πάχος του εξωτερικού
μεταλλικού τοιχώματος και του τοιχώματος του κελύ-
φους θα αντιστοιχούν προς το κατώτατον πάχος τοιχώ-
ματος το προβλεπόμενον στην παράγραφο (3), και το
κατώτατον πάχος του τοιχώματος αυτού τούτου του κε-
λύφους δεν θα είναι μικρότερον του κατωτάτου πάχους
του προβλεπομένου στη παράγραφο (4)·

2.- οσάκις τα κελύφη είναι κατασκευασμένα με διπλά τοι-
χώματα με ενδοιάμεσο στρώμα στερεών υλικών πάχους

τουλάχιστον 50 MM (χιλ.), του εξωτερικού τοιχώμα- 2II.I27
 (Συνεχίζε-
 τος έχοντος πάχος τουλάχιστον 0.5 MM εάν είναι κατα- ται)
 σκευασμένον από μαλακόν χάλυβα 3/ και τουλάχιστον
 2 MM εάν είναι κατασκευασμένον από πλαστικήν ύλην
 ενισχυμένην με ύalon εις ίνας (GLASS FIBRE). Στερεός
 αφρός (με ικανότητα απορροφήσεως της κρούσεως, ομοί-
 αν π.χ. του αφρού πολυουρεθάνης πυκνότητος περίπου
 400 KG/M³) μπορεί να χρησιμοποιηθεί ως το ενδιαμέσο
 στρώμα στερεού υλικού.

(5) Το πάχος των κελύφων δεξαμενών το προβλεπόμενον
 συμφώνως προς το περιθώριον 2II.I23(I), αι οποίαι δεξαμε-
 ναί είναι χωρητικότητος μεγαλυτέρας των 5.000 λιτρών ή ελ-
 ναι διηρημέναι σε στεγανά διαμερίσματα χωρητικότητος μονά-
 δος όχι μεγαλυτέρας των 5.000 λιτρών, μπορεί να ρυθμισθεί
 σε επίπεδο το οποίον, εκτός εάν προεβλέφθη άλλως στις διά-
 φορες Κλάσεις, εν τούτοις δεν θα είναι μικρότερον της καταλ-
 λήλου τιμής της εικονιζομένης στον κατωτέρω πίνακα:-

| Ανωτάτη ακτίς καμπυλότητος του κελύφους (M) | Χωρητικότης Κελύφους ή διαμέρισμα κελύφους (M ³) | Κατώτατο Πάχος (MM) Μαλακός Χάλυψ |
|---|--|---|
| 2 | 5.0 | 3 |
| 2 - 3 | 3.5 | 3 |
| | 3.5 αλλά 5.0 | 4 |

Οσάκις χρησιμοποιείται μέταλλο διάφορο του μαλα- 2II.127
κού χάλυβα, το πάχος θα καθορίζεται δι' ισοδυνάμου τύπου (Συνεχί-
ζεται)
διδομένου στη παράγραφο (3). Το πάχος των χωρισμάτων και
των κυματοειδών ελασμάτων ~~αφ' ουδε~~ ^{επειδή} περίπτωσιν θα είναι
μικρότερον εκείνου του κελύφους.

(6) Τα κυματοειδή ελάσματα και τα χωρίσματα θα
έχουν κοιλανθεί, με βάθος του κοιλώματος όχι μικρότερον
των 10 CM, ή θα έχουν αυλακωθεί, υποστεί κατατομήν ή άλλως
ενισχυθεί ~~δυναμική~~ ^{δυναμική} αντοχή. Η επιφάνεια του κυματοει-
δούς ελάσματος θα είναι τουλάχιστον 70 ~~πτα~~ εκατό της επι-
φανείας διατομής της δεξαμενής εντός της οποίας έχει εφαρ-
μοσθεί το κυματοειδές έλασμα.

(7) Τα προσόντα του κατασκευαστού ~~για~~ ^{για} την εκτέλεση
των εργασιών συγκολλήσεως θα είναι τα αναγνωριζόμενα υπό της
αρμόδας αρχής. Η συγκόλλησις θα εκτελεσθεί υπό επιδεξίων
συγκολλητών χρησιμοποιούντων μέθοδον συγκολλήσεως η αποτελε-
σματικότης της οποίας (συμπεριλαμβανομένων οιωνδήποτε απαι-
τούμένων θερμικών κατεργασιών) κατεδείχθη δια δοκιμής. Μη-
καταστρεπτικά δοκιμαί θα εκτελούνται δια ραδιογραφίας ή
υπερηχητικών κυμάτων, πρέπει δε να επιβεβαιούν ότι η ποιότης
της συγκολλήσεως είναι η ενδεδειγμένη δια τις τάσεις (πιέσεις).

Κατά τον καθορισμόν του πάχους των τοιχωμάτων
κελύφους συμφώνως προς την παράγραφον (2), αι κάτωθι τιμαί
του συντελεστού λάμτα (λ) θα υιοθετούνται ~~για~~ ^{για} τις συγκολ-
λήσεις:

0.8 : οσάκις αι λωρίδες συγκολλήσεως επιθεωρούνται
δσον είναι δυνατόν οπτικώς επ' αμφοτέρων των δ-

ψεών και υποβάλλονται εις μη-καταστρεπτικόν επι- 2ΠΙ.Ι27
τόπιον έλεγχον με ιδιαιτέραν προσοχήν εις τας συν- (Συνεχί-
δέσεις. ζεται)

Ο.9: οσάνκις όλες οι επιμήκεις λωρίδες καθ'όλον το μήκος των, όλες οι ενώσεις, το 25 στα εκατό των κυκλικών λωρίδων, και συγκολλήσεις για την συγκέντρωση (συναρμολόγησιν) ειδών εξοπλισμού μεγάλης διαμέτρου υποβάλλονται εις μη-καταστρεπτικούς ελέγχους. Οι λωρίδες θα ελέγχωνται οπτικώς εις αμφότερες τις πλευρές όσον είναι δυνατόν.

Ι.0: οσάνκις όλες οι λωρίδες υποβάλλονται εις μη-καταστρεπτικούς ελέγχους και επιθεωρούνται όσον είναι δυνατόν οπτικώς εις αμφότερες τις πλευρές. Τεμάχιον δοκιμής μιας συγκολλήσεως θα αφαιρείται.

Οσάνκις η αρμοδία αρχή έχει αμφιβολίες αναφορικώς με την ποιότητα των λωρίδων συγκολλήσεως, ενδέχεται να απαιτήσει συμπληρωματικούς ελέγχους.

(8) Θα λαμβάνωνται μέτρα προστασίας των κελυφών κατά του κινδύνου της παραμορφώσεως των ως αποτέλεσμα αρνητικής εσωτερικής πίεσεως.

(9) Η θερμική μόνωσις θα είναι έτσι σχεδιασμένη ώστε να εμποδίζεται η είσοδος εις, ή η λειτουργία των μηχανισμών πληρώσεως και εκκενώσεως και των βαλβίδων ασφαλείας.

Σταθερότης

Το ολικόν πλάτος της επιφανείας επιπέδου-εδάφους 2ΙΙ.Ι28 (GROUND-LEVEL BEARING SURFACE) (αποστάσεως μεταξύ των εξωτερικών σημείων επαφής με το έδαφος του δεξιού ελαστι-

κού και του αριστερού ελαστικού του ιδίου άξονος) θα ελ- 2II.I28
 ναι τουλάχιστόν ίσον προς 90 στα εκατό του ύψους του (Συνεχί-
 κέντρου βαρύτητας του εμφόρτου βυτιοφόρου οχήματος. Σε ζεται)
 αρθρωτό όχημα το βάρος των άξόνων της μεταφερούσης το φορ-
 τίο μονάδος του εμφόρτου ημι-ρυμουλκουμένου οχήματος (SEMI-
 TRAILER) δεν θα υπερβάλει το 60 στα εκατο του ονομαστι-
 κού ολικού εμφόρτου βάρους ολοκλήρου του αρθρωτού οχήματος.

Άρθρο 3

Είδη Εξοπλισμού

Τα είδη εξοπλισμού, οπουδήποτε ευρισκόμενα, 2II.I30
 θα είναι έτσι τακτοποιημένα (διατεταγμένα) ώστε να προ-
 φυλάσσονται από του κινδύνου να αποσπασθούν ή καταστρα-
 φούν διαρκούσης της μεταφοράς ή του χειρισμού. Θα κατέχουν
 τον βαθμόν ασφαλείας τον εφαρμοζόμενον και συγκρινόμενον
 με τον βαθμόν ασφαλείας αυτών τούτων των κελυφων, και ει-
 δικώτερα:

- θα είναι σύμφωνα με τις μεταφερόμενες ύλες·

και

- θα πληρούν τις διατάξεις του περίθωρου 2II.I2I.

Όσο το δυνατόν περισσότερα τμήματα (εξαρτήματα)
 λειτουργίας θα εξυπηρετούνται από τον μικρότερον δυνατόν
 αριθμόν οπών (ανοιγμάτων, θυρίδων) του τοιχώματος του κε-
 λύφους.

Η στεγανότητα των ειδών εξοπλισμού θα εξασφαλίζε-
 ται ακόμη και εις την περίπτωση αναποδογυρίσματος του ο-
 χήματος.

Τα παρεμβάσματα θα είναι κατασκευασμένα από υλι-

κον σύμφωνα προς την μεταφερομένην ύλην και θα αντι- 2II.I30
παρίστανται ευθύς ως η αποτελεσματικότης των εξασθενή- (Συνεχίζεται)
σει, π.χ. λόγω ηλικίας.

Παρεμβάσματα εξασφαλίζοντα την στεγανότητα των εξαρτημάτων λειτουργίας, αναγκαιούντα χειρισμόν διαρκοΰσης της κανονικής χρήσεως του οχήματος, θα είναι έτσι σχεδιασμένα και διατεταγμένα ώστε ο χειρισμός του εξαρτήματος λειτουργίας εις τον οποίον είναι ενσωματωμένα να μη τα καταστρέψει.

Κάθε κέλυφος πυθμενο-εκκενώσεως (BOTTOM- 2II.I31
DISCHARGE SHELL), και στη περίπτωση διαμερισματοποιημένων πυθμενο-εκκενώσεως κελυφών κάθε διαμέρισμα, θα είναι εφωσ διασμένον με δύο αμοιβαίως ανεξαρτήτους μηχανισμούς κλεισμάτος (SHUT-OFF DEVICES) συναρμολογημένους εν σειρά, του πρώτου λαμβάνοντος την μορφήν εσωτερικού ατμοφράκτου 5/ συναρμολογημένου, με την έδραν του, εσωτερικώς του κελύφους και του δευτέρου την μορφήν βαλβίδος εκροής (SLUICE-VALVE) ή ετέρου ισοδυνάμου μηχανισμού, εις έκαστον άκρον του φέροντος στορέα σωλήνος εκκενώσεως. Ο εσωτερικός ατμοφράκτης θα είναι σε θέση να λειτουργεί από επάνω ή από κάτω. Εάν είναι δυνατόν, η ρύθμις -ανοικτός ή κλειστός - του εσωτερικού ατμοφράκτου θα είναι σε θέση να επαληθεύεται εκ του εδάφους σε αμφότερες τις περιπτώσεις. Οι μοχλοί ελέγχου του εσωτερικού ατμοφράκτου θα είναι έτσι σχεδιασμένοι ώστε να αποφεύγεται οιονδήποτε εξ απροσεξίας άνοιγμα λόγω προσκρούσεως ή εξ απερισκέπτου ενεργείας. Ο εσωτερικός μηχανισμός κλεισμάτος πρέπει να εξακολουθεί να λειτουρ-

γεί εν περιπτώσει βλάβης (ζημίας) που εξωτερικού μοχλού 2II.I31
ελέγχου. (Συνεχίζεται)

Η θέσις ή και η κατεύθυνσις του κλεισίματος των βαλβίδων εκροής (υδατοφρακτών) πρέπει να είναι σαφώς εμφανής.

Δια να αποφευχθεί οιαδήποτε απώλεια του περιεχομένου εν περιπτώσει ζημίας (βλάβης) των εξωτερικών εξαρτημάτων πληρώσεως και εκκενώσεως (σωλήνων, πλευρικών μηχανισμών κλεισίματος), ο εσωτερικός ατμοφράκτης και η έδρα του θα προστατεύονται κατά του κινδύνου να αποσπασθούν υπό εξωτερικών πιέσεων ή θα είναι έτσι σχεδιασμένος ο εσωτερικός ατμοφράκτης και η έδρα του ώστε να ανθίστανται κατ'αυτών. Οι μηχανισμοί πληρώσεως και εκκενώσεως (συμπεριλαμβανομένων των φλαντζών ή ελικοτετμημένων πωμάτων) και αι (τυχόν) προστατευτικά καλύπτραι θα έχουν την δυνατότητα ασφαλίσεως των κατά οιοδήποτε απροσέκτου ανοίγματος.

Το κέλυφος ή έκαστον των διαμερισμάτων του θα είναι εφωδιασμένον με θυρίδα (άνοιγμα) αρκετά μεγάλην ώστε να επιτρέπεται η επιθεώρησις των.

Κελύφη προοριζόμενα δια την μεταφοράν υλών 2II.I32
όλαι αι οπαί (θυρίδες) των οποίων είναι άνω του επιπέδου επιφανείας του υγρού μπορούν να είναι εφωδιασμένα, εις το κάτω μέρος του κορμού των, με θυρίδα καθαρισμού (σχήματος γροθιάς οπή/θυρίς). Η οπή (θυρίς) αυτή πρέπει να είναι σε θέση να ασφαρίζεται με φλάντζα έτσι κλεισμένη ώστε να υπάρχει στεγανότης, το σχέδιό της δε πρέπει να έχει εγκριθεί υπό

της αρμοδίας αρχής ή υπό υπηρεσίας ορισθείσης υπό της 2II.I32
εν λόγω αρχής. (Συνεχίζεται)

Κελύφη προοριζόμενα ~~για~~ για την μεταφοράν υγρών 2II.I33
εχόντων πρeσιν ατμού όχι μεγαλύτεραν των 1.1 KG/CM^2
(απόλυτον) εις 50°C θα έχουν σύστημα εξαερισμού και μηχανισμό ασφαλείας για να αποφεύγεται το χύσιμον του περιεχομένου εάν το κέλυφος αναποδογυρίσει· άλλως πρέπει να συμμορφούνται προς τας διατάξεις των περιθωρίων 2II.I34 ή 2II.I35.

Κελύφη προοριζόμενα δια την μεταφοράν υγρών 2II.I34
εχόντων πρeσιν ατμού όχι μικροτέραν των 1.1 και όχι μεγαλύτεραν των 1.75 KG/CM^2 (απόλυτον) εις 50°C θα έχουν βαλβίδα ασφαλείας ρυθμισμένην εις πρeσιν θλιβομέτρου όχι μικροτέραν των 1.5 KG/CM^2 και η οποία βαλβίς πρέπει να είναι ολωσδιδλου ανοικτή εις πρeσιν μη υπερβαίνουσαν την πρeσιν δοκιμής· άλλως πρέπει να συμμορφούνται προς τις διατάξεις του περιθωρίου 2II.I35.

5/ Εκτός ως ενδέχεται να προβλέπεται άλλως στη περίπτωση κελυφων προοριζομένων δια την μεταφοράν ωρισμένων κρυσταλλοποιουμένων ή υψηλώς ιξωδών ουσιών, ή λίαν κατεψυγμένων υγροποιημένων αερίων, ή κογιτοποιημένων ή κοκκωδών υλών.

Κελύφη προοριζόμενα ~~για~~ για την μεταφοράν υγρών 2II.I35
 εχόντων πρέσιν ατμού όχι μικροτέραν των I.75 και όχι
 μεγαλυτέραν των 3 KG/CM² (απόλυτον) εις 50°C θα έχουν
 βαλβίδα ασφαλείας ρυθμισμένην εις πρέσιν θλιβομέτρου
 όχι μικροτέραν των 3 KG/CM² και η οποία (βαλβίδα) πρέ-
 πει να είναι πλήρως ανοικτή εις πρέσιν μη υπερβαίνουσαν
 την πρέσιν δοκιμής· άλλως πρέπει να είναι ερμητικώς κλει-
 σμένη. 6/

Μη κινούμενα εξαρτήματα όπως καλύμματα, κλεισί- 2II.I36
 ματα, κλπ. τα οποία είναι δυνατόν να έλθουν εις επαφήν
 τριβής ή επικρούσεως με κελύφη εξ αλουμινίου προοριζό-
 μενα δια την μεταφοράν ευφλέκτων υγρών εχόντων σημείον
 αναφλέξεως 55°C και κάτω ή δια την μεταφοράν ευφλέκτων
 αερίων μπορούν να κατασκευασθούν εκ μη προστατευομένου
 δυναμένου να διαβρωθεί (CORRODIBLE) χάλυβος.

2II.I37-

2II.I39

Άρθρο 4

Έγκρισις Τύπου

Η αρμοδία αρχή ή υπηρεσία ορισθείσα υπό της αρ- 2II.I40
 χής αυτής θα εκδίδει ~~εν~~ σχέση με ~~κάθε~~ νέον ~~τύπον~~ δε-
 ξαμενής πιστοποιητικόν βεβαιούν ότι, η πρωτότυπος δεξαμε-
 νή συμπεριλαμβανομένων των στερεώσεων του κελύφους τα ο-
 ποία έχει επιθεωρήσει, είναι κατάλληλος ~~για~~ για τον σκοπόν
~~για~~ για τον οποίον προορίζεται και πληροί τους όρους κατα-
 σκευής του Άρθρου 2, τις διατάξεις περί εξοπλισμού του
 Άρθρου 3 και τους ειδικούς όρους των Κλάσεων των μεταφε-

ρομένων υλών.

2II.I40

Τα αποτελέσματα της δοκιμής, οι ύλες δια (Συνεχίζεται)
την μεταφοράν των οποίων η δεξαμενή εγκρίνεται, και ο
αριθμός εγκρίσεώς της ως πρωτοτύπου θα καταχωρούνται σε
έκθεσιν δοκιμής.

Η έγκρισις αυτή θα είναι ισχυρή δια δεξαμε-
νές καπασκευασμένες συμφώνως προς το πρωτότυπον τούτο
άνευ τροποποιήσεως.

2II.I4I-

2II.I49

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Οι δεξαμενές και ο εξοπλισμός τους πρέπει, 2II.I50
είτε μαζί είτε χωριστά, να υφίστανται αρχικήν επιθεώ-
ρησιν προτού τεθούν ~~σε~~ υπηρεσί~~α~~. Η επιθεώρησις αυτή
θα περιλαμβάνει έλεγχον ότι η δεξαμενή συμμορφούται προς
το εγκριθέν πρωτότυπον, έλεγχον των χαρακτηριστικών του
σχεδίου, εξωτερικήν και εσωτερικήν εξέτασιν, έλεγχον
υδραυλικής πίεσεως εις την πίεσιν δοκιμής την σημειου-
μένην εις την πλάκα στοιχείων, και έλεγχον ικανοποιητι-
κής λειτουργίας του εξοπλισμού.

6/ Δια του όρου "Κελύφη ερμητικώς κλεισμένα" νοούνται
τα κελύφη των οποίων τα ανοίγματα είναι ερμητικώς κλεισμέ-
να και τα οποία δεν είναι εφωδιασμένα με βαλβίδες ασφα-
λείας, εϋθραυστον δίσκον ή άλλους ομοίους μηχανισμούς ασφα-
λείας. Κελύφη έχοντα βαλβίδες ασφαλείας των οποίων προηγεί-

τα εὐθραυστοι δόκοι θα θεωρούνται ερμητικῶς κλεισμένα.

Ο έλεγχος της υδραυλικῆς πιέσεως θα διεξάγεται 2II.150
προ της εγκαταστάσεως τοιαύτης θερμικῆς μονώσεως η (Συνεχίζεται).
οποία ήθελεν είναι απαραίτητος. Εάν τα κελύφη και ο εξοπλισμός των ελεγχθούν χωριστά, θα υποβάλωνται από κοινού
εις έλεγχον στεγανότητος μετά την συναρμολόγησιν.

Οι δεξαμενές θα υφίστανται περιοδικές επιθεωρήσεις εις τακτά χρονικά διαστήματα. 2II.151

Αι περιοδικές επιθεωρήσεις θα περιλαμβάνουν εξωτερικόν και εσωτερικόν έλεγχον και, ως γενικόν κανόνα, έλεγχον υδραυλικῆς πιέσεως. 7/ Η επικάλυψις (επένδυσις) δια θερμικὴν μόνωσιν και τα παρεμφερή θα αφαιρείται μόνον καθ' ό μέτρον απαιτεῖται δι' αξιόπιστον εκτίμησιν των χαρακτηριστικῶν του κελύφους.

Το ανώτατον χρονικόν διάστημα το μεσολαβούν μεταξύ περιοδικῶν επιθεωρήσεων θα είναι έξ έτη.

Επιπροσθέτως, έλεγχος στεγανότητος και έλεγχος ικανοποιητικῆς λειτουργίας όλου του εξοπλισμοῦ θα εκτελοῦνται κάθε τρία έτη.

7/ Σε ειδικές περιπτώσεις, και με την σύμφωνον γνώμην του εμπειρογνώμονος του εγκριθέντος υπό της αρμοδίας αρχῆς, ο έλεγχος της υδραυλικῆς πιέσεως μπορεί να αντικατασταθελ με έλεγχον πιέσεως χρησιμοποιούντα έτερον υγρόν ή αέριον, οσάκις τοιαύτη επιχέρησις δεν συνεπάγεται οιονδήποτε κίνδυνον.

Οι δοκιμασίαι, επιθεωρήσεις και έλεγχοι συμφώνως 2II.I52
 προς τα περιθώρια 2II.I50 και 2II.I5I θα εκτελούνται
 υπό εμπειρογνώμονος εγκεκριμένου υπό της αρμοδίας αρχής.
 Πιστοποιητικά θα εκδίδονται εικονίζοντα τα αποτελέσματα
 των επιχειρήσεων αυτών.

Οσάκις η ασφάλεια του κελύφους ή του εξοπλισμού 2II.I53
 του ενδέχεται να εξασθενήσει ως αποτέλεσμα επισκευών,
 τροποποιήσεων ή ατυχήματος, εξαιρετικός έλεγχος θα διε-
 ξάγεται υπό της αρμοδίας αρχής ή υπό εμπειρογνώμονος εγ-
 κριθέντος υπό της αρχής αυτής.

2II.I54-

2II.I59

Άρθρο 6

Μαρκάρισμα (Χάραξις)

Κάθε κέλυφος θα είναι εφωδιασμένον με μεταλλι- 2II.I60
 κήν πλάκα ανθεκτικήν εις την διάβρωσιν μονίμως συνδε-
 δεμένην εις το κέλυφος εις θέσιν ευχερώς προσιτήν δι'
 επιθεώρησιν. Τα κατωτέρω στοιχεία τουλάχιστον θα χαρασ-
 σονται επί της πλακίδος δια σφραγίσεως ή δι' οιασδήποτε ετέ-
 ρας παρεμφερούς μεθόδου. Τα στοιχεία αυτά μπορούν να χα-
 ράσσονται απ' ευθείας επί των τοιχωμάτων αυτού τούτου του
 κελύφους, εάν τα τοιχώματα είναι έτσι ενισχυμένα ώστε η
 αντοχή του κελύφους να μην εξασθενείται:

αριθμός εγκρίσεως·

επωνυμία ή σήμα κατασκευαστού·

αύξων αριθμός κατασκευαστού·

έτος κατασκευής·

πίεση δοκιμής σε KG/CM^2 (πίεση θλιβομέτρου)• 2II.I60
 χωρητικότητας σε λίτρες - στη περίπτωση κελύφων (Συνεχίζεται)
 πολλαπλών στοιχείων, η χωρητικότητας εκάστου
 στοιχείου•

θερμοκρασία σχεδίου (μόνον εάν ανω των $+50^{\circ}\text{C}$ ή
 κάτω των -20°C)•

ημερομηνία (μην και έτος) αρχικού ελέγχου και εάν
 προσφάτου περιοδικού ελέγχου• και
 σφραγίς του εμπειρογνώμονος ο οποίος διεξήγαγε
 τους ελέγχους.

Επιπροσθέτως, η επιτρεπομένη ανωτάτη πίεσις λειτουργ-
 γίας θα εγγράφεται επί των δια πίεσεως πληρουμένων ή δια
 πίεσεως εκκενουμένων κελύφων.

Τα κατωτέρω στοιχεία θα είναι εγγεγραμμένα επ' 2II.I6I
 αυτού τούτου του βυτιοφόρου ή επί πλακός:

ονοματεπώνυμον χειριστού•

βάρος άνευ φορτίου• και

επιτρεπόμενον ανώτατον βάρος.

Επιπροσθέτως, τα βυτιοφόρα θα φέρουν τις προβλεπόμενες
 ετικέττες κινδύνου.

2II.I62-

2II.I69

Άρθρο 7

Λειτουργία

Το πάχος των τοιχωμάτων του κελύφους δεν θα πλ- 2II.I70
 πτει, καθ' όλην την χρήσιν του, κάτω του κατωτάτου α-
 ριθμού του προβλεπομένου εις περιθώριον 2II.I27(2).

Τα κελύφη δεν θα φορτώνονται με οποιεσδήποτε 2II.I71
επικίνδυνες ύλες πλην εκείνων για τις οποίες έχει εγκρι-
θεί η μεταφορά. Τρόφιμα δεν θα μεταφέρονται εις τα κελύ-
φη αυτά εκτός εάν έχουν παρθεί τα απαραίτητα μέτρα για
να προληφθεί οιοσδήποτε κίνδυνος για τη δημόσια υγεία.

Οι παρακάτω βαθμοί πληρώσεως δεν θα υπερβαί- 2II.I72
νονται σε κελύφη προοριζόμενα για τη μεταφορά υγρών σε
θερμοκρασίες περιβάλλοντος:

- (I) (α) οσάκις εύφλεκτες ύλες μη παρουσιάζουσες προσθέ-
τους κινδύνους (π.χ. τοξικές ή διαβρωτικές ιδιο-
τητες) φορτώνονται σε κελύφη με σύστημα εξαερι-
σμού, μετά ή άνευ βαλβίδων ασφαλείας:

$$\text{βαθμός πληρώσεως} = \frac{100}{1 + \alpha (50 - T_F)} \quad \text{ή} \quad \frac{100}{1 + 35\alpha} \%$$

της χωρητικότητας·

- (β) οσάκις τοξικές ή διαβρωτικές ύλες, ανεξαρτήτως εάν
παρουσιάζουν ή δεν παρουσιάζουν κίνδυνο πυρκαϊάς,
φορτώνονται σε κελύφη με σύστημα εξαερισμού, μετά
ή άνευ βαλβίδων ασφαλείας:

$$\text{βαθμός πληρώσεως} = \frac{98}{1 + \alpha (50 - T_F)} \quad \text{ή} \quad \frac{98}{1 + 35\alpha} \%$$

της χωρητικότητας·

- (γ) οσάκις χαμηλής ^{συμπυκνώσεως} ~~πυκνότητας~~ εύφλεκτες ύλες και χαμηλής
πυκνότητας οξέα και αλκαλικά διαλύματα φορτώνονται
σε κλειστά κελύφη:

$$\text{βαθμός πληρώσεως} = \frac{97}{1 + \alpha (50 - T_F)} \quad \text{ή} \quad \frac{97}{1 + 35\alpha} \%$$

της χωρητικότητας·

2II.172

- (δ) οσάνεις υψηλής συμπυκνώσεως τοξικές ύλες και υψηλής συμπυκνώσεως οξέα και αλκαλικά διαλύματα φορτώνονται σε κλειστά κελύφη: (Συνεχίζεται)

$$\text{βαθμός πληρώσεως} = \frac{95}{I \neq \alpha (50 - T_F)} \quad \text{ή} \quad \frac{95}{I \neq 35\alpha} \quad ^\circ/\circ$$

της χωρητικότητας.

- (2) Στους ανωτέρω τύπους, το α αντιπροσωπεύει (παριστά) τον μέσον συντελεστήν της διαστολής κατ' όγκον του υγρού μεταξύ 15° και 50°C , τ.έ. δι' ανωτάτην μεταβολήν θερμοκρασίας 35°C .

$$\text{το } \alpha \text{ υπολογίζεται δια του τύπου: } \alpha = \frac{D_{15} - D_{50}}{35 \times D_{50}},$$

όπου D_{15} και D_{50} είναι οι πυκνότητες του υγρού στους 15°C και 50°C αντιστοίχως και T_F είναι η μέση θερμοκρασία του υγρού κατά τον χρόνο της πληρώσεως.

- (3) Οι διαπάξεις της ανωτέρω παραγράφου (I) δεν θα ισχύουν για κελύφη των οποίων το περιεχόμενον συντηρείται, μέσω μηχανισμού (συσκευής) θερμάνσεως εις θερμοκρασίαν άνω των 50°C διαρκούσης της μεταφοράς. Σε τέτοια περίπτωση, ο βαθμός πληρώσεως στην αρχή θα είναι τέτοιος, και η θερμοκρασία θα έχει έτσι ρυθμισθεί, ώστε το κέλυφος να μη πληρούται άνω του 95 τοις εκατόν της χωρητικότητός του οποτεδήποτε διαρκούσης της μεταφοράς, και η θερμοκρασία πληρώσεως να μην υπερβαίνεται.
- (4) Οσάνεις θερμές ύλες φορτώνονται, η θερμοκρασία της εξωτερικής επιφανείας του κελύφους ή της θερμικής μονώσεως δεν θα

υπερβαίνει τους 70°C διαρκούσης της μεταφοράς.

Οσάνκις κελύφη προοριζόμενα για τη μεταφορά υγ- 2II.I73
ρών g/ δεν χωρίζονται με χωρίσματα ή κυματοειδή ελάσμα-
τα σε τμήματα χωρητικότητας όχι μεγαλύτερας των 7.500 λι-
τρών, θα πληρούνται όχι ολιγώτερο του 80 τοις εκατόν της
χωρητικότητος των εκτός εάν είναι πρακτικώς άδεια.

Τα κελύφη θα κλείουν κατά τριούτον τρόπον ώστε 2II.I74
το περιεχόμενον να μη μπορεί να τρέξει ανεξέλεγκτον. Η
στεγανότης των κλεισιμάτων του κελύφους, ειδικώτερον εις
το άνω μέρος του βυθομετρικού-σωλήνος, θα επαληθεύεται υπό
του αποστολέως μετά την πλήρωσιν του κελύφους.

Όπου έχουν εφαρμοσθεί πολλά συστήματα κλεισίματος 2II.I75
εν σειρά, το σύστημα που είναι πλησιέστερον προς την μετα-
φερομένην ύλην θα κλείεται πρώτον.

Ουδέν επικίνδυνον υπόλειμμα θα παραμένει εις το 2II.I76
εξωτερικόν των κελυφών διαρκούσης της μεταφοράς, ασχέτως
εάν είναι πλήρη ή άδεια.

Για να είναι δεκτά για μεταφορά, τα άδεια κελύ- 2II.I77
φη πρέπει να είναι κλεισμένα και και να έχουν τον αυτόν
βαθμόν στεγανότητος ως εάν ήσαν πλήρη.

Οι σωλήνες συνδέσεως μεταξύ ανεξαρτήτων αλλά 2II.I78
διασυνδεομένων κελύφων μονάδος μεταφοράς θα είναι κενοί
διαρκούσης της μεταφοράς.

Εύκαμπτοι σωλήνες πληρώσεως και εκκενώσεως οι ο- 2II.I79
ποίοι δεν είναι μονίμως συνδεδεμένοι με το κέλυφος θα εί-
ναι άδειοι (κενοί) διαρκούσης της μεταφοράς.

Άρθρο 8Μεταβατικά ΜέτραΜεταβατικά Μέτρα

2II.180

Σταθερές (μόνιμες δεξαμενές, βυτιοφόρα), αποσυναρμολογούμενες δεξαμενές και συστοιχίες δοχείων κατασκευής προ της 1ης Οκτωβρίου 1978 και μη συμμορφούμεναι προς τας διατάξεις της παρούσης Προσθήκης μπορούν, εάν κατεσκευάσθησαν συμφώνως προς τας διατάξεις της ADR, να χρησιμοποιηθούν δια περιόδον έξι ετών από 1ης Οκτωβρίου 1978. Σταθερές (μόνιμες δεξαμενές, βυτιοφόρα), αποσυναρμολογούμενες δεξαμενές και συστοιχίες δοχείων προοριζόμενες για τη μεταφορά αερίων της Κλάσεως 2 μπορούν εν τούτοις να χρησιμοποιηθούν για 12 έτη από της αυτής ημερομηνίας εάν ετηρήθη ο όρος της περιοδικής δοκιμής (ελέγχου).

Κατά την λήξιν της περιόδου αυτής οι προρρηθείσες 2II.181 μονάδες μπορούν να διατηρηθούν εφ' υπηρεσία εάν ο εξοπλισμός του κελύφους πληροί τους παρόντας όρους. Το πάχος του τοιχώματος του κελύφους, εκτός στη περίπτωση κελύφων προοριζομένων για τη μεταφορά αερίων της Κλάσεως 2, 7^ο και 8^ο, θα είναι κατάλληλον για πίεση υπολογισμού όχι μικροτέραν των 4 KG/CM² (πίεση θλιβομέτρου) προκειμένου περί μαλακού χάλυβος και όχι μικροτέραν των 2 KG/CM² (πίεση θλιβομέτρου) προκειμένου περί αλουμινίου και κραμάτων αλουμινίου. Για άλλες, πλην των κυκλικής διατομής δεξαμενών, η χρησιμοποιούμενη ως βάσις υπολογισμού διάμετρος θα είναι εκείνη κύκλου του οποίου το εμβαδόν είναι ίσον προς εκείνο της πραγματικής διατομής της δεξαμενής.

8/ Για την εφαρμογή της παρούσης διατάξεως, ύλες των οποίων ο χρόνος εκροής εις τούς 20°C από κύπελο DIN (DIN CUP) με οπήν εκροής 4-MM δεν υπερβαίνει τα 10 λεπτά)αντιστοιχούντα σε χρόνον εκροής μικρότερον των 96 δευτερολέπτων εις 20°C από κύπελο FORD No. 4 ή μικρότερον των 2,680 CENTISTOKES) θα θεωρούνται ότι είναι υγρά.

Οι περιοδικοί έλεγχοι για σταθερές (μόνιμες δεξα- 2II.182 μενές, βυτιοφόρα), αποσυναρμολογούμενες δεξαμενές και συστοιχίες δοχείων/εν υπηρεσία δυνάμει των μεταβατικών διατάξεων τούτων θα διεξάγονται συμφώνως προς τις διατάξεις του Άρθρου 5 και τις οικείες ειδικές διατάξεις των διαφόρων Κλάσεων. Εντός εάν αι προηγηθείσαι διατάξεις προβλεπαν υψηλοτέραν πρέσιν δοκιμής, πρέσις δοκιμής εκ 2 KG/CM² (πρέσις θλιβομέτρου) θα επαρκεί για κελύφη εξ αλουμινίου ή κελύφη κράματος αλουμινίου.

Σταθερές (μόνιμες δεξαμενές, βυτιοφόρα), αποσυναρ-2II.183 μολογούμενες δεξαμενές και συστοιχίες δοχείων που πληρούν τις μεταβατικές αυτές διατάξεις μπορούν να χρησιμοποιηθούν για περίοδον 15 ετών από 1ης Οκτωβρίου 1978 για τη μεταφορά των επικινδύνων υλών δια τις οποίες ενεκρίθησας. Η μεταβατική περίοδος αυτή δεν θα ισχύει για σταθερές (μόνιμες) δεξαμενές (βυτιοφόρα), αποσυναρμολογούμενες δεξαμενές και συστοιχίες δοχείων προοριζόμενες για τη μεταφορά υλών της Κλάσεως 2, ή για σταθερές (μόνιμες) δεξαμενές (βυτιοφόρα), αποσυναρμολογούμενες δεξαμενές και συστοιχίες δοχείων των οποί-

ων το τοίχος του τοιχώματος και τα είδη εξοπλισμού πληρού-
 τις διατάξεις της παρούσης Προσθήκης.

2Π.184-

2Π.199

Προσθήκη Β.Ια

Κεφάλαιο II

ΕΙΔΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΣΥΜΠΛΗΡΟΥΣΑΙ Η ΤΡΟΠΟΠΟΙΟΥΣΑΙ ΤΙΣ
 ΔΙΑΤΑΞΕΙΣ ΤΟΥ ΚΕΦΑΛΑΙΟΥ I

Ελάσις 2

Αέρια: πεπιεσμένα, υγροποιημένα ή διαλυμένα υπό πίεση

2Π.200-

2Π.219

Άρθρο I

Γενικά· αντικείμενον· ορισμοί

2Π.220

Άρθρο 2

Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά των υλών των 2Π.221
 1^ο έως 6^ο και 9^ο θα είναι κατασκευασμένα από χάλυβα.

Δι' αποκλίσεως εκ του περιθωρίου 2Π.125(3), κατωτάτη επι-
 μήκυνση εις ρήγμα εκ 14 στα εκατό μπορεί να γίνεται
 δεκτή προκειμένου περι μη-συγκολλημένων κελύφων.

Οι διατάξεις της Προσθήκης Β.Ιδ, περιθώρια 2Π.222
 2Ι4.250 έως 2Ι4.285, θα ισχύουν για τα υλικά και την κατα-
 σκευήν κελύφων προοριζομένων για τη μεταφορά αερίων των
 7^ο και 8^ο.

Κελύφη προοριζόμενα για τη μεταφορά χλωρίου ή φωσ-

γενίου (3° (αT)) θα σχεδιάζονται για πίεση τουλάχιστον 22 KG/CM (πίεση θλιβομέτρου).

2II.223-

2II.229

Άρθρο 3

Είδη Εξοπλισμού

Οι σωλήνες εκκενώσεως των κελύφων θα είναι ικανές να κλείουν όχι μόνον δια των μηχανισμών (συσκευών) των προβλεπομένων εις περιθώριον 2II.131 αλλά επιπροσθέτως δια τυφλής φλάντζας ή κάποιου άλλου εξίσου αξιοπίστου μηχανισμού (συσκευής). 2II.230

Κελύφη προοριζόμενα για τη μεταφορά υγροποιημένων 2II.231 αερίων μπορούν να είναι εφοδιασμένα, επιπροσθέτως των οπών (θυρίδων) των προβλεπομένων υπό του περιθωρίου 2II.131, με οπές (θυρίδες, ανοίγματα) για την εφαρμογήν δεικτών, συμπεριλαμβανομένων θλιβομέτρων πίεσεως, και θερμομέτρων και με οπές διαφυγής, ως απαιτείται για τη λειτουργία και ασφάλειά τους.

Οι μηχανισμοί ασφαλείας θα πληρούν τους κάτωθι 2II.232 δρους:-

(I) Οπές (ανοίγματα) πληρώσεως και εκκενώσεως κελύφων προοριζομένων για τη μεταφορά υγροποιημένων ευφλεκτών ή και τοξικών αερίων θα είναι εφοδιασμένες με στιγμιαίου κλεισίματος εσωτερικού μηχανισμού ασφαλείας ο οποίος κλείνει αυτομάτως σε περίπτωση απροσέκτου κινήσεως της δεξαμενής. Πρέπει επίσης να είναι δυνατόν να κλείνει ο μηχανισμός με τηλεχειριστήριο.

(2) Όλες οι οπές (ανυλγµατα), πλην εκείνων που στε- 2II.232
γάζουν βαλβίδες ασφαλείας και των κλειστών οπών εκροής, (Συνεχί-
ζεται)
των κελύφων των προοριζομένων για τη μεταφορά υγροποιη-
μένων ευφλέκτων ή και τοξικών αερίων, εάν η ονομαστική
των διαμέτρος είναι μεγαλύτερα των 1.5 MM, θα είναι εφοδια-
σμένες με εσωτερικόν μηχανισµόν κλεισίματος.

(3) Δι' αποκλίσεως εκ των διατάξεων των παραγράφων (I)
και (2), κελύφη προοριζόμενα για τη μεταφορά πολύ-κατεψυγ-
μένων (DEEPLY-REFRIGERATED) ευφλέκτων ή και τοξικών υγρο-
ποιημένων αερίων μπορούν να είναι εφοδιασμένα με εξωτερι-
κούς μηχανισµούς αντί εσωτερικών μηχανισµών εάν οι εξωτε-
ρικοί μηχανισµοί παρέχουν προστασίαν τουλάχιστον ισοδύναµον
της παρεχομένης υπό του τοιχώματος του κελύφους.

(4) Εάν τα κελύφη είναι εφοδιασμένα με δείκτες (θλιβό-
µετρα), οι τελευταίοι δεν θα κατασκευάζονται από διαφανές
υλικόν ἐρχόμενον εις άµεσον επαφήν με την μεταφερομένην
ύλην. Εάν υπάρχουν θερµόµετρα δεν θα προεξέχουν απ' ευθείας
εις το αέριον ή το υγρόν μέσω του τοιχώματος του κελύφους.

(5) Κελύφη προοριζόμενα για τη μεταφορά χλωρίου ή/θελ-
ου (3° (α T)) ή μεθυλο-μερκαπτάνης ή υδροθείου (3° (β T))
δεν θα έχουν οπήν κάτωθι της στάθμης επιφανείας του υγρού.
Επιπροσθέτως, οπές καθαρισµού (οπές σχήματος γροθιάς) ως
αναφέρονται εις το περιθώριον 2II.132 δεν θα επιτρέπονται.

(6) Οπές πληρώσεως και εκκενώσεως κείμεναι εις το άνω
µέρος των κελυφων θα είναι εφοδιασμένοι όχι µόνον με ό,τι
προβλέπεται εις την παράγραφον (I), αλλά επιπροσθέτως με
δεύτερον, εξωτερικόν, μηχανισµόν κλεισίματος. Ο μηχανισµός

αυτός θα είναι ικανός να κλείει δια τυφλής φλάντζας 2II.232
καποιου άλλου εξ ίσου αξιοπρίστου μηχανισμού. (Συνεχίζε-
ται.)

Οι βαλβίδες ασφαλείας θα πληρούν τους κάτωθι 2II.233
δρους:-

(I) Κελύφη προοριζόμενα για τη μεταφορά αερίων των I^ο έως 6^ο και 9^ο μπορεί να είναι εφοδιασμένα με όχι περιμυσότερες των δύο βαλβίδων ασφαλείας των οποίων η συνολική καθαρή επιφάνεια διατομής της διελεύσεως εις την έδραν ή τις έδρες δεν θα είναι μικρότερη των 20 CM² ανά 30 M³ ή μέρους αυτών της χωρητικότητας του δοχείου. Οι βαλβίδες αυτές θα είναι ικανές να ανοίγουν αυτομάτως με πίεσιν μεταξύ 0.9 και 1.0 φορές την πίεσιν δοκιμής του κελύφους εις το οποίον έχουν εφαρμοσθεί. Θα είναι τοιούτου τύπου ώστε να ανθίστανται κατά των δυναμικών τάσεων (πιέσεων) συμπεριλαμβανομένης της υγράς απότόμου ροής. Η χρήσις βαλβίδων νεκρού-βάρους ή αντιβάρου απαγορεύεται.

Κελύφη προοριζόμενα για τη μεταφορά αερίων των I^ο έως 9^ο, επικινδύνων δια τα αναπνευστικά όργανα ή συνεπαγομένων κίνδυνον δηλητηριάσεως 9/ δεν θα έχουν βαλβίδες ασφαλείας εκτός εάν των βαλβίδων ασφαλείας προηγείται εύθραυστος δίσκος. Εις την τελευταίαν περίπτωση η διάταξις του ευθραύστου δίσκου και της βαλβίδος ασφαλείας θα απαιτείται να είναι ικανοποιητική δια την αρμόδιαν αρχήν.

9/ Αέρια χαρακτηριζόμενα με το γράμμα "T" εις την Κατάστασιν των υλών θεωρούνται ως αέρια βλαβερά δια τα αναπνευστικά όργανα ή συνεπαγόμενα κίνδυνον δηλητηριάσεως.

Οσάνεις βυτιοφόρα προορίζονται για μεταφορά δια 2II.233 θαλάσσης, οι διατάξεις της παρούσης παράγραφου δεν θα (Συνεχίζεται) απαγορεύουν την εφαρμογήν βαλβίδων ασφαλείας συμφώνως προς τας διατάξεις τας διεπούσας τον τρόπον μεταφοράς.

(2) Κελύφη προοριζόμενα για τη μεταφορά αερίων των 7^ο και 8^ο θα είναι εφοδιασμένα με δύο ανεξαρτήτους βαλβίδες ασφαλείας, εκάστη των οποίων έτσι σχεδιασμένη ώστε να επιτρέπουν τα αέρια τα σχηματιζόμενα δι' εξατμίσεως διαρκούσης της κανονικής λειτουργίας να διαφεύγουν εκ του κελύφους κατά τοιούτον τρόπον ώστε η πρέσις να μην υπερβαίνεται οποτεδήποτε περισσότερο του 10 στα εκατ. της πίεσεως λειτουργίας της οριζομένης επί του κελύφους. Μία των δύο βαλβίδων ασφαλείας μπορεί να αντικατασταθελ με ένα εύθραυστο δίσκο ο οποίος θα είναι τέτοιος ώστε να εκρήγνυται εις την πρέσιν δοκιμής. Σε περίπτωση απώλειας του κενού κελύφους διπλού-τοιχώματος, ή καταστροφής του 20 στα εκατ. της μονώσεως του κελύφους ενδς-τοιχώματος, η βαλβίς ασφαλείας και ο εύθραυστος δίσκος θα επιτρέπουν μία τέτλη εκροή ώστε η πρέση εντός του κελύφους να μη μπορεί να υπερβεί την πρέση δοκιμής.

(3) Οι βαλβίδες ασφαλείας των κελύφων των προοριζομένων για την μεταφοράν αερίων των 7^ο και 8^ο θα είναι ικανές να ανοίγουν εις την πρέσιν λειτουργίας την οριζομένην επί του κελύφους. Θα είναι έτσι σχεδιασμένες ώστε να λειτουργούν χωρίς βλάβην (ελάττωμα) ακόμη και εις την χαμηλωτέραν των θερμοκρασιών λειτουργίας. Η αξιοπιστία της

λειτουργίας των εις την θερμοκρασίαν αυτήν θα διαπι- 2II.233
στούται και ελέγχεται είδε ~~με~~ έλέγχο κάθε βαλβί- (Συνεχίζε-
δας είτε ~~με~~ έλέγχο δείγματος βαλβίδος ~~κάθε~~ τύπου- ται)
σχεδίου.

Θερμική Μόνωση

2II.234

(I) Εάν κελύφη προοριζόμενα δια την μεταφοράν υγροποιημένων αερίων των 3^ο και 4^ο είναι εφοδιασμένα με θερμικήν μόνωσιν, η ~~τεταία~~ μόνωσις θα αποτελείται είτε:-

- από προστατευτικόν κάλυμμα/ηλίου καλύπτον ^{κατά του}
^{ολιγά-}
όχι/μέρον του άνω τρίτου αλλά όχι περισσότε-
τερον του άνω ημίσεως της επιφανείας του κε-
λύφους και χωριζόμενον από το κέλυφος με διά-
στημα αέρος τουλάχιστον 4 CM εγκάρσιως· ή
- από πλήρη επένδυσιν, καταλλήλου πάχους, μονω-
τικών υλικών.

(2) Κελύφη προοριζόμενα για την μεταφοράν αερίων των 7^ο και 8^ο θα είναι θερμικώς μονωμένα. Η θερμική μόνω-
σις θα εξασφαλίζεται ~~με~~ συνεχής επικάλυψη. Εάν το διά-
στημα μεταξύ του κελύφους και της επικάλυψεως έχει εξαντλη-
θεί από αέρα (μόνωσις κενού), η προστατευτική επικάλυψις
θα είναι έτσι σχεδιασμένη ώστε να αντέχει άνευ παραμορ-
φώσεως ~~έως~~ μ.ε. εξωτερικήν πίεσιν εκ τουλάχιστον 1 KG/CM²
(πίεσιν θλιβομέτρου). Δι' αποκλίσεως εκ του περιθωρίου
2II.102(2), εξωτερικοί και εσωτερικοί ενισχυτικοί μηχανι-
σμοί μπορούν να λαμβάνωνται υπόψη κατά τους υπολογισμούς.
Εάν η επικάλυψις είναι έτσι κλεισμένη ώστε να είαι αεριο-

στεγανή, θα προμηθευθεί μηχανισμός ο οποίος θα προ- 2II.234
λαμβάνει οιαδήποτε επικίνδυνον πλέσιν να αναπτυχθεί (Συνεχίζε-
ται)
εις το απομονωτικόν στρώμα ~~δε~~ περίπτωσιν μη-καταλήλου
αεριο-στεγανότητας του κελύφους ή των ειδών εξοπλισμού
αυτού. Ο μηχανισμός θα εμποδίζει την διείσδυσιν της
υγρασίας εις την θερμο-μονωτικήν επικάλυψιν.

(3) Κελύφη προοριζόμενα ~~για~~ για την μεταφοράν υγρο-
ποιημένων αερίων εχόντων σημείον βρασμού κάτω των -182°C
εις ατμοσφαιρικήν πλέσιν ~~δεν~~ θα περιλαμβάνουν οιαδήποτε
καύσιμον υλικόν είτε εις την θερμικήν μόνωσιν είτε εις
το μέσον συνδέσεως (στερεώσεως) με το πλαίσιον.

Το μέσον συνδέσεως (στερεώσεως) των κελυφών
των προοριζομένων ~~για~~ για την μεταφοράν αργού, αζώτου, ηλίου
ή νέου της $7^{\circ}(\alpha)$ ή υδρογόνου της $7^{\circ}(\beta)$ μπορεί, με την
συνάνεσιν της αρμοδίας αρχής, να περιέχει πλαστικήν θ-
λην μεταξύ της εσωτερικής και της εξωτερικής επικάλυψεως.

Για συστοιχίες δοχείων (βλέπε περιθώριον 2II.235
22I2(I)(γ)) IO/ θα τηρούνται οι κάτωθι όροι:-

(I) Εάν ένα των στοιχείων κελύφους πολλαπλών
στοιχείων είναι εφοδιασμένον με βαλβίδα ασφαλείας και
μηχανισμός κλεισίματος έχουν προμηθευθεί μεταξύ των
στοιχείων, κάθε στοιχείον θα είναι έτσι εφοδιασμένον.

(2) Οι μηχανισμοί πληρώσεως και εκκενώσεως μπο-
ρούν να στερεωθούν σε σωλήνωσιν.

(3) ~~Κάθε~~ Κάθε στοιχείον κελύφους πολλαπλών-
στοιχείων προοριζομένου δια την μεταφοράν πεπιεσμένων
αερίων των 1° και 2° τα οποία είναι επιβλαβή ~~για~~ για τα ανα-

πνευματικά όργανα ή συνεπάγονται κίνδυνον δηλητηρίασεως 2II.235
9/ ή είναι εύφλεκτα, θα είναι ικανά να μονωθούν με (Συνεχίζεται)
βαλβίδα (κρουρόν διηλίδος).

(4) Τα στοιχεία κελύφους πολλαπλών στοιχείων προο-
ριζομένου για την μεταφοράν υγροποιημένων αερίων των 3^ο
έως 6^ο θα είναι έτσι σχεδιασμένα ώστε να μπορούν να πλη-
ρούνται χωριστά και να μπορούν να τηρούνται μονωμένα με
βαλβίδα ικανή να στεγανοποιηθεί.

(5) Οι όροι θα έχουν εφαρμογήν για δεξαμενές
αποσυναρμολογούμενες (λυόμενες):-

(α) θα διασυνδένονται με σωλήνωσιν* και

(β) εάν οι αποσυναρμολογούμενες (λυόμενες) δε-
ξαμενές μπορεί να κυλινδροσυμπιεσθούν, οι
βαλβίδες θα είναι εφοδιασμένες με προστα-
τευτικά πώματα.

Με απόκλιση από τις διατάξεις του περιθωρίου 2II.236
2II.23I, κελύφη προοριζόμενα για την μεταφοράν λίαν-
κατεφυγμένων υγροποιημένων αερίων δεν χρειάζεται να έχουν
θυρίδα επιθεωρήσεως.

2II.237-

2II.239

10/ Οι διατάξεις της παρούσης Προσθήκης δεν έχουν
εφαρμογήν επί πλαισίων κυλινδρών.

Άρθρο 4Εγκρίσεις Τύπου

(Ουδεμία ειδική διάταξις)

2II.240

2II.249

Άρθρο 5Δοκιμές/Έλεγχοι

Τα υλικά των κελυφών των προοριζομένων ~~για~~ για την 2II.250
μεταφοράν αερίων των 7^ο και 8^ο θα ελέγχονται δια της με-
θόδου της περιγραφομένης εις την Προσθήκην V.Ιδ, περιθώ-
ρια 2I4.275 έως 2I4.285.

Τα επίπεδα της πίεσεως-δοκιμής θα έχουν ως κάτω 2II.25I
θι:-

(I) Δια κελύφη προοριζόμενα δια την μεταφοράν αερίων
των I^ο έως και 2^ο: τα επίπεδα τα οριζόμενα εις περιθώριον
22I9 (I) και (3).

(2). Δια κελύφη προοριζόμενα δια την μεταφοράν αερίων
των 3^ο και 4^ο:

(α) εάν τα κελύφη δεν είναι διαμέτρου άνω των I.5 M,
τα επίπεδα τα οριζόμενα εις περιθώριον 2220(2)•

(β) εάν τα κελύφη είναι διαμέτρου μεγαλύτερας των
I.5 M, τα επίπεδα II/ τα οριζόμενα κατωτέρω:

II/ I.- Αι προβλεπόμεναι πιέσεις δοκιμής είναι:-

(α) εάν το κέλυφος είναι εφοδιασμένον με θερμικήν
μόνωσιν, τουλάχιστον ίσην προς την πίεσιν ατ-
μού, ελαττωμένην κατά I KG/CM², του υγρού εις
60^οC, και όχι μικροτέραν των IO KG/CM².

(β) εάν το κέλυφος δεν είναι εφοδιασμένον με θερμικήν μόνωσιν, τουλάχιστον ίση προς την πίεσιν ατμού, ελαττωμένη κατὰ 1 KG/CM^2 , του υγρού εις 65°C , και όχι μικροτέρα των 10 KG/CM^2 .

2.- Εν όψει της υψηλής τοξικότητας του φωσγενίου ($3^\circ (\alpha \text{ T})$), η κατωτάτη πίεσις δοκιμής του αερίου τούτου ορίζεται εις 15 KG/CM^2 εάν το κέλυφος είναι εφοδιασμένον με θερμικήν μόνωσιν και εις 17 KG/CM^2 εάν δεν είναι έτσι εφοδιασμένον.

3.- Οι ανώταται τιμές $\frac{1}{\text{KG}}$ KG/λίτρον αι προβλεπόμεναι, για τον βαθμόν της πληρώσεως υπολογίζονται ως κάτωθι: ανώτατον βάρος του περιεχομένου ανά λίτρον χωρητικότητος = $0.95 \times$ ειδικόν βάρος της υγράς φάσεως εις 50°C .

2II.25I (Συνεχ.)

| Περιγραφή ύλης | Αριθμός Είδους | Κατωτάτη Πίεσις Δοκιμής δια Κελύφη μετά - άνευ θερμικής μονώσε- ως | | Ανώτατον Βάρος Περιε- χομένου ανά λίτρον χωρη- τικότητος |
|--|-------------------|--|--------------------|--|
| | | KG/CM ² | KG/CM ² | |
| Βρωμοχλωροδιφθορομεθάνιο (R 12 BI), | | | | |
| Αριθμός Είδους | $3^\circ(\alpha)$ | 10 | 10 | 1.61 |
| Χλωροδιφθορομεθάνιο (R 22) | $3^\circ(\alpha)$ | 24 | 26 | 1.03 |
| Χλωροπενταφθοροαιθάνιο (R 115) | $3^\circ(\alpha)$ | 20 | 23 | 1.08 |
| I-Χλωρο-2,2,2-τριφθορο- αιθάνιο (R 133 α) | $3^\circ(\alpha)$ | 10 | 10 | 1.18 |
| Διχλωροδιφθορομεθάνιο (R 12) | $3^\circ(\alpha)$ | 15 | 16 | 1.15 |

211.251 (Συνεχίζεται)

| Περιγραφή ύλης | Αριθμός Κατωτάτη Πίεσις | | Ανώτατον | |
|----------------|-------------------------|--------------------|--------------------|--------------------|
| | Είδους | Δοκιμής δια Κελύφη | Βάρους Περιε- | |
| | | | μετά - άνευ | χομένου ανά |
| | | | θερμικής μονώσεως | λίτρον χωρη- |
| | | | | τικότητας |
| | | | KG/CM ² | KG/CM ² |
| | | | | KG |

(Σ υ ν ε χ ε ι α)

| | | | | |
|--|----------------------|----|----|------|
| Διχλωροφθορομεθάνιο (R 21) | 3 ⁰ (α) | 10 | 10 | 1.23 |
| 1,2-Διχλωρο-1,2,2-τετραφθορο- αιθάνιο (R 114) | 3 ⁰ (α) | 10 | 10 | 1.30 |
| Οκταφθοροκυκλοβουτάνιο (R 318) | 3 ⁰ (α) | 10 | 10 | 1.34 |
| Αμμωνία | 3 ⁰ (α T) | 26 | 29 | 0.53 |
| Μεθυλοβρωμίδιο | 3 ⁰ (α T) | 10 | 10 | 1.51 |
| Χλώριο | 3 ⁰ (α T) | 17 | 19 | 1.25 |
| Εξαφθοροπροπυλένιο (R 216) | 3 ⁰ (α T) | 17 | 19 | 1.11 |
| Υδροβρωμίδιο | 3 ⁰ (α T) | 50 | 55 | 1.20 |
| Διοξειδίου Αζώτου NO ₂ | 3 ⁰ (α T) | 10 | 10 | 1.30 |
| Φωσγένιο | 3 ⁰ (α T) | 15 | 17 | 1.23 |
| Διοξειδίο Θείου | 3 ⁰ (α T) | 10 | 12 | 1.23 |
| Βουτάνιο | 3 ⁰ (β) | 10 | 10 | 0.51 |
| 1-Βουτένιο | 3 ⁰ (β) | 10 | 10 | 0.53 |
| 1-Χλωρο-1,1-διφθοροαιθάνιο (R 142β) | 3 ⁰ (β) | 10 | 10 | 0.99 |
| CIS-2-βουτένιο | 3 ⁰ (β) | 10 | 10 | 0.55 |
| Κυκλοπροπάνιο | 3 ⁰ (β) | 16 | 18 | 0.53 |
| 1,1-διφθοροαιθάνιο (R 152α) | 3 ⁰ (β) | 14 | 16 | 0.79 |

2ΠΙ.25Ι (Συνεχίζεται)

| Περιγραφή ύλης | Αριθμός Είδους | Κατωτάτη Πίεσις Ανώτατον | | |
|------------------------------------|----------------------|------------------------------------|--------------------|---------------------------|
| | | Δοκιμής δια Κελύφη Βάρος Περιε- | | |
| | | μετά - άνευ χομένου ανά | θερμικής μονώσεως | λίτρον χωρη- τικότητος |
| | | KG./CM ² | KG/CM ² | KG |
| (Σ υ ν έ χ ε ι α) | | | | |
| Ισοβουτάνιο | 3 ⁰ (β) | 10 | 10 | 0.49 |
| Ισοβουτένιο | 3 ⁰ (β) | 10 | 10 | 0.52 |
| Προπάνιο | 3 ⁰ (β) | 21 | 23 | 0.42 |
| Προπυλένιο | 3 ⁰ (β) | 25 | 27 | 0.43 |
| Τράνς-2-βουτένιο | 3 ⁰ (β) | 10 | 10 | 0.54 |
| I, I, I-Τριφθοροαιθάνιο | 3 ⁰ (β) | 28 | 32 | 0.79 |
| Διμεθυλαμίνη | 3 ⁰ (β T) | 10 | 10 | 0.59 |
| Διμεθυλαιθέρας | 3 ⁰ (β T) | 14 | 16 | 0.58 |
| Αιθυλαμίνη | 3 ⁰ (β T) | 10 | 10 | 0.61 |
| Αιθυλοχλωρίδιο | 3 ⁰ (β T) | 10 | 10 | 0.80 |
| Υδροθειο | 3 ⁰ (β T) | 45 | 50 | 0.67 |
| Μεθυλαμίνη | 3 ⁰ (β T) | 10 | 11 | 0.58 |
| Μεθυλοχλωρίδιο | 3 ⁰ (β T) | 13 | 15 | 0.81 |
| Μεθυλομερκαπτάνη | 3 ⁰ (β T) | 10 | 10 | 0.78 |
| Τριμεθυλαμίνη | 3 ⁰ (β T) | 10 | 10 | 0.56 |
| I, 3-Βουταδιένιο | 3 ⁰ (β T) | 10 | 10 | 0.55 |
| Βινυλοχλωρίδιο | 3 ⁰ (γ) | 10 | 11 | 0.81 |
| Μεθυλοβινυλαιθέρας | 3 ⁰ (γ T) | 10 | 10 | 0.67 |
| Τριφθοροχλωραιθυλένιο (R. II13) | 3 ⁰ (γ T) | 15 | 17 | 1.13 |

2II.25I (Συνεχίζεται)

| Περιγραφή ύλης | Αριθμός Κατωτάτη Πίεσις | | Ανώτατον | |
|----------------|-------------------------|--------------------|--------------------|--|
| | Είδους | Δοκιμής δια Κελύφη | | Βάρος Περιε- χομένου ανά λίτρον χωρη- τικότητας |
| | | μετά - άνευ | θερμικής μονώσεως | |
| | | KG/CM ² | KG/CM ² | KG |

(Σ υ ν ε χ ε ι α)

| | | | | |
|---|----------------------|----|----|------|
| Βινυλοβρωμίδιο | 3 ^ο (γ Τ) | 10 | 10 | 1.37 |
| Μίγμα F I | 4 ^ο (α) | 10 | 11 | 1.23 |
| Μίγμα F2 | 4 ^ο (α) | 15 | 16 | 1.15 |
| Μίγμα F 3 | 4 ^ο (α) | 24 | 27 | 1.03 |
| Μίγμα αερίων R 500 | 4 ^ο (α) | 18 | 20 | 1.01 |
| Μίγμα αερίων R 502 | 4 ^ο (α) | 25 | 28 | 1.05 |
| Μίγματα των 19 έως 21 τοις εκατόν κατά βάρος διχλωρο- δοφθορομεθανίου (R 12) και 79 έως 81 τοις εκατόν κατά βάρος βρωμοχλωροδιφθορομεθα- νίου (R 12 BI) | | | | |
| | 4 ^ο (α) | 10 | 11 | 1.50 |
| Μίγματα μεθυλοβρωμιδίου και χλωροπικρίνης | 4 ^ο (α Τ) | 10 | 10 | 1.51 |
| Μίγμα A (εμπορικό όνομα: βουτάνιο) | 4 ^ο (β) | 10 | 10 | 0.50 |
| Μίγμα A O (εμπορικό όνομα: βουτάνιο) | 4 ^ο (β) | 12 | 14 | 0.47 |
| Μίγμα A I | 4 ^ο (β) | 16 | 18 | 0.46 |
| Μίγμα B | 4 ^ο (β) | 20 | 23 | 0.43 |
| Μίγμα Γ (εμπορικό όνομα: προπάνιο) | 4 ^ο (β) | 25 | 27 | 0.42 |

211.251 (Συνεχίζεται)

| Περιγραφή ύλης | Αριθμός Κατωτάτη Πίεσις | | Ανώτατον | |
|----------------|-------------------------|--|---|----|
| | Είδους | Δοκιμής δια Κελύφη μετά - άνευ θερμικής μονώσεως | Βάρος Περιεχομένου ανά λίτρον χωρητικότητας | |
| | | | | |
| | | KG/CM ² | KG/CM ² | KG |

(Σ υ ν έ χ ε ι α)

| | | | | |
|---|----------------------|----|-----|-------|
| Μίγματα υδρογονανθράκων περιεχόντων μεθάνιον | 4 ⁰ (β) | - | 225 | 0.187 |
| | | - | 300 | 0.244 |
| Μίγματα μεθυλοχλωριδίου και μεθυλενοχλωριδίου | 4 ⁰ (β T) | I3 | I5 | 0.8I |
| Μίγματα μεθυλοχλωριδίου και χλωροπικρίνης | 4 ⁰ (β T) | I3 | I5 | 0.8I |
| Μίγματα μεθυλοβρωμιδίου και αιθυλενοβρωμιδίου | 4 ⁰ (β T) | IO | IO | I.5I |
| Μεθυλακετυλένιο/προπαδιένιο και μίγματα υδρογονανθράκων | | | | |
| Μίγμα P _I | 4 ⁰ (γ) | 25 | 28 | 0.49 |
| Μίγμα P ₂ | 4 ⁰ (γ) | 22 | 23 | 0.47 |
| Αιθυλενοξειδίο περιέχον όχι άνω του 10 ⁰ /ο διοξειδίου του άνθρακος κατά βάρος | | | | |
| | 4 ⁰ (γ T) | 24 | 26 | 0.73 |
| Αιθυλενοξειδίο με άζωτον ολικής πιέσεως μέχρι IO KG/CM ² εις 50 ⁰ C | | | | |
| | 4 ⁰ (γ T) | I5 | I5 | 0.78 |
| Διχλωροδιφθορομεθάνιο περιέχον I2 τοις εκατόν αιθυλενοξειδίο κατά βάρος | | | | |
| | 4 ⁰ (γ T) | I5 | I6 | I.09 |

(3) Διά κελύφη προοριζόμενα δια την μεταφοράν αερίων των 2II.25I
5^ο και 6^ο: (Συνεχίζεται)

(α) εάν τα κελύφη δεν έχουν επενδυθεί με θερμικήν μόνωσιν: τα επίπεδα τα οριζόμενα εις το περιθώριον 2220 (3) και (4).*

(β) εάν τα κελύφη έχουν επενδυθεί με θερμικήν μόνωσιν: τα κατωτέρω οριζόμενα επίπεδα:

| Περιγραφή ύλης | Αριθμός Είδους | Κατωτάτη Πίεσις Δοκι- μής | Ανώτατον Βάρος περιεχομένου ανά λίτρον χωρητικότητος |
|--|-------------------|---------------------------------|--|
| | | KG/CM ² | KG |
| Βρωμοτριφθορομεθάνιο (R I3 B I) 5 ^ο (α) | | I20 | I.50 |
| Διοξείδιο του άνθρακος 5 ^ο (α) | | I90 | 0.73 |
| | | 225 | 0.78 |
| Χλωροτριφθορομεθάνιο (R I3) 5 ^ο (α) | | I20 | 0.96 |
| | | 225 | I.I2 |
| Εξαφθοροαιθάνιο (R II6) 5 ^ο (α) | | I60 | I.28 |
| | | 200 | I.34 |
| Υποξείδιο του αζώτου N ₂ O 5 ^ο (α) | | 225 | 0.78 |
| Εξαφθοριοϋδρογόθεν 5 ^ο (α) | | I20 | I.34 |
| Τριφθορομεθάνιο (R 23) 5 ^ο (α) | | I90 | 0.92 |
| | | 250 | 0.99 |
| Εξόνον 5 ^ο (α) | | I20 | I.30 |
| Υδροχλώριο 5 ^ο (α T) | | I20 | 0.69 |
| Αιθάνιο 5 ^ο (β) | | I20 | 0.32 |
| Αιθυλένιο 5 ^ο (β) | | I20 | 0.25 |
| | | 225 | 0.36 |

2ΠΙ.25Ι (Συνεχίζεται)

| Περιγραφή ύλης | Αριθμός Είδους | Κατωτάτη Πίεσις Δοκι- μής KG/CM ² | Ανώτατον Βάρος περιεχομένου ανά λίτρον χωρητικό- τητος KG |
|----------------|-------------------|---|---|
|----------------|-------------------|---|---|

(Σ υ ν ε χ ε ι α)

| | | | |
|--|----------------------|-----|------|
| I, I-Διφθοροαιθυλένιο | 5 ^ο (γ) | I20 | 0.66 |
| | | 225 | 0.78 |
| Βινυλοφθορίδιο | 5 ^ο (γ) | I20 | 0.58 |
| | | 225 | 0.65 |
| Μίγματα αερίων R 503 | 6 ^ο (α) | 3I | 0.ΙΙ |
| | | 42 | 0.2I |
| | | I00 | 0.76 |
| Διοξειδίο του άνθρακος περιέχον όχι άνω του 35 τοις εκατόν αι- θυλενοξειδίου κατά βάρος | 6 ^ο (γ) | I90 | 0.73 |
| | | 225 | 0.78 |
| Αιθυλενοξειδίο περιέχον άνω του Ι0 τοίς εκατ ο αλλά όχι άνω του 50 τοίς εκατ ο διοξειδίου του άνθρακος κατά βάρος | 6 ^ο (γ T) | I90 | 0.66 |
| | | 250 | 0.75 |

Οσάκις χρησιμοποιούνται κελύφη επενδεδυμένα με θερμι-
κήν μόνωσιν, υποβληθέντα εις πίεσιν δοκιμής κατωτέραν της ει-
κονιζομένης εις τον πίνακα, το ανώτατον βάρος περιεχομένου ανά
λίτρον χωρητικότητος θα είναι τέτοιο ώστε η εις το κέλυφος πίε-
σις υπό της περι ής πρόκειται ύλης εις τους 55^οC να μην υπερ-
βάλναι την πίεσιν δοκιμής την σφραγισθείσαν επί του κελύφους.

Εν τοιαύτη περιπτώσει το επιτρεπόμενον ανώτατον φορτίον 2ΠΙ.25Ι θα προβλέπεται υπό του εμπειρογνώμονος του εγκριθέν- (Συνεχίζεται)
τος υπό της αρμοδίας αρχής.

(4) Για κελύφη προοριζόμενα για την μεταφοράν αμμωνίας διαλυθείσης υπό πρέσιν ($9^{\circ}(\alpha T)$):

| Περιγραφή ύλης | Αριθμός Κατωτάτη | | Ανώτατον Βάρος περιεχομένου ανά λίτρον χωρητικότητος |
|----------------|------------------|--------------------|--|
| | Είδους | Πίεσις Δοκιμής | |
| | | KG/CM ² | KG |

(Σ υ ν έ χ ε ι α)

Αμμωνία διαλυθείσα υπό πρέσιν εντός ~~θ~~δατος

με άνω του 35 ~~π~~σας εκα-

~~τ~~σ αλλά όχι άνω του 40

~~π~~σ εκατ~~σ~~ κατά βάρος $9^{\circ}(\alpha T)$ IO 0.80

με άνω του 40 ~~π~~σας εκα-

~~τ~~σ αλλά όχι άνω του 50

~~π~~σ εκατ~~σ~~ αμμωνίας κατά βάρος $9^{\circ}(\alpha T)$ IO 0.77

(5) Για κελύφη προοριζόμενα για την μεταφοράν αερίων των 7° και 8° : όχι ολιγώτερον των Ι.3 φορών την ανωτάτην επιτρεπομένην πρέσιν λειτουργίας, ως αυτή ορίζεται εις το κέλυφος, αλλά όχι ολιγώτερον των 4 KG/CM² (πρέσις θλιβομέτρου) για κελύφη με μόνωση κενού η πρέσις δοκιμής δεν θα είναι μικρότερα των Ι.3 φορών της ανωτάτης επιτρεπομένης πίεσεως αυξηθείσης κατά 1 KG/CM².

Η πρώτη δοκιμή υδραυλικής πίεσεως θα εκτελεσθεί 2II.252
πρώτου τεθεί εις θέσιν η θερμική μόνωσις.

Η χωρητικότης εκάστου κελύφους που προορίζεται 2II.253
για τη μεταφορά αερίων των 3^ο έως 6^ο και 9^ο θα καθορίζεται,
υπό την επίβλεψιν εμπειρογνώμονος της εγκρίσεως της αρμοδίας
αρχής, δια ζυγίσεως ή ογκομετρικής μετρήσεως της ποσότητος
του υδάτος η οποία γεμίζει το κέλυφος· οποιοδήποτε σφάλμα
κατά την μέτρησιν της χωρητικότητος του κελύφους θα είναι
μικρότερον του ενός ~~έως~~ εκατόν. Καθορισμός (της χωρητικότη-
τος) βασιζόμενος εις τας διαστάσεις του κελύφους δεν επι-
τρέπεται. Τα ανώτατα βάρη πληρώσεως τα επιτρεπόμενα συμφώνως
προς τα περιθώρια 2220 (4) και 2II.25I (3) θα καθορίζονται
υπό εγκεκριμένου εμπειρογνώμονος.

Ο έλεγχος των συγκολλήσεων θα διεξάγεται συμφώνως 2II.254
προς τας περί συντελεστού-λάμπα Ι.Ο διατάξεις του περιθωρί-
ου 2II.I27 (7).

Δι' ανακλήσεως (τροποποιήσεως) των διατάξεων του 2II.255
περιθωρίου 2II.I5I, οι περιοδικές δοκιμές θα λαμβάνουν χώ-
ραν:-

(I) κάθε τρία έτη

προκειμένου περί κελυφών προοριζομένων για την μεταφοράν
τριφθοριούχου βορίου (I^ο (α Τ)), αερίου πόλεως (2^ο (β Τ)),
υδροβρωμίου, χλωρίου, διοξειδίου του αζώτου, διοξειδίου
του θείου ή φωσγενίου (3^ο (α Τ)), υδροθείου (3^ο (β Τ)), ή
υδροχλωρίου (5^ο (α Τ)).

(2) κάθε έξη έτη

προκειμένου περί κελυφών προοριζομένων για την μεταφοράν

ἄλλων ~~πεπιεσμένων~~ και υγροποιημένων αερίων ή αμμωνίας 2II.255
 διαλελυμένης υπό πρέσιν (9° (α.Τ))· και (Συνεχίζεται)

(3) μετά από υπηρεσίαν ἑξὶ ετών και ~~εἰς~~ συνέχεια
 κάθε δώδεκα ~~χρόνια~~

προκειμένου περί κελυφών προοριζομένων ~~για~~ την μεταφοράν
 αερίων των 7° ή 8° . Ο έλεγχος στεγανότητας θα εκτελεσται
 υπό εγκριθέντος εμπειρογνώμονος ~~ἑξὶ χρόνι~~ μετά από ~~κάθε μία~~
 περιοδική δοκιμή.

Αι δοκιμαί ~~στεγανότητος~~ κελυφών προοριζομένων ~~για~~ την μετα-
 φοράν αερίων των 1° έως 6° και 9° θα εκτελούνται ~~σε~~ πρέ-
 σιν όχι μικροτέραν των 4 KG/CM^2 (πρέσις θλιβομέτρου).

Προκειμένου περί κελυφών θερμο-μονωθέντων δια 2II.256
 κενού, η δοκιμή υδραυλικής πιέσεως και ο έλεγχος της εσω-
 τερικής καταστάσεως μπορούν, με την συναίνεσιν του εγκρι-
 θέντος εμπειρογνώμονος, να αντικατασταθούν δια δοκιμής στε-
 γανότητας και μετρήσεως του κενού.

Εάν ~~οπές~~ έχουν γίνει, κατά τας περιοδικάς επι- 2II.257
 θεωρήσεις, εις κελύφη προοριζόμενα ~~για~~ την μεταφοράν αερί-
 ων των 7° ή 8° , η μέθοδος δια της οποίας θα κλεισθούν ερ-
 μη-πικώς προτού τα κελύφη τεθούν εκ νέου ~~σε~~ υπηρεσί~~α~~ θα
 εγκρίνεται υπό του εγκριθέντος εμπειρογνώμονος και θα δια-
 σφαλίζει την ακεραιότητα του κελύφους.

2II.258-

2II.259

Άρθρο 6

Μαρκάρια (Σήμανσις)

Τα κατωτέρω πρόσθετα στοιχεία θα μαρκάρωνται 2II.260

διασφραγίσεως ή δι' οιασδήποτε άλλης μεθόδου επί της πλα- 2II.260
κός της προβλεπομένης υπό του περιθωρίου 2II.I60, ή απ' (Συνεχίζε-
ευθείας επί των τοιχωμάτων αυτού τούτου τού κελύφους εάν
ται)
τα τοιχώματα είναι έτσι ενισχυμένα ώστε να μην εξασθενεί-
ται η αντοχή του κελύφους:

(I) επί κελυφών προοριζομένων δια την μεταφοράν μιάς
μόνον ύλης: η πλήρης ονομασία του αερίου.

Η ένδειξη αυτή θα συμπληρώνεται στη περίπτωση κελυφών
προοριζομένων για τη μεταφορά πεπιεσμένων αερίων των 1°
και 2° με ένδειξη της ανωτάτης πίεσεως πληρώσεως εις
 15°C της επιτρεπομένης για το κέλυφος, και στη περιπτώ-
ση κελυφών προοριζομένων για την μεταφοράν υγροποιημέ-
νων αερίων των 3° έως 8° ή αμμωνίας διαλυθείσης υπό
πίεσιν της 9° (α T) με την ένδειξη του επιτρεπομένου
ανωτάτου φορτίου εις KG και της θερμοκρασίας πληρώσεως
εάν κάτω των -20°C .

(2) επί κελυφών πολλαπλών σκοπών:

Οι πλήρεις ονομασίες των αερίων για την μεταφοράν
των οποίων εγκρίνεται το κέλυφος.

Τα στοιχεία αυτά θα συμπληρώνωνται με την ένδειξη του
επιτρεπομένου ανωτάτου φορτίου εις KG για καθαρό αέριο.

(3) επί κελυφών προοριζομένων για την μεταφοράν αερίων
των 7° ή 8° : η πίεσις λειτουργίας και

(4) επί κελυφών εφοδιασμένων με θερμικήν μόνωσιν:

η επιγραφή "θερμικώς μονωμένα" ή "θερμικώς μονωμένα
δια κενού".

Το πλαίσιον κελύφους ~~από~~ πολλαπλ~~ων~~ στοιχεί~~ων~~ θα φέ- 2II.261
ρει πλησίον του σημείου πληρώσεως πλάκα οριζουσα:

την πρῆσιν δοκιμῆς των στοιχείων·

την ανωτάτην πρῆσιν πληρώσεως εἰς 15°C την επιτρεπο-
μένην δια στοιχεῖα προοριζόμενα δια πεπιεσμένα αέρια·
τον αριθμὸν των στοιχείων·

την ολικὴν χωρητικότητά (ικανότητα) των στοιχείων εἰς
λίτρος·

την πλήρη ονομασίαν του αερίου·

καὶ, στη περίπτωση υγροποιημένων αερίων:

το επιτρεπόμενον ανώτατον φορτίον ἀνά στοιχεῖον,
εἰς KG.

Επιπροσθέτως των στοιχείων των προβλεπομένων ὑπὸ 2II.262
του περιθωρίου 2II.161, τα κάτωθι θα αναγράφωνται εἴτε
εἰς αὐτὸ τοῦτο το βυτιοφόρον εἴτε σε πλάκα:

(α) εἴτε: "επιτρεπομένη κατωτάτη θερμοκρασία πλη-
ρώσεως: -20°C"

ἢ : "επιτρεπομένη κατωτάτη θερμοκρασία πλη-
ρώσεως:"

(β) ὅταν το κέλυφος προορίζεται ὡς γιὰ τὴν μεταφορὰν
μιάς μόνον ὕλης:

ἡ πλήρης ονομασία του αερίου·

για υγροποιημένα αέρια των 3° ἕως 8° καὶ γιὰ
αμμωνίαν διαλυθεῖσαν ὑπὸ πρῆσιν ἐντὸς ὕδατος
(9° (α T)), το επιτρεπόμενον ανώτατον φορτίον
εἰς KG·

(γ) ὅταν το κέλυφος εἶναι κέλυφος πολλαπλῶν σκοπῶν:

ἡ πλήρης ονομασία ὁλων των αερίων ὡς γιὰ τὴν μετα-

φοράν των οποίων προορίζεται το κέλυφος, μαζί με την ένδειξη του επιτρεπομένου ανωτάτου φορτίου εις KG, *για να είναι αέριο*. 2II.262 (Συνεχίζεται)

(δ) όταν το κέλυφος είναι ρηωδιασμένον με θερμικήν μόνωσιν:

η επιγραφή "θερμικώς μονωμένον" ή "θερμικώς μονωμένον δια κενού", ~~αφ'ε~~ επίσημοι γλώσσα της αποστολής χώρας ως και εις την Αγγλικήν, Γαλλικήν ή Γερμανικήν, εκτός εάν, τυχόν, διεθνή δασμολόγια οδικής μεταφοράς, ή συμβάσεις συναφθείσαι μεταξύ των χωρών των ενδιαφερομένων δια την επιχείρησιν μεταφοράς, ορίζουν άλλως.

Οι πινακίδες που βρίσκονται πάνω στα οχήματα τα οποία μεταφέρουν δεξαμενές που μπορούν να αποσυναρμολογηθούν, όπως αναφέρονται στο περιθώριο 211 235 (5), δεν θα φέρουν τα στοιχεία τα οριζόμενα στα περιθώρια 211.161 και 211.262.

211.263

2II.264-

2II.269

Άρθρο 7

Λειτουργία

Κέλυφος ορισθέν εις διαφόρους χρόνους, ~~για~~ την μεταφοράν διαφόρων υγροποιημένων αερίων των 3^ο έως 8^ο (κέλυφος πολλαπλών σκοπών) δεν μπορεί να μεταφέρει ύλες πλην εκείνων των αναφερομένων εις μίαν, και μόνον μίαν, των κάτωθι ομάδων:

Ομάς I:— αλογονοποιημένοι υδρογονάνθρακες των 3^ο(α) και 4^ο(α).

- Ομάς 2: υδρογονάνθρακες των 3^ο (β) και 4^ο (β). 2II.270
- Ομάς 3: αμμωνία (3^ο (α T))· διμεθυλαιθέρας, διμεθυ- (Συνεχί-
λαμίνη, αιθυλαμίνη, μεθυλαμίνη και τριμεθυ-
λαμίνη (3^ο (β T))· και βινυλοχλωρίδιο
(3^ο (γ)).
- Ομάς 4: μεθυλοβρωμίδιο (3^ο (α T))· αιθυλοχλωρίδιο
και μεθυλοχλωρίδιο (3^ο (β T)).
- Ομάς 5: μίγματα αιθυλενοξειδίου με διοξειδίου του άν-
θρακος και αιθυλενοξειδίου με άζωτον (4^ο (γ T)).
- Ομάς 6: άζωτον, διοξειδίου του άνθρακος, σπάνια αέρια,
υποξείδιο του αζώτου N₂O, και οξυγόνο (7^ο (α)).
αήρ, μίγματα αζώτου με σπάνια αέρια, και μίγ-
ματα οξυγόνου με άζωτον, επίσης όταν περιέχουν
απάνια αέρια (8^ο (α)).
- Ομάς 7: αιθάνιον, αιθυλένιον, και μεθάνιον (7^ο (β)).
και μίγματα μεθανίου με αιθάνιον, επίσης όταν
περιέχουν προπάνιον ή βουάνιον (8^ο (β)).

Κελύφη τα οποία έχουν πληρωθεί με ύλην της ομάδος 2II.27I

I ή της ομάδος 2 θα εκκενούνται του υγροποιημένου αερίου
προτού φορτωθούν με άλλην ύλην ανήκουσαν εις την αυτήν ο-
μάδα. Κελύφη τα οποία έχουν πληρωθεί με ύλην των ομάδων
3 έως 7 θα εκκενούνται πλήρως του υγροποιημένου αερίου
και θα φυσούνται ~~ε~~ συνέχεια προτού φορτωθούν με άλλην ύ-
λην ανήκουσαν εις την αυτήν ομάδα.

Η πολλαπλή χρήσις των κελυφών ~~για~~ την μεταφοράν 2II.272
υγροποιημένων αερίων της αυτής ομάδος θα επιτρέπεται εάν
τηρηθούν όλα ~~οι~~ διατάξεις ~~οι~~ προβλεπόμενες ~~για~~ αέρια τα

οποια πρόκειται να μεταφερθούν σε ένα και το αυτό κελύ- 2II.272
φος. Η τοιαύτη πολλαπλή χρήσις θα υπόκειται εις την έγ- (Συνεχίζε-
κρισιν εγκριθέντος εμπειρογνώμονος. ται)

Η πολλαπλή χρήσις κελύφων ~~για~~ για την μεταφοράν 2II.273
αερίων διαφόρων ομάδων θα εγκρίνεται εάν επιτραπεί υπό
του εγκριθέντος εμπειρογνώμονος.

Όταν κελύφη προορίζονται εκ νέου δι' αέρια δια-
φόρου ομάδος θα εκκενοούνται πλήρως των υγροποιημένων αε-
ρίων, ~~εξ~~ συνέχεια θα φυσούνται και, τέλος, θα απαραιούν-
ται. Η απαέρωσις κελυφών θα επαληθεύεται και πιστοποιεί-
ται υπό του εγκριθέντος εμπειρογνώμονος.

Όταν φορτωμένοι δεξαμενάς ή άδειαι αλλά ακαθά- 2II.274
ριστοι δεξαμενάς παραδίδονται δια μεταφοράν, μόνον τα
στοιχεία τα οριζόμενα εις περιθώριον 2II.262 τα ισχύον-
τα δια το φορτωθέν ή μόλις εκφορτωθέν αέριον θα είναι ο-
ρατά· όλα τα στοιχεία τα αφορώντα λοιπά αέρια θα καλύπτον-
ται.

Όλα τα στοιχεία κελύφους πολλαπλών στοιχείων 2II.275
θα περιέχουν μόνον ένα και το αυτό αέριο. Στη περίπτωση
κελύφους πολλαπλών στοιχείων προοριζομένου δια την μετα-
φοράν υγροποιημένων αερίων, τα στοιχεία θα πληρούνται χω-
ριστά και θα τηρούνται μονωμένα δια στεγανοποιημένης βαλ-
βίδος.

Η ανωτάτη πρέσις ~~πληρώσεως~~ για πεπιεσμένα αέ- 2II.276
ρια των 1^ο και 2^ο πλην φθοριούχου βορίου δεν θα υπερβαίνει
τες τιμές ~~τας~~ προβλεπόμενες υπό του περιθωρίου 22I9(2).

Δια φθοριούχον βόριον (I^ο (α T)) το ανώτατον βά-

ρσς πληρώσεως ανά λίτρον χωρητικότητος δεν θα υπερβαί- 2II.276
νεί τα 0.86 KG. (Συνεχίζεται)

Το ανώτατον βάρος πληρώσεως ανά λίτρον χωρητι-
κότητος συμφώνως προς τα περιθώρια 2220, (2), (3) και (4),
και 2II.25I, (2), (3) και (4), θα τηρείται.

Ο βαθμός πληρώσεως κελυφων προοριζομένων ~~για~~ 2II.277
την μεταφοράν αερίων των 7^ο(β) και 8^ο(β) θα παραμένει
κάτωθι του επιπέδου εις το οποίον, εάν το περιεχόμενον
υφούτο εις την θερμοκρασίαν εις την οποίαν η πίεσις του
ατμού ισούτο προς την πίεσιν ανοίγματος-βαλβίδος, ο όγκος
του υγρού θα έφθανε το 95 ~~εκατ~~ εκατ της χωρητικότη~~τας~~
(ικανότητος) του κελύφους εις την θερμοκρασίαν αυτήν.
Κελύφη προοριζόμενα ~~για~~ την μεταφοράν αερίων των 7^ο(α) και
8^ο (α) μπορούν να πληρούνται μέχρι 98 ~~εκατ~~ εκατ εις την
θερμοκρασίαν φορτώσεως και την πίεσιν φορτώσεως.

Επὶ κελυφων προοριζομένων δια την μεταφοράν υπο- 2II.278
ξειδίου του αζώτου και οξυγόνου (7^ο (α)), αέρος, ή μιγμά-
των περιεχόντων οξυγόνον (8^ο(α)), υλών περιεχόντων λίπος
ή έλαιον δεν θα χρησιμοποιούνται προς εξασφάλισιν της στε-
γανότητος των ενώσεων ή δια την συντήρησιν των κλεισιμάτων.

Η διάταξις του περιθωρίου 2II.175 δεν θα ισχύει 2II.279
δια τα αέρια των 7^ο και 8^ο.

Κλάσις 3Ευφλεκτα ΥγράΆρθρο 1Γενικά· αντικείμενον· ορισμοί

2II.300-

2II.319

Άρθρο 2Κατασκευή

Κελύφη προοριζόμενα ~~για~~ για την μεταφορά ~~σε~~ διθειάν- 2II.320
 θρακος (I^ο (α)) θα σχεδιάζονται δια πίεσιν 10 KG/CM²
 (πίεσις θλιβομέτρου).

2II.321-

2II.329

Άρθρο 3Είδη Εξοπλισμού

Κελύφη τα οποία είναι εφοδιασμένα με μηχανισμόν 2II.330
 εξαερισμού μη δυνάμενον να κλεισθεί και τα οποία προορι-
 ζονται δια την μεταφοράν ευφλέκτων υγρών εκδόντων σημείον
 αναφλέξεως μη υπερβαίνον τους 55^οC θα έχουν φλογοπαγίδα
 εις τον μηχανισμόν εξαερισμού.

~~Όλα~~ τα ανοίγματα των κελυφών των προοριζομένων 2II.331
 δια την μεταφοράν αλδεΐδης του αλκοολικού πνεύματος (ακρο-
 λείνης), χλωροπρενίου (χλωροβουταδιενίου) και διθειάνθρα-
 κος (I^ο (α)) θα είναι άνω της ^{στάθμης της} επιφανείας του υγρού. Ουδε-
 μία σωλήνωσις ή συνδέσεις σωλήνων θα διέρχωνται δια των
 τοιχωμάτων του κελύφους κάτω της στάθμης επιφανείας του
 υγρού. Τα ανοίγματα, πλην των εφοδιασμένων με βαλβίδες,
 θα είναι ικανά να κλείουν με στεγανά κλεισίματα, και τα

ταλυστάλα θα είναι ικανά να προστατεύονται με σφραγι- 2II.33I
 στικόν (ασφαλιστικόν) πώμα. Εάν τα κελύφη είναι εφω- (Συνεχίζε-
 διασμένα με βαλβίδες ασφαλείας, θα προηγείται αυτών
 ευθραυστος δίσκος. Σε τέτοια περίπτωση η διάταξις του
 ευθραυστου δίσκου και της βαλβίδος ασφαλείας θα επιβάλ-
 λεται (χρειάζεται) να ικανοποιεί την αρμοδίαν αρχήν.

2II.332-

2II.339

Άρθρο 4Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις)

2II.340-

2II.349

Άρθρο 5Δοκιμασί/Έλεγχος

Η κατωτάτη πίεσις δοκιμής εις την οποίαν κελύ- 2II.350
 φη προοριζόμενα δια την μεταφοράν διθειούχου άνθρακος
 (I^ο (α)) θα υποβάλονται θα είναι 4 KG/CM² (πίεσις θλι-
 βομέτρου). Η κατωτάτη πίεσις δοκιμής εις την οποίαν κε-
 λύφη προοριζόμενα δια την μεταφοράν άλλων υλών της Κλά-
 σεως θα υποβάλονται θα είναι ίση με εκείνην, όπως ορίζε-
 ται υπό του περιθωρίου 2I^I.I23, που χρησιμοποιείται δια
 τον σχεδιασμόν των.

2II.35I-

2II.359

Άρθρο 6Μαρτύρισμα/Σήμανσις)

(Ουδεμία ειδική διάταξις)

2II.360-

2I^I.369

Άρθρο 7Λειτουργία

Οι ~~αφαινού~~ βαθμοί πληρώσεως δεν θα υπερβαίνουνται 2II.370
ότα κελύφη γεμισμένα με υγρά έχοντα πίεσιν ατμού άνω των
 1.75 KG/CM^2 (απόλυτον) εις 50°C είναι ερμητικώς κλεισμένα
κελύφη:

στη περίπτωση μυρμηκικού μεθυλεστέρος (1° (α)) και άλλων
υγρών έχόντων συντελεστήν κυβικής διαστολής άνω των
 150×10^{-5} αλλά όχι άνω των 180×10^{-5} :
9I ~~εκατό~~ της χωρητικότητος·

στη περίπτωση αλδεϋδης του αλκοολικού πνεύματος (5°) και
άλλων υγρών έχόντων συντελεστήν κυβικής διαστολής άνω των
 180×10^{-5} αλλά όχι άνω των 230×10^{-5} :
90 ~~εκατό~~ της χωρητικότητος·

Κέλυφος κράματος αλουμινίου δεν θα χρησιμοποιεί- 2II.371
ται ~~για~~ την μεταφοράν αλδεϋδης του αλκοολικού πνεύματος
(5°) εκτός εάν το κέλυφος προορίζεται αποκλειστικώς ~~για~~
~~τέτλια~~ μεταφορά και η αλδεϋδη του αλκοολικού πνεύ-
ματος είναι ελευθέρα οξέως.

Κατά την ψυχράν σαιζόν (Οκτώβριος - Μάρτιος), 2II.372
ελαφρά αποστάγματα δια ρωγμάς και λοιπο~~ύ~~ υγρο~~ύ~~ υδρογονάν-
θρακες έχοντες πίεσιν ατμού μη υπερβα~~λ~~ίνουσ~~α~~ε το 1.5 KG/CM^2
(απόλυτον) εις 50°C μπορούν να μεταφέρονται σε κελύφη του
τύπου του προβλεπομένου υπό του περιθωρίου 2II.133.

2II.373-

2II.399

Κλάσις 4.1Εύφλεκτα ΣτερεάΚλάσις 4.2Υλεις υποκειμενες σε στιγμαλια καυσινΚλάσις 4.3Υλεις αναδουσεσ ευφλεκτα αερια σε επαφημε το νεροΆρθρο IΓενικά· αντικείμενον· ορισμοί

2II.400-

2II.4I9

Άρθρο 2Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά λευκού ή κιτρίνου φωσφόρου του περιθωρίου 243I, I^o, ή τριχλωροσιλανίου (σιλικοχλωροφορμίου) του περιθωρίου 247I, 4^o, θα σχεδιάζονται για πρέσση τουλάχιστον 10 KG/CM² (πρέσση θλιβομέτρου).

2II.420

2II.42I-

2II.429

Άρθρο 3Είδη εξοπλισμού

Κελύφη προοριζόμενα για τη μεταφορά θείου (2^o (β)) ή ναφθαλινίου (II^o (γ)) του περιθωρίου 240I θα εφοδιαζονται με θερμικήν μόνωσιν κατασκευασμένην εξ υλικών τα οποία δεν είναι ευχερώς εύφλεκτα. Μπορούν να είναι εφοδιασμένα με βαλβίδες ανοίγουσας αυτομάτως προς τα μέσα ή

2II.430

προς τα έξω υπό την επίδρασιν διαφοράς πίεσεως εκ 0.2 2II.430
έως 0.3 KG/CM². Οι μηχανισμοί εκκενώσεως θα είναι ικανοί (Συνεχίζε-
ται) να προστατεύονται υπό ασφαλιστικού μεταλλικού πώμα-
τος.

Κελήφη προοριζόμενα για τη μεταφορά λευκού ή 2II.43I
κιτρίνου φωσφόρου του περιθωρίου 243I, I⁰, θα πληρούν τις
παρακάτω διατάξεις:-

(1) Ο μηχανισμός θερμάνσεως δεν θα εισχωρεί εις,
αλλά θα είναι εξωτερικά, του κορμού του κελύφους. Εμ τού-
τοις, ο σωλήν ο χρησιμοποιούμενος για την εξαγωγή του φω-
σφόρου μπορεί να είναι εφοδιασμένος με χιτώνιο θερμάνσεως.
Ο μηχανισμός (συσκευή) που θερμαίνει το χιτώνιο θα είναι
έτσι ρυθμισμένο ώστε να εμποδίζει την θερμοκρασία του φω-
σφόρου να υπερβεί τη θερμοκρασία πληρώσεως του κελύφους.
Άλλη σωλήνων θα εισέρχεται εις το κέλυφος εις το άνω μέ-
ρος του* τα ανοίγματα θα ευρίσκονται υπεράνω της ανωτάτης
επιτρεπτής στάθμης του φωσφόρου και θα είναι ικανά να κλει-
σουν πλήρως με ασφαλιστικά πώματα. Επιπροσθέτως, οι οπές κα-
θαρισμού (οπές είδους γροθιάς) οι αναφερόμενες εις το περι-
θώριον 2II.132 δεν θα επιτρέπωνται.

(2) Το κέλυφος θα είναι εξοπλισμένο με σύστημα
μετρήσεως (μετρητήν) για την επαλήθευσιν της στάθμης του φω-
σφόρου και, εάν ύδωρ χρησιμοποιείται ως ο προστατευτικός ά-
γων, με σταθερόν σημείον μετρήσεως εικονίζον την ανωτάτην
επιτρεπτήν στάθμην του ύδατος.

Τα ανοίγματα και οι οπές (βαλβίδες, χιτώνια, 2II.432
ανθρωποθυρίδες, κλπ.) κελυφών προοριζομένων για τη μεταφο-

ρα υλών του περιθωρίου 247I, I^ο (α), θα προστατεύονται 2II.432
 με στεγανά ασφαλιστικά πώματα, και τα τέτοια κελύφη θα
 είναι εξοπλισμένα με θερμική μόνωση κατασκευασμένη από
 υλικά τα οποία δεν είναι ευχερώς εύφλεκτα.

2II.433-

2II.439

Άρθρο 4Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις)

2II.440-

2II.449

Άρθρο 5Δοκιμαί/Έλεγχοι

Κελύφη προοριζόμενα για τη μεταφορά θείου 2II.450
 (2^ο (β)) ή ναφθαλενίου (II^ο (γ)) του περιθωρίου 240I ή
 λευκού ή κιτρίνου φωσφόρου του περιθωρίου 243I, I^ο, και τα
 προοριζόμενα για τη μεταφορά τριχλωροσιλανίου (σιλικοχλω-
 ροφορμίου) του περιθωρίου 247I, 4^ο, θα ελέγχονται σε πίε-
 ση 4 KG/CM² (πίεσις θλιβομέτρου).

2II.451-

2II.459

Άρθρο 6Μαρτύρισμα (Σήμανσις)

(Ουδεμία ειδική διάταξις)

2II.460-

2II.469

Άρθρο 7Λειτουργία

Κελύφη προοριζόμενα για τη μεταφορά θείου (2^ο 2II.470
 (β)) ή ναφθαλινενίου (II^ο (γ)) του περιθωρίου θα πληρούν-

ται μέχρις όχι άνω του 98 ~~εκατό~~ ^{εκατ} της χωρητικότητάς 2II.470
των. (Συνεχί-
ζεται)

Ο λευκός ή κίτρινος φωσφόρος του περιθώριου 2II.47I
243I, I^ο, εάν το ~~εξάρ~~ χρησιμοποιηθεί ως προστατευτικός ά-
γων, θα καλυφθεί με βάθος όχι μικρότερον των 12 CM ύδατος
κατά τον χρόνον της πληρώσεως· ο βαθμός πληρώσεως σε θερ-
μοκρασία 60^οC δεν θα υπερβαίνει το 98 ~~εκατό~~ ^{εκατ}. Εάν το
άζωτον χρησιμοποιηθεί ως προστατευτικός άγων, ο βαθμός πλη-
ρώσεως σε θερμοκρασία 60^οC δεν θα υπερβαίνει το 96 ~~εκα-~~
~~τό~~.

Ο απομένων χώρος θα πληρούται με άζωτον κατά τοι-
ούτον τρόπον ώστε, ακόμη μετά ψύξιν, η πρέσις ουδέποτε θα
πέπτει κάτω της ατμοσφαιρικής πίεσεως. Το κέλυφος θα κλείει
ερμητικώς κατά τρόπον ώστε ουδεμία διαρροή αερίου να προκύπτει.

Για τη μεταφορά υλών του περιθώριου 247I, I^ο 2II.472
(α), τα πώματα θα ασφαλίχωνται συμφώνως προς το περιθώριο
2II.432.

Στη περίπτωση του τριχλωροσιλανίου (σιλικοχλω- 2II.473
ροφορμίου) του περιθώριου 247I, 4^ο, ο βαθμός πληρώσεως δεν
θα υπερβαίνει τα 1.14 KG ανά λίτρον χωρητικότητος εάν η πλή-
ρωσις είναι κατά βάρος ή το 85 τοις εκατόν εάν η πλήρωσις
είναι κατ'όγκον.

Κελύφη τα οποία περιέχον φωσφόρον του περιθω- 2II.474
ρίου 243I, I^ο, όταν παραδίδονται για μεταφορά, θα:

- πληροούνται είτε με άζωτον· ο αποστολεύς θα πιστοποιεί
εις το έγγραφον μεταφοράς ότι το κέλυφος, μετά το κλει-
σιμον είναι αεριοστεγανόν· είτε

με νερό όχι κάτω του 96 ~~εία~~ εκατό και όχι άνω του 2II.474
 98 στα εκατό της χωρητικότητάς των· μεταξύ 1ης Οκτω (Συνεχίζεται)
 βρίου και 31ης Μαρτίου το ~~νερό~~ τούτο θα περιέχει έναν
 ή πλείονας αντι-ψυκτικούς άγοντας απηλλαγμένους δια-
 βρωπικής ενεργείας, μη δυναμένους να αντιδράσουν με φω-
 σφόρον, και τέτοιας συμπυκνώσεως ώστε να είναι αδύνατον
 το ~~νερό~~ να ψυχθεί διαρκούσης της μεταφοράς.

2II.475-

2II.499

Κλάσις 5.1Ύλες ΟξειδώσεωςΚλάσις 5.2Οργανικά ΥπεροξειδίαΆρθρο 1Γενικά· αντικείμενον· ορισμοί

2II.500-

2II.519

Άρθρο 2Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά ~~α~~ υγρά κατα- 2II.520
 στάσει ύλες αναφερόμενες εις το περιθώριο 5I.12I(I) θα σχε-
 διάζωνται ~~για~~ πλέσιν τουλάχιστον 4 KG/CM² (πλέσιν θλιβομέ-
 τρου).

Κελύφη, και τα ελδη εξοπλισμού των, προοριζόμενα 2II.52I
 για τη μεταφορά υπεροξειδίου του υδρογόνου ή υδατίνων δια-
 λυμάτων υπεροξειδίου του υδρογόνου του περιθωρίου 250I, I^o,
 ή υγρών οργανικών υπεροξειδίων του περιθωρίου 255I, I^o, IO^o,

14°, 15° και 18° θα κατασκευάζονται από αλουμίνιο όχι 2II.52I
 λιγότερο του 99.5 ~~60α~~ εκατό καθαρού ή κατάλληλου χα- (Συνεχίζε-
 λυβα μη δυνάμενου να προκαλέσει την αποσύνθεση του υπερο-
 ξειδίου του υδρογόνου ή των οργανικών υπεροξειδίων.)

Κελύφη προοριζόμενα για τη μεταφορά συμπετυκνω-2II.522
 μένων και θερμών υδάτινων διαλυμάτων νιτρικού αμμωνίου
 του περιθωρίου 250I, 6°(α), θα κατασκευάζονται από ωστε-
 νιτικό χάλυβα.

2II.523-

2II.529

Άρθρο 3

Είδη Εξοπλισμού

Κελύφη προοριζόμενα για τη μεταφορά υπεροξει- 2II.530
 δίου του υδρογόνου και υδάτινων διαλυμάτων υπεροξειδίου
 του υδρογόνου περιεχόντων άνω του 70 ~~60α~~ εκατό
 υπεροξειδίου του υδρογόνου, του περιθωρίου 250I, 1°, θα
 έχουν τα ανοίγματά τους πάνω από το επίπεδο της επιφανεί-
 ας του υγρού. Επιπροσθέτως, οπο¹ καθαρισμού (οπαλ-σχήματος
 γροθιάς) ως αναφέρονται εις περιθώριον 2II.132 δεν θα επι-
 τρέπωνται. Εις την περίπτωση διαλυμάτων περιεχόντων άνω
 του 60 ~~60α~~ εκατό αλλά όχι άνω του 70 ~~60α~~ εκατό υπερο-
 ξιδίου του υδρογόνου, ανοίγματα κάτω από το επίπεδο επι-
 φάνειας του υγρού θα επιτρέπωνται. Εις την περίπτωση αυτή
 το σύστημα εκκενώσεως του κελύφους θα είναι εξοπλισμένο
 με δύο αμοιβαία ανεξάρτητους μηχανισμούς κλεισίματος συναρ-
 μολογημένους ~~60α~~ σειρά, του πρώτου λαμβάνοντος την μορφήν
 μιάς ταχείας-κλεισίματος εσωτερικής βαλβίδας διακοπής
 (ατμοφράκτου) εγκεκριμένου τύπου και του δευτέρου την μορ-

φης βαλβίδος εκροής (υδατοφράκτου), ~~σε~~ ^{εκάστη} άκρο του σωλήνα-εκκενώσεως-με-στορέα (PIPE-SOCKET). Μία φλάτζα τυφλή, ή άλλος μηχανισμός παρέχων τον αυτόν βαθμόν ασφαλείας, θα τοποθετείται επίσης εις την έξοδον ^{εξωτερικής} εκάστης/βαλβίδος εκροής (υδατοφράκτου). Η εσωτερική βαλβίδα διακοπής (ατμοφράκτης) θα είναι τέτοια ώστε εάν ο σωλήνας περιδτραφεί η βαλβίδα διακοπής (ο ατμοφράκτης) θα παραμείνει συμπαγής με το κέλυφος και στη θέση κλειστή.

2II.530
(Συνεχίζεται)

Οι συνδέσεις με τους εξωτερικούς σωλήνες-με-στορέα των κελύφων θα γίνονται με υλικά μη δυνάμενα να προκαλέσουν αποσύνθεση του υπεροξειδίου του υδρογόνου.

2II.531

Κελύφη προοριζόμενα για τη μεταφορά υπεροξειδίου του υδρογόνου ή υδάτινων διαλυμάτων υπεροξειδίου του υδρογόνου της I^ο, ή συμπυκνωμένων και θερμών υδάτινων διαλυμάτων νιτρικού αμμωνίου της 6^ο(α), του περιθωρίου 250I θα είναι εφοδιασμένα εις τά άνω μέρος αυτών με μηχανισμόν κλεισίματος (SHUT-OFF DEVICE) εμποδίζοντα οιαδήποτε δημιουργίαν υπερβαλλούσης πίεσεως εις το εσωτερικόν του δοχείου, οιαδήποτε διαρροήν του υγρού, και οιαδήποτε είσοδον ξένης ύλης εις το δοχείο. Οι μηχανισμοί κλεισίματος (δικλείδες) κελύφων προοριζομένων για τη μεταφορά συμπυκνωμένων και θερμών υδάτινων διαλυμάτων νιτρικού αμμωνίου θα έχουν έτσι σχεδιασθεί ώστε να αποκλείεται ή έμφραξις των μηχανισμών (δικλείδων) από στερεοποιημένο νιτρικό αμμώνιο διαρκούσης της μεταφοράς.

2II.532

Οσάκις κελύφη προοριζόμενα για τη μεταφορά

2II.533

συμπυκνωμένων και θερμών διαλυμάτων νιτρικού αμμωνίου 2II.533
του περιθωρίου 250I, 6° (α), οπλίζονται (επενδύονται) (Συνεχίζε-
ται)
με θερμικάς-μονωτικές υλικόν, το υλικόν θα είναι ανοργά-
νου φύσεως και εξ ολοκλήρου απηλλαγμένον από καύσιμον ύλην.

Κελύφη προοριζόμενα για τη μεταφορά οργανικών 2II.534
υπεροξειδίων του περιθωρίου 255I, 1°, 10°, 14°, 15° και 18°,
θα είναι εξοπλισμένα με μηχανισμό εξερισμού εφοδιασμένον
με φλογοπαχίδα και ακολουθούμενον εν σειρά υπό ανοίγματος
βαλβίδος ασφαλείας (ασφαλιστικού επιστομίου) σε πίεση θλι-
βομέτρου 1.8 έως 2.2 KG/CM².

Κελύφη προοριζόμενα για τη μεταφορά υγρών ορ- 2II.535
γανικών υπεροξειδίων του περιθωρίου 255I, 1°, 10°, 14°, 15°
και 18°, θα είναι εξοπλισμένα με θερμικήν μόνωσιν συμφώνως
προς τις διατάξεις του περιθωρίου 2II.234(I). Το κάλυμμα
και οιονδήποτε ανάλυπτον τμήμα του κελύφους, ή η εξωτερική
επένδυσις πλήρους περιβλήματος, θα βάφονται λευκά και το χρώμα
θα καθαρίζεται πριν^{από} κάθε ταξείδι μεταφοράς και ανανεού-
ται σε περίπτωση κιτρινίσματος ή φθοράς. Η θερμομόνωσις
θα είναι απηλλαγμένη από καύσιμο (εύφλεκτον) ύλην.

2II.536-

2II.539

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις)

2II.540-

2II.549

Άρθρο 5

Δοκιμασίαι (Έλεγχοι)

Κελύφη προοριζόμενα για τη μεταφορά υπεροξει- 2II.550

δίου του υδρογόνου ή υδατινών διαλυμάτων υπεροξειδίου του υδρογόνου της I° , ή συμπυκνωμένων και θερμών διαλυμάτων νιτρικού αμμωνίου της $6^{\circ}(α)$, του περιθωρίου 250I, ή υγρών οργανικών υπεροξειδίων του περιθωρίου 255I, I° , IO° , $I4^{\circ}$, $I5^{\circ}$ και $I8^{\circ}$, θα δοκιμάζονται (ελέγχονται) σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου).

2II.550

(Συνεχίζεται)

2II.55I-

2II.559

Άρθρο 6

Μαρμάρισμα (Σήμανσις)

(Ουδεμία ειδική διάταξις)

2II.560-

2II.569

Άρθρο 7

Λειτουργία

Το εσωτερικό του κελύφους, και όλα τα μέρη που είναι δυνατόν να έλθουν σε επαφή με ύλες αναφερόμενες στο περιθώριο 5I.I2I θα διατηρούνται καθαρά. Κανένα λιπαντικό ικανό να συνδυασθεί επικίνδυνα με μεταφερομένην ύλην θα χρησιμοποιείται για αντλίες, βαλβίδες ή άλλους μηχανισμούς.

2II.570

Κελύφη προοριζόμενα για τη μεταφορά υγρών του περιθωρίου 250I, I° έως 3° , θα πληρούνται (γεμίζονται) όχι άνω του 95 ~~έως~~ εκατό της χωρητικότητάς των σε θερμοκρασία συσχετισμού (REFERENCE TEMPERATURE) 15°C .

2II.57I

Κελύφη προοριζόμενα για τη μεταφορά θερμών υδατινών διαλυμάτων νιτρικού αμμωνίου του περιθωρίου 250I, $6^{\circ}(α)$, θα πληρούνται (γεμίζονται) όχι άνω του 97 ~~έως~~ εκατό της

χωρητικότητα των, και η ανωτάτη θερμοκρασία μετά το γεμίσμα δεν θα υπερβαίνει τους 140°C . (Δυνεχίζεται)

2II.571

(Δυνεχίζεται)

Δεξαμενές (βυρτιά) χρησιμοποιούμενες για τη μεταφορά υδάτινων διαλυμάτων νιτρικού αμμωνίου του περιθώριου 250I, 6^ο(α), δεν θα χρησιμοποιούνται για τη μεταφορά άλλων υλών χωρίς να έχουν πρώτα προσεκτικά καθαρισθεί από οποιαδήποτε κατάλοιπα (υπολείμματα, κατακρήθια).

2II.572

2II.573-

2II.599

Κλάσις 6.Ι

Τοξικές Ύλες

Άρθρο Ι

Γενικά αντικείμενο· ορισμοί

2II.600-

2II.619

Άρθρο 2

Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά διαλυμάτων υδροκυανίου της I^ο(β), ή υδάτινων διαλυμάτων αιθυλενιμίνης (ETHYLENEIMINE) και προπυλενιμίνης (PROPYLENEIMINE) της 3^ο, ή ανθρακίλου νικελίου της 5^ο(α) θα σχεδιάζονται για πίεση τουλάχιστο 16 KG/CM^2 (πίεση θλιβομέτρου).

2II.620

Κελύφη προοριζόμενα για τη μεταφορά άλλων υλών αναφερομένων στο περιθώριο 6I.12I^ο(I), (α) και (β), θα σχεδιάζονται για πίεση τουλάχιστο 10 KG/CM^2 (πίεση θλιβομέτρου).

2II.621

Κελύφη προοριζόμενα για τη μεταφορά υλών αναφε-

2II.622

ρομένων στο περιθώριο 6I.I2I (I), (γ), θα σχεδιάζονται 2II.622
για πίεση τουλάχιστο 4 KG/CM^2 (πίεση θλιβομέτρου). (Συνεχίζε-
ται) 2II.623

Κελύφη προοριζόμενα για τη μεταφορά υλών υπό 2II.623
μορφήν κόνους (σκόνης) ή κόκκων θα σχεδιάζονται συμφώνως
προς τις διατάξεις του γενικού άρθρου (τμήματος) της πα-
ρούσης Προσθήκης.

2II.624-

2II.629

Άρθρο 3

Είδη Εξοπλισμού

Όλα τα ανοίγματα κελυφών προοριζομένων για 2II.630
τη μεταφορά υλών αναφερομένων στο περιθώριο 6I.I2I (I)
(α) και (β), θα είναι πάνω από το επίπεδο επιφανείας του
υγρού. Καμμία σωλήνωσις ή ενώσεις (συνδέσεις) σωλήνων θα
διέρχωνται από τα τοιχώματα του κελύφους κάτω του επιπέ-
δου επιφανείας του υγρού. Τα ανοίγματα θα μπορούν να κλεί-
νουν ερμητικά, και το κλείσιμο θα είναι σε θέση να προστα-
τεύεται από (με) πώμα που να μπορεί να κλειδώνει. Επιπρο-
σθέτως, οποῖς καθαρίσματος (οποῖς σχήματος γροθιάς) ως ανα-
φέρονται στο περιθώριο 2II.I32 δεν θα επιτρέπονται για κε-
λύφη προοριζόμενα για τη μεταφορά υδάτινων διαλυμάτων υδρο-
κυανίου (I^0 (β)).

(I) Κελύφη προοριζόμενα για τη μεταφορά υλών 2II.630
αναφερομένων στο περιθώριο 6I.I2I (I), (γ) και (δ), μπο-
ρούν να είναι τύπου εκκενώσεως εκ του πυθμένος (BOTTOM-
DISCHARGE TYPE).

(2) Τα εξαρτήματα εκκενώσεως ~~απὸ τοῦ~~ πυθμένος

κελυφών προοριζομένων για τη μεταφορά των υλών των αναφε- 2II.631
ρομένων στο περιθώριο 6I.12I (I), (γ), θα είναι σύμφωνα (Συνεχί-
ζεται)
προς τις διατάξεις του περιθωρίου 2II.13I, και επιπροσθέ-
τως οι σωλήνες εκκένωσης των κελυφών θα μπορούν να κλείνω-
νται με τυφλή φλάτζα, πώμα, ή κάποιον άλλον εξ ίσου αποτελεσμα-
τικό μηχανισμό.

(3) Όλα τα ανοίγματα των κελυφών των αναφερομέ-
νων στη παράγραφο (I) θα μπορούν να κλείνουν ερμητικά.

Εάν τα κελύφη είναι εφοδιασμένα με βαλβίδες ασφα- 2II.632
λείας (ασφαλιστικά επιστόμια), των τελευταίων θα προηγείται
εύθραυστος δίσκος. Η διάταξις του ευθραύστου δίσκου και
της βαλβίδος ασφαλείας (ασφαλιστικού επιστομίου) θα πρέπει
να ικανοποιεί την αρμόδια αρχή.

Δεξαμενές (βυτία) εφοδιασμένες με βαλβίδες ασφα-
λείας (ασφαλιστικά επιστόμια) και εύθραυστους δίσκους και
προοριζόμενες για μεταφορά δια θαλάσσης θα είναι σύμφωνα
προς τις διατάξεις που διέπουν τον εν λόγω τρόπον μεταφοράς.

Προστασία του εξοπλισμού

2II.633

(I) Εξαρτήματα και παρελκόμενα συναρμολογούμενα στο
άνω μέρος του κελύφους

Τέτοια εξαρτήματα και παρελκόμενα θα έχουν είτε

τοποθετηθεί σε περίβλημα φέρον υποδοχήν

(RECESSED HOUSING).· είτε

θα είναι εφοδιασμένα με εσωτερική βαλβίδα

ασφαλείας (ασφαλιστικόν επιστόμιον).· είτε

θα προστατεύονται με κάλυμμα, ή με εγκαρσίους

ή και επιμήκεις δοκούς, ή με άλλους εξ ίσου

αποτελεσματικούς μηχανισμούς, εις τρόπον 2ΠΙ.633
 ώστε στη περίπτωση αναποδογυρίσματος τα (Συνεχίζεται)
 εξαρτήματα και παρελκόμενα να μη καταστρα-
 φούν

(2) Εξαρτήματα και παρελκόμενα συναρμολογούμενα
 στο κάτω μέρος του κελύφους

Σωλήνες με στορέα, πλευρικοί μηχανισμοί διακο-
 πής, και όλοι οι μηχανισμοί εκκινώσεως θα είναι εντός υπο-
 δοχής τουλάχιστον 200 MM από το εξωτερικό άκρο του κελύ-
 φους ή θα προστατεύονται από κιγκλίδωμα έχον συντελεστήν
 αδρανείας όχι μικρότερον των 20 CM³ εγκάρσιως προς την
 κατεύθυνσιν του ταξιδιού· το εκ του εδάφους διάκενον
 αυτών δεν θα είναι μικρότερο των 300 MM με το κέλυφος πλή-
 ρες.

(3) Εξαρτήματα και παρελκόμενα συναρμολογούμενα
 στη πίσω όψη του κελύφους

Όλα τα εξαρτήματα και παρελκόμενα τα συναρμολο-
 γούμενα στη πίσω όψη θα προστατεύονται από τον προφυλακτή-
 ρα προσκρούσεως τον περιγραφόμενον στο περιθώριο ΙΟ.2Ι6.
 Το ύψος των πάνω από το έδαφος θα είναι τέτοιο ώστε να προ-
 στατεύονται καταλλήλως και επαρκώς από τον προφυλακτήρα
 προσκρούσεως.

2ΠΙ.634-

2ΠΙ.639

Άρθρο 4

Έγκριση Τύπου

Δεξαμενές (βυτία) εγκριθείσαι για τη μεταφορά 2ΠΙ.640

τροφίμων υλών δεν θα εγκρίνονται για τη μεταφορά τροφίμων, 2II.640
 ειδών καταναλώσεως ή ζωοτροφών. (Συνεχίζεται)

2II.64I-

2II.649

Άρθρο 5Δοκιμασί (Έλεγχος)

Κελύφη προοριζόμενα για τη μεταφορά των υλών των 2II.650
 αναφερομένων στο περιθώριο 6I.I2I (I), (α) έως (γ), θα ε-
 λέγχωνται αρχικώς και περιοδικώς σε πίεση 4 KG/CM² (πίεση
 θλιβομέτρου).

Οι περιοδικοί έλεγχοι θα διεξάγονται σε χρονικά δια-
 στήματα όχι μεγαλύτερα των τριών ετών στη περίπτωση κελύ-
 φων προοριζομένων για τη μεταφορά υλών της I4^ο.

2II.65I-

2II.659

Άρθρο 6Μαρτύρισμα (Σήμανσις)

(Ουδεμία ειδική διάταξις)

2II.660-

2II.669

Άρθρο 7Λειτουργία

Ο βαθμός της πληρώσεως (γεμίσματος) των κελυφών 2II.670
 των προοριζομένων για τη μεταφορά των υλών των αναφερομέ-
 νων στο περιθώριο 6I.I2I (I), (α) έως (δ), θα είναι σύμ-
 φωνος προς το περιθώριο 2II.I72 (I) (δ).

Κελύφη προοριζόμενα για τη μεταφορά υλών της 5^ο (α) 2II.67I
 και 5^ο (β) θα πληροούνται (γεμίζονται) μόνον μέχρι I KG
 υγρού ανά λίτρον χωρητικότητος.

Τα ανοίγματα των κελυφών θα είναι ερμητικά
κλεισμένα διαρκούς της μεταφοράς. 2II.672

Δεξαμενές (βυτία) χρησιμοποιούμενες για τη μετα- 2II.673
φορά τοξικών υλών δεν θα χρησιμοποιούνται για τη μεταφορά
ζωοτροφών, ειδών καταναλώσεως και τροφίμων.

2II.674-

2II.699

Κλάσις 7

Ραδιενεργές Ύλες

Άρθρο 1

Γενικά· αντικείμενο· ορισμοί

2II.700-

2II.719

Άρθρο 2

Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά των υλών των 2II.720
αναφερομένων στο περιθώριο 2703, Παράρτημα 5, παράγραφος
II, θα σχεδιάζονται για πίεση τουλάχιστον 4 KG/CM^2 (πίεση
θλιβομέτρου).

Οσάντις οι ραδιενεργές ύλες είναι σε διάλυμα ή 2II.721
αιώρημα σε ύλες άλλων κλάσεων και οι πιέσεις υπολογισμού
οι προβλεπόμενες για τα κελύφη των δεξαμενών (βυτίων) των
προοριζομένων για τη μεταφορά των τελευταίων υλών είναι
μεγαλύτερες, θα ισχύουν οι πιέσεις των τελευταίων.

2II.722-

2II.729

Άρθρο 3Είδη Εξοπλισμού

Κελύφη προοριζόμενα για τη μεταφορά υγρών ραδιενεργών υλών^{8/} θα έχουν τα ανοίγματά τους πάνω από το επίπεδο της επιφανείας του υγρού. Καμμία σωλήνωση ή σύνδεση σωλήνος θα διέρχεται από τα τοιχώματα του κελύφους κάτω από το επίπεδο επιφανείας του υγρού.

2II.73I-

2II.739

Άρθρο 4Έγκριση Τύπου

Δεξαμενές εγκριθείσες για τη μεταφορά ραδιενεργών υλών δεν θα εγκρίνονται για τη μεταφορά τροφίμων, ειδών καταναλώσεως, ζωοτροφών, καλλυντικών ή φαρμάκων, ή υλών χρησιμοποιούμενων δια την κατασκευή των προϊόντων αυτών.

2II.74I-

2II.749

Άρθρο 5Δοκιμές (Έλεγχοι)

Κελύφη προοριζόμενα για τη μεταφορά των υλών των αναφερομένων στο περιθώριο 2703, Παράρτημα 5, παράγραφος II, θα ελέγχονται αρχικώς και περιοδικώς σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου).

2II.750

Με ανακλήση των διατάξεων του περιθωρίου 2II.15I, η περιοδική εσωτερική επιθεώρηση μπορεί να αντικατασταθεί με έλεγχο του πάχους του τοιχώματος με υπερηχητικά (κύματα), ενεργουμένου κάθε τρία έτη.

2II.75I

2II.752-

2II.759

Άρθρο 6Μαρμάρισμα (Σήμανση)

(Ουδεμία ειδική διάταξη)

2II.760-

2II.769

Άρθρο 7Λειτουργία

Ο βαθμός πληρώσεως (γεμίσματος) της θερμοκρασίας 2II.770
 συσχετισμού (REFERENCE TEMPERATURE) της 15°C δεν θα υπερ-
 βαίνει το 93 ~~εξ~~ εκατό της ολικής χωρητικότητας του κε-
 λύφους.

Δεξαμενές (βυτία) που χρησιμοποιήθηκαν για τη 2II.77I
 μεταφορά ραδιενεργών υλών δεν θα χρησιμοποιούνται για τη
 μεταφορά τροφίμων, ειδών καταναλώσεως, ζωοτροφών, καλλυν-
 τικών ή φαρμάκων, ή υλών χρησιμοποιούμενων για τη κατα-
 σκευή των προϊόντων αυτών.

2II.772-

2II.799

Κλάσις 8Διαβρωτικές ΎλεςΆρθρο IΓενικά· αντικείμενο· ορισμός

2II.800-

2II.819

Άρθρο 2Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά υδροφθορίου 2II.820
(άνυδρου υδροφθορικού οξέος) (6° (α)), υδατίνων διαλυ- (8.2.I)
μάτων υδροφθορικού οξέος (6° (β)), ή βρωμίου (14°) θα
σχεδιάζονται για πίεση τουλάχιστο 21 KG/CM^2 (πίεση θλι-
βομέτρου). Κελύφη προοριζόμενα για τη μεταφορά βρωμίου
θα είναι εφοδιασμένα με επένδυση από μολύβδο πάχους όχι
μικρότερου των 5 MM, ή με ισοδύναμον επένδυση.

Κελύφη προοριζόμενα για τη μεταφορά υλών των 2II.82I
 1° (α), 2° (α), 6° (γ), 7° έως 9° , 21° (α) και 23° θα σχεδιά-
ζονται για πίεση τουλάχιστο 10 KG/CM^2 (πίεση θλιβομέτρου).

Οσάκις η χρήση αλουμινίου είναι απαραίτητη για κε-
λύφη προοριζόμενα για τη μεταφορά υλών της 2° (α), τέτοια
κελύφη θα κατασκευάζονται από αλουμίνιο όχι κάτω του 99.5
τοίς εκατό καθαρό, οπότε, με ανάληψη της ανωτέρω παραγρά-
φου, το πάχος του τοιχώματος δεν χρειάζεται να υπερβεί τα
15 MM.

Κελύφη προοριζόμενα για τη μεταφορά μονοχλωροακετι-
κού οξέος (21° (α)) θα είναι εξοπλισμένα με σμάλτο ή ισο-
δύναμον επένδυση εάν το υλικό του κελύφους προσβάλλεται

από το οξύ αυτό.

2II.82I

Κελύφη προοριζόμενα για τη μεταφορά υλών αναφερο- 2II.822
μένων εις το περιθώριο 8I.12I πλην των απαριθμουμένων στα
περιθώρια 2II.820 και 2II.82I θα σχεδιάζονται για πίεση όχι
μικροτέρα των 4 KG/CM^2 (πίεση θλιβομέτρου).

Κελύφη προοριζόμενα για τη μεταφορά υδάτινων δια- 2II.823
λυμάτων υπεροξειδίου του υδρογόνου ($4I^0$) θα πληρούν τις
διατάξεις του περιθωρίου 2II.520.

2II.824-

2II.829

Άρθρο 3

Είδη Εξοπλισμού

Όλα τα ανοίγματα κελυφών προοριζομένων για τη 2II.830
μεταφορά υλών της 6^0 και βρωμίου ($I4^0$) θα είναι πάνω από
το επίπεδο της επιφανείας του υγρού· καμμία σωλήνωσις ή
συνδέσεις σωλήνων θα διέρχεται από τα τοιχώματα του κελύ-
φους κάτω από το επίπεδο επιφανείας του υγρού. Επιπροσθε-
τως, οποῖς καθαρισμοῦ (σχήματος γροθιάς) ως αναφέρονται στο
περιθώριο 2II.132 δεν θα επιτρέπονται. Τα ~~κλεισ-~~ κλεισί-
ματα θα πρέπει να είναι ικανά
θα μπορούν/να προστατεύονται αποτελεσματικά με μεταλλι-
κό κάλυμμα.

Οι πάρα κάτω δροι θα ισχύουν για αποσυναρμολο- 2II.83I
γούμενες δεξαμενές (βυτία) προοριζόμενες για τη μεταφορά
υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6^0 (α)) και υδάτινων
διαλυμάτων υδροφθορικού οξέος (6^0 (β)):-

1.- δεν θα αλληλοσυνδέονται με σωλήνωσιν· και

2.- εάν οι αποσυναρμολογούμενες δεξαμενές (βυτία)

μπορούν να ρολλάρουν, οι βαλβίδες θα είναι 2II.831
εφοδιασμένες με προστατευτικά καλύμματα. (Συνεχίζεται)

2II.832

Κελύφη προοριζόμενα για τη μεταφορά σταθεροποιη- 2II.832
μένου τριοξειδίου του θείου (9^0) θα είναι θερμικώς μονωμέ-
να και θα είναι εφοδιασμένα με συσκευήν θερμάνσεως εις το
εξωτερικόν των μέρος. Τα κελύφη μπορεί να είναι τύπου εκ-
κενώσεως εκ του πυθμένος. Στη περίπτωση αυτή το σύστημα εκ-
κενώσεως του κελύφους θα είναι εξοπλισμένον με δύο αμοιβαίως
ανεξάρτητους μηχανισμούς διακοπής συναρμολογημένους εν σειρά,
του πρώτου λαμβάνοντος την μορφήν ταχέως-κλειομένης εσωτερι-
κής βαλβίδος διακοπής (ατμοφράκτου) εγκεκριμένου τύπου και
του δευτέρου την μορφήν βαλβίδας εκροής (υδατοφράκτου) εις
το άκρον του σωλήνα-εκκενώσεως-με-στορέα (PIPE SOCKET). Μία
τυφλή φλάντζα ή κάποιος άλλος εξ ίσου αξιόπιστος μηχανισμός
θα τοποθετείται επίσης στην έξοδο εκάστης εξωτερικής βαλβίδας
εκροής (υδατοφράκτου).

Κελύφη και ο εξοπλισμός σέρβις αυτών προοριζό- 2II.833
μενα για τη μεταφορά υποχλωριωδών διαλυμάτων (37^0) και υδά-
τινων διαλυμάτων υπεροξειδίου του υδρογόνου ($4I^0$) θα είναι
έτσι σχεδιασμένα ώστε να εμποδίζεται η είσοδος ξένης ύλης,
η διαρροή του υγρού, και οιαδήποτε δημιουργούμενη επικίνδυνος
υπερβολική πρессиς στο εσωτερικό του κελύφους.

Άρθρο 4

Έγκριση Τύπου

2II.840-

(Ουδεμία ειδική διάταξη)

2II.849

Άρθρο 5Δοκιμές (Έλεγχοι)

Κελύφη προοριζόμενα για τη μεταφορά υδροφθορίου 2II.850
(άνυδρου υδροφθορικού οξέος) (6° (α)) και υδατινών διαλυμά-
των υδροφθορικού οξέος (6° (β)) θα υποβάλλονται στη δοκιμή
της αρχικής πίεσεως και εις τους περιοδικούς ελέγχους σε
πίεση 10 KG/CM^2 (πίεση θλιβομέτρου), και τα προοριζόμενα
για τη μεταφορά των λοιπών υλών των αναφερομένων στο περι-
θώριο 8I.12I, εάν οι ύλες αυτές μεταφέρονται εις την υγράν
φάσιν, σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου).

Ο έλεγχος της πίεσεως των κελυφών των προοριζομέ- 2II.851
νων για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος
(6° (α)) και υδατινών διαλυμάτων υδροφθορικού οξέος (6° (β))
θα επαναλαμβάνεται κάθε έξι έτη και θα συνοδεύεται από εσω-
τερικήν επιθεώρησιν των κελυφών καί έλεγχον των ειδών εξα-
πλισμού αυτών. Επιπροσθέτως, κάθε δύο έτη, η αντίσταση των
κελυφών στη διάβρωση θα ελέγχεται μέσω καταλλήλων οργάνων
(π.χ. δι' υπερηχητικών) και θα επαληθεύεται η κατάσταση του
εξοπλισμού.

Ο έλεγχος της πίεσεως των κελυφών των προοριζομένων 2II.852
για τη μεταφορά σταθεροποιημένου τριοξειδίου του θείου (9°)
θα επαναλαμβάνεται κάθε τρία έτη.

Η κατάσταση της επενδύσεως των κελυφών των προορι- 2II.853
ζομένων για τη μεταφορά βρωμίου (14°) θα ελέγχεται κάθε έτος
από ανεγνωρισμένον ειδικόν (ειδήμονα), ο οποίος θα επιθεωρεί
το εσωτερικόν του κελύφους.

2II.854-

2II.859

Άρθρο 6Μαρκάρισμα (Σήμανσις)

Κελύφη προοριζόμενα για τη μεταφορά υδροφθορικού 2II.860
(άνυδρου υδροφθορικού οξέος) (6° (α)), υδατινών διαλυμάτων
υδροφθορικού οξέος (6° (β)), ή βρωμίου (14°), θα φέρουν, επι-
προσθέτως των λεπτομερειών των ήδη περιγραφόμενων στα περιθώ-
ρια 2II.160 και 2II.161, ένδειξη του επιτρεπτού ανωτάτου κα-
θαρού φορτίου σε χιλιόγραμμα και την ημερομηνία (μήνα, έτος)
την πλέον πρόσφατου εσωτερικής επιθεωρήσεως του κελύφους.

2II.86I-

2II.869

Άρθρο 7Λειτουργία

Κελύφη προοριζόμενα για τη μεταφορά θειϊκού οξέ- 2II.870
ος (1° (γ)) θα πληρούνται (γεμίζονται) όχι άνω του 95 ~~στα~~
εκατό της χωρητικότητάς των, τα προοριζόμενα για τη μεταφο-
ρά σταθεροποιημένου τριοξειδίου του θείου (9°) όχι άνω του
88 ~~στα~~ εκατό, και τα προοριζόμενα για τη μεταφορά βρωμίου
(14°) όχι άνω του 88 ~~στα~~ εκατό και όχι άνω του 92 ~~στα~~ εκα-
τό ή μέχρι 2.86 KG ανά λίτρον χωρητικότητας. Κελύφη προοριζό-
μενα για τη μεταφορά υδροφθορικού (άνυδρου υδροφθορικού οξέος)
(6° (α)) ή υδατινών διαλυμάτων υδροφθορικού οξέος (6° (β))
δεν θα πληρούνται (γεμίζονται) άνω των 0.84 KG ανά λίτρον χω-
ρητικότητας.

2II.87I-

2II.099

Προσθήκη Β.ΙβΔΙΑΤΑΞΕΙΣ ΑΦΟΡΩΣ ~~ΕΞ~~ ΔΕΞΑΜΕΝΟ-CONTAINERS

(ΣΧΕΔΙΟΝ ΚΑΙ ΔΟΚΙΜΗ)

ΣΗΜΕΙΩΣΙΣ:-

Το Κεφάλαιον Ι περιγράφει τις διατάξεις τις ισχύουσες για δεξαμενο-CONTAINERS προοριζόμενες για τη μεταφορά υλών όλων των Κλάσεων.

Το Κεφάλαιον ΙΙ περιέχει ειδικές διατάξεις οι οποίες συμπληρούν ή τροποποιούν τις διατάξεις του Κεφαλαίου Ι.

Κεφάλαιο Ι

ΔΙΑΤΑΞΕΙΣ ΙΣΧΥΟΥΣΕΣ ΓΙΑ ΟΛΕΣ ΤΙΣ ΚΛΑΣΕΙΣ

Άρθρο ΙΓενικά· αντικείμενο· ορισμοί

Οι διατάξεις αυτές θα ισχύουν για δεξαμενο- 2Ι2.Ι00
CONTAINERS χωρητικότητας άνω των 0.45 κυβ. μέτρων που χρησιμοποιούνται για τη μεταφορά υγρών, αεριωδών, ~~αερίων~~ ή κοκκωδών υλών, και εις τα εξαρτήματα και παρελκόμενα αυτών.

Ένα δεξαμενο-CONTAINER θα περιλαμβάνει κέλυφος και 2Ι2.Ι0Ι
εξοπλισμό, συμπεριλαμβανομένου εξοπλισμού διευκολύνοντος την μετακίνησιν άνευ αλλαγής της στάσεως.

Στις παρακάτω διατάξεις:-

2Ι2.Ι02

(Ι) (α) Δια του όρου "Κέλυφος" νοείται η κανονική δεξαμενή (βυτίο) (συμπεριλαμβανομένων των ανοιγμάτων και κλεισιμάτων αυτής)·

(β) Δια του όρου "εξοπλισμός σέρβις" του κελύ-

φους νοούνται μηχανισμοί πληρώσεως και 212.102
 εκκενώσεως, εξαερισμού, ασφαλείας και (Συνεχίζεται)
 θερμομονώσεως, και όργανα μετρήσεως και

(γ) Διὰ του όρου "Κατασκευαστικός εξοπλισμός"
 νοούνται ενισχυτικές, προστατευτικές ή
 σταθεροποιητικές δοκοί εξωτερικώς του
 κελύφους.

(2) (α) Διὰ του όρου "υπολογισθείσα πρέσις" νοείται
 θεωρητική πρέσις τουλάχιστον ίση με τη πρέ-
 ση δοκιμής η οποία σύμφωνα με τον βαθμόν
 του κινδύνου που παρουσιάζει η μεταφερομένη
 ύλη μπορεί να υπερβεί κατά το μάλλον ή ήττον
 ουσιαστικώς την πρέση λειτουργίας. Χρησιμο-
 ποιείται απλώς διὰ τον καθορισμόν του πάχους
 των τοιχωμάτων του κελύφους, αποκλειομένου
 οιοδήποτε εξωτερικού ή εσωτερικού ενισχυτι-
 κού μηχανισμού.

(β) Διὰ του όρου "Ανωτάτη πρέση λειτουργίας" νο-
 είται η υψηλότερα των πάρακάτω τριών πιέσεων:-

1.- Της ανωτάτης δραστηκής πίεσεως της επιτρε-
 πομένης στο κέλυφος διαρκούσης της πληρώ-
 σεως ("επιτρεπομένη ανωτάτη πρέση πληρώ-
 σεως").

2.- Της ανωτάτης δραστηκής πίεσεως της επιτρε-
 πομένης στο κέλυφος διαρκούσης της εκκε-
 νώσεως ("επιτρεπομένη ανωτάτη πρέση εκκε-
 νώσεως"). και

3.- Της δραστηκής πίεσεως εις την οποίαν 2Ι2.Ι02
υποβάλλεται το κέλυφος εκ του περιε- (Συνεχίζεται)
χομένου του (συμπεριλαμβανομένων ποι-
ούτων ξένων αερίων τα οποία ενδέχεται
να περιέχει) όταν η θερμοκρασία φθάνει
τους 50° C ("ολική πίεση").

(γ) Δια του όρου "πίεση δοκιμής" νοείται η ανωτάτη
δραστηκή πίεση που εγείρεται στο κέλυφος διαρ-
κούσης της δοκιμής πίεσεως.

(δ) Δια του όρου "πίεση πληρώσεως" νοείται η ανωτάτη
πίεση η όντως δημιουργούμενη στο κέλυφος όταν
τούτο πληρούται δια πίεσεως.

(ε) Δια του όρου "πίεση εκκενώσεως" νοείται η ανωτάτη
πίεση η όντως δημιουργούμενη στο κέλυφος όταν
τούτο εκκενούται δια πίεσεως.

(3) Δια του όρου "δοκιμή διαρροής" νοείται η δοκιμή η
οποία περιλαμβάνει την υποβολήν του κελύφους σε
δραστηκήν εσωτερικήν πίεσιν ίσην προς την ανωτάτην
πίεσιν λειτουργίας, αλλά όχι μικροτέραν των 0.2
KG/CM² (πίεση θλιβομέτρου), δια μεθόδου εγκριθείσης
υπό της αρμοδίας αρχής.

2Ι2.Ι03-

2Ι2.ΙΙ9

Άρθρο 2

Κατασκευή

Τα κελύφη θα είναι κατασκευασμένα από ελατό μεταλλ- 2Ι2.Ι20
λικό υλικό. Δια συγκολλημένα κελύφη μόνον υλικόν του οποίου

η ικανότης συγκολλήσεως έχει πλήρως καταδειχθεί θα χρη- 2Ι2.Ι20
 σιμοποιείται. Οι συγκολλήσεις θα γίνονται επιδεξίως (Συνεχίζε-
 και θα παρέχουν πλήρη ασφάλεια. Τα υλικά των κελύφων ται)
 και των προστατευτικών των επενδύσεων που έρχονται σε
 επαφή με το μεταφερόμενο περιεχόμενο δεν θα περιέχουν ύ-
 λες δυνάμενες να αντιδράσουν επικινδύνως με το τελευταίο
 και σχηματίσουν ενώσεις, ή εξασθενήσουν ουσιαστικώς το
 υλικόν.

Κελύφη, τα προσαρτήματά των και ο κατασκευα- 2Ι2.Ι2Ι
 στικός των εξοπλισμός και εξοπλισμός σέρβις θα σχεδιά-
 ζονται κατά τρόπον ώστε να αντέχουν τουλάχιστον εις τις
 στατικές και δυναμικές τάσεις εν κανονική μεταφορά άνευ
 απώλειας του περιεχομένου. I/--

Η πίεσις επί της οποίας βασίζονται αι διαστά- 2Ι2.Ι22
 σεις του κελύφους του δεξαμενο-CONTAINER δεν θα είναι μι-
 κροτέρα της υπολογισθείσης πιέσεως, αλλά αι τάσεις αι ανα-
 φερόμεναι στο περιθώριο 2Ι2.Ι2Ι θα λαμβάνωνται επίσης
 υπόψη.

Εκτός οσάκις ειδικοί όροι για τις διάφορες 2Ι2.Ι23
 κλάσεις προβλέπουν άλλως, οι παρακάτω κατώτατοι όροι θα
 λαμβάνωνται υπόψη κατά την σχεδίαση των κελύφων:-

(I) Το κέλυφος δεξαμενο-CONTAINER εκκενουμένου
 δια βαρύτητας προοριζομένου για τη μεταφορά υλών εκουσών
εις 50°C ολικήν πίεσιν (π.έ. πίεσιν ατμού πλέον, τυχόν,
 -I/ Εάν υπάρχουν απαερωτικά όρ~~α~~^α_ς, τούτο δεν θα ισχύει
 για ποσότητες αερίου που διαφεύγουν μέσω αυτών.

μερικής πίεσεως αδρανών αερίων) όχι άνω των 1.1 KG/CM^2 212.123
(απόλυτον) θα σχεδιάζεται για πίεση δοκιμής δύο φορές
τη στατική πίεση του υπό μεταφοράν υγρού, αλλά όχι κάτω
του διπλασίου της στατικής πίεσεως του ύδατος.

(2) Το κέλυφος δεξαμενο-CONTAINER, πληρώσεως και
εκκενώσεως δια πίεσεως, προοριζομένου για τη μεταφορά υ-
λών έχουσών εις 50°C ολικήν πίεσιν (τ.έ. πίεσιν ατμού
πλέον, τυχόν, μερικής πίεσεως αδρανών αερίων) όχι άνω των
 1.1 KG/CM^2 (απόλυτον) θα σχεδιάζεται για πίεση δοκιμής
έσσην προς 1.3 φορές την πίεση πληρώσεως ή εκκενώσεως.

(3) Το κέλυφος δεξαμενο-CONTAINER -οιουδήποτε
συστήματος πληρώσεως ή εκκενώσεως- προοριζομένου για τη
μεταφορά υλών έχουσών εις 50°C ολικήν πίεσιν (τ.έ. πίεσιν
ατμού πλέον, τυχόν, μερικής πίεσεως αδρανών αερίων) όχι
κάτω των 1.1 και όχι άνω των 1.75 KG/CM^2 (απόλυτον) θα
σχεδιάζεται για πίεση δοκιμής τουλάχιστον 1.5 KG/CM^2
(πίεσιν θλιβομέτρου), ή 1.3 φορές την πίεσιν πληρώσεως ή
εκκενώσεως εάν η πίεσις πληρώσεως ή εκκενώσεως είναι υψη-
λότερη.

(4) Το κέλυφος δεξαμενο-CONTAINER -οιουδήποτε
συστήματος πληρώσεως ή εκκενώσεως- προοριζομένου για τη
μεταφορά υλών έχουσών εις 50°C ολικήν πίεσιν (τ.έ. πίεσιν
ατμού πλέον, τυχόν, μερικής πίεσεως αδρανών αερίων) άνω
των 1.75 KG/CM^2 (απόλυτον) θα σχεδιάζεται για πίεση δοκι-
μής έσσην προς την υψηλότεραν των παρακάτω δύο πιέσεων:
 1.5 φορές την ολικήν πίεσιν εις 50°C , μέσον 1 KG/CM^2 , επι-
φυλασσομένης κατωτάτης πίεσεως 4 KG/CM^2 (πίεση θλιβομέτρου).

και 1.3 φορές την πίεσιν πληρώσεως ή εκκενώσεως.

Δεξαμενο-CONTAINERS προοριζόμενα να περιέχουν 2Ι2.Ι24
ωρισμένες επικίνδυνες ύλες θα είναι εφοδιασμένα με πρόσθετη προστασία, η οποία μπορεί να πάρει την μορφή προσθέτου πάχους του κελύφους (του τοιούτου προσθέτου πάχους καθοριζόμενου υπό το φώς των εγγενών κινδύνων των περιών πρόκειται υλών· βλέπε τις σχετικές κλάσεις) ή ενός προστατευτικού μηχανισμού.

Εως την υπολογισθείσαν πίεσιν ή την πίεσιν δοκιμής, 2Ι2.Ι25
οιαδήποτε τούτων είναι υψηλότερα, η τάσις σ (σίγμα) εις το σημείον της μεγαλύτερας τάσεως του κελύφους θα συμφωνεί με τα εκ του υλικού εξαρτώμενα όρια τα προβλεπόμενα κατωτέρω. Επιπροσθέτως, κατά την επιλογήν του υλικού και τον καθορισμόν του πάχους του τοιχώματος, θα λαμβάνονται υπόψη αι ανώταται και κατώταται θερμοκρασίαι λειτουργίας, με ειδική αναφορά εις τον κίνδυνον θραύσεως.

(Ι) Για μέταλλα και κράματα παρουσιάζοντα σαφώς-οριζόμενον σημείον αντοχής ή χαρακτηριζόμενα δι' εγγυημένου συμβατικού κρίσιμου σημείου ελαστικότητας R_e (γενικώς 0.2 ~~ε~~α. εκατό της υπολειμματικής επιμηκύνσεως):

(α) Οσάντις ο λόγος R_e/R_m δεν είναι μεγαλύτερος του 0.66 (R_e = εμφανές κρίσιμον σημείον ελαστικότητας ή 0.2 ~~ε~~α. εκατό τάσις δοκιμής· R_m = εγγυημένη κατωτάτη αντοχή εις εφελκυσμόν)

$$\sigma \leq 0.75 R_e$$

(β) Οσάνκις ο λόγος R_e/R_m υπερβαίνει το **D.66**

2I2.I25

$$\sigma \leq 0.5 R_m$$

(Συνεχίζεται)

(2) Για μέταλλα και κράματα μη παρουσιάζοντα εμφανείς κρείσιμον σημείον ελαστικότητας και χαρακτηριζόμενα από εγγυημένην καταπάτην αντοχήν εις εφελκυσμόν R_m :

$$\sigma \leq 0.43 R_m$$

(3) Η επιμήκυνσις εις ρήγμα (θραύσιν), 2/ ~~είτα~~ εκατό δεν θα είναι μικροτέρα των I,000, αλλά δεν θα είναι μικροτέρα του 20 ~~είτα~~ εκατό στη περίπτωση χάλυβος και όχι μικροτέρα του 12 ~~είτα~~ εκατό στη περίπτωση κραμάτων αλουμινίου.

Δεξαμενο-CONTAINERS προοριζόμενα για τη μετα- 2I2.I26
φορά ^{υγρών} ευφλέκτων/υλών με σημείον αναφλέξεως όχι μεγαλύτερο των 55°C και για τη μεταφορά ευφλέκτων αερίων θα είναι ικανά γειωθούν ηλεκτρικώς.

Δεξαμενο-CONTAINERS θα είναι ικανά να απορρο- 2I2.I27
φούν τις δυνάμεις τις οριζόμενες στη παράγραφο (I) και το πάχος του τοιχώματος των κελυφων θα είναι ως προβλέπεται στις παραγράφους (2) - (4) κατωτέρω.

2/ Τα δείγματα τα χρησιμοποιούμενα για τον καθορισμόν της επιμήκυνσεως θραύσεως θα λαμβάνωνται εγκαρσίως της κατεύθυνσεως του ρολλαρισματος και θα ασφαρίζωνται κατά τρόπον ώστε:

$$L_0 = 5 \delta$$

όπου L_0 = μήκος του δείγματος προ της δοκιμής· και

δ = διάμετρος

(1) Δεξαμενο-CONTAINERS και αο προσδέσεις τους 242.127
θα είναι ικανά υπό το ανώτατο επιτρεπτό φορτίο να απορρο-
φούν τις παρακάτω δυνάμεις:

- προς την κατεύθυνση του ταξιδιού: το διπλάσιο του ολικού βάρους.
- οριζοντίως σε ορθές γωνίες προς τη κατεύθυνση του ταξιδιού: το ολικό βάρος (οσάκις η κατεύθυνση του ταξιδιού δεν καθορίζεται σαφώς, το ανώτατο επιτρεπτό φορτίο θα είναι δύο φορές το ολικό βάρος).
- κατακορύφως προς τα άνω: το ολικόν βάρος και
- κατακορύφως προς τα κάτω: δύο φορές το ολικό βάρος.

Υπό εκάστην των ανωτέρω δυνάμεων οι τηρηθησόμενοι συντελεστές ασφαλείας θα είναι οι παρακάτω:

- για μέταλλα έχοντα σαφώς-ορισμένον σημείον υποχωρήσεως: συντελεστήν ασφαλείας I.5 εν σχέσει με το εμφανές κρίσιμον σημείον ελαστικότητας ή για μέταλλα έχοντα μη-σαφώς-ορισμένον σημείον υποχωρήσεως: συντελεστήν ασφαλείας I.5 ~~σε~~ σχέση με την εγγυημένην 0.2-~~ε~~^{τα} εκατό τάση δοκιμής.

(2) Το κατώτατον πάχος του τοιχώματος του βυτλού (βαρελίου του κελύφους θα υπολογίζεται με τον παρακάτω τύπον:-

$$e = \frac{P \times D}{200 \text{ χσ μμ (χιλ.)}}$$

όπου P = υπολογισθείσα πίεσις ή πίεση δοκιμής, οποιαδήποτε τούτων είναι η υψηλότερα σε KG/CM².

D = εσωτερική διάμετρος του κελύφους σε MM (μμ) και

σ = επιτρεπτή τάσις ως ορίζεται στο περιθώριο 2Ι2.205, παράγρ. Ι(α), Ι(β) και 2, σε KG/MM^2 .

2Ι2.Ι27
(Συνεχίζεται)

Το πάχος εν ουδεμιά περιπτώσει θα είναι μικρότερο του περιγραφομένου στις παραγράφους (3) και (4) κατωτέρω.

(3) Τα βυτία (βαρέλια) και άκρα κελύφων διαμέτρου όχι άνω των 1.80μ δεν θα έχουν πάχος μικρότερον των 5 MM (χιλ.) εάν από μαλακό χάλυβα 3/ (ως ορίζεται στο περιθώριο 2Ι2.Ι25) ή ισοδύναμον πάχος εάν από άλλο μέταλλο.

Όπου η διάμετρος υπερβαίνει τα 1.80μ το πάχος αυτό θα αυξάνεται μέχρι 6 MM (χιλ.) εάν η δεξαμενή είναι από μαλακό χάλυβα 3/ (ως ορίζεται στο περιθώριο 2Ι2.205) ή μέχρι ισοδύναμου πάχους εάν η δεξαμενή είναι από άλλο μέταλλο. Οποιοδήποτε κι' αν χρησιμοποιηθεί μέταλλο, το πάχος του τοιχώματος του κελύφους εν ουδεμιά περιπτώσει θα είναι μικρότερο των 3 MM (χιλ.).

(4) Οσάκις πρόσθετη προστασία του κελύφους κατά ζημιών παρέχεται, η αρμόδια αρχή μπορεί να επιτρέψει τα προλεχθέντα πάχη να μειωθούν κατά την αναλογίαν (ανάλογα) της παρεχομένης προστασίας· εν τούτοις, τα λεχθέντα πάχη δεν θα είναι μικρότερα των 3 MM (χιλ.) στη περίπτωση μαλακού χάλυβα 3/, ή του ισοδύναμου πάχους στη περίπτωση άλλων μετάλλων, για κελύφη διαμέτρου όχι μεγαλύτερας των

3/ Δια του όρου "μαλακός χάλυβας" νοείται ο χάλυβας ο οποίος έχει αντοχήν θραύσεως μεταξύ 37 και 44 KG/MM^2 .

Ι.80 μ. Για κελύφη με διάμετρο υπερβαίνουσα τα Ι.80 μ. 2Ι2.Ι27
τα πρόλεχθέν κατώτατον πάχος θα αυξάνεται εις 4 MM (Συνεχίζεται)
(χιλ.) προκειμένου περί μαλακού χάλυβα 3/ και σε ισο-
δύναμο πάχος προκειμένου περί άλλου μετάλλου.

Δεξαμενο-CONTAINERS θα μεταφέρονται μόνον 2Ι2.Ι28
επί οχημάτων των οποίων οι προσδέσεις είναι ικανές, υπό
το ανώτατον επιτρεπτόν φορτίον επί των δεξαμενο-CONTAIN-
ERS, να απορροφήσουν τις δυνάμεις τις οριζόμενες στο
παραπάνω περιθώριο 2Ι2.Ι27 (Ι).

2Ι2.Ι29

Άρθρο 3

Είδη Εξοπλισμού

Τα είδη εξοπλισμού θα είναι έτσι τακτοποιη- 2Ι2.Ι30
μένα ώστε να προστατεύονται κατά του κινδύνου να υποστούν
ζημίας διαρκούσης της μεταφοράς και του χειρισμού. Εάν
η σύνδεση μεταξύ του πλαισίου και του κελύφους επιτρέπει
σχετικήν μετακίνησιν μεταξύ των δύο αυτών υπο-συγκροτημά-
των, τα είδη εξοπλισμού θα είναι έτσι προσδεδεμένα ώστε να
επιτρέπεται τέτοια μετακίνησις χωρίς τον κίνδυνο να υποστούν
ζημίαν τα λειτούργούντα εξαρτήματα.

Τα είδη εξοπλισμού θα παρουσιάζουν κατάλληλον
βαθμόν ασφαλείας συγκρινόμενον με εκείνον του κελύφους.

Επιπροσθέτως, ειδικοί όροι ισχύοντες για δεξα-
μενο-CONTAINERS εκκενώσεως εκ του πυθμένος προβλέπονται
στο παρακάτω περιθώριο 2Ι2.Ι3Ι.

Κάθε δεξαμενο-CONTAINER εκκενώσεως εκ του πυθμέ- 2Ι2.Ι3Ι
νος, και στη περίπτωση διαμερισμάτων του δεξαμενο-CONTAINER

κάθε διαμέρισμα, θα είναι εξοπλισμένο με δύο αμοιβαία 2Ι2.Ι3Ι ανεξάρτητους μηχανισμούς κλεισίματος, του πρώτου δόντος (Συνεχίζεται) ενός εσωτερικού ατμοφράκτου 4/ τοποθετημένου απ' ευθείας στο κέλυφος και του δευτέρου δόντος ενός υδαροφράκτου ή ετέρου ισοδυνάμου μηχανισμού 5/ συναρμολογημένους σε σειρά, ένας ~~σε~~ ^{κάθε} άκρον του σωλήνα ~~εκκένωσης~~. Ο εσωτερικός ατμοφράκτης θα τίθεται σε λειτουργία από πάνω ή από κάτω. Εάν είναι δυνατόν, - η ρύθμισης -ανοικτός ή κλειστός- του εσωτερικού ατμοφράκτου θα είναι ικανή να επαληθεύεται από το έδαφος σε αμφότερες τις περιπτώσεις. Οι μηχανισμοί ελέγχου του εσωτερικού ατμοφράκτου θα είναι έτσι σχεδιασμένοι ώστε να αποφεύγεται οποιοδήποτε ~~α-~~ κούσιο άνοιγμα από πρόσκρουση ή απρόσεκτη ενέργεια.

Ο εσωτερικός μηχανισμός κλεισίματος θα εξακολουθεί να λειτουργεί σε περίπτωση ζημίας του εξωτερικού μηχανισμού ελέγχου. Για να αποφευχθεί οποιαδήποτε απώλεια του περιεχομένου στη περίπτωση ζημίας των εξωτερικών εξαρτημάτων εκκένωσης (σωλήνες, πλευρικοί μηχανισμοί κλεισίματος), ο εσωτερικός ατμοφράκτης και η έδρα του θα προστατεύονται κατά του κινδύνου να στρεβλωθούν υπό εξωτερικών

4/ Εκτός όπως ενδέχεται να προβλέπεται άλλως στη περίπτωση κελυφών προοριζομένων για τη μεταφορά ωρισμένων δυναμένων να κρυσταλλοποιηθούν ή υψηλά γλοιωδών υλών.

5/ Προκειμένου περί δεξαμενο-CONTAINERS χωρητικότητας μικρότερης των $1 \mu^3$, ο υδατοφράκτης ή άλλος ισοδύναμος μηχανισμός μπορεί να αντικατασταθεί από μία τυφλή φλάντζα.

τάσεων ή θα είναι έτσι σχεδιασμένα ώστε να ανθίστανται. 2Ι2.Ι3Ι
Οι μηχανισμοί πληρώσεως και εκκενώσεως (συμπεριλαμβανο- (Συνεχίζε-
μενων των φλαντζών ή ελικοτετμηένων πωμάτων) και/ (ταχόν) ^{τά} ^{ται})
προστατευτικά καλύμματα θα είναι σε θέση να ασφαλίζονται
κατά οποιουδήποτε ακούσιου ανοίγματος.

Το δεξαμενο-CONTAINER ή έναστο των διαμερισμά- 2Ι2.Ι32
των, εκτός οσάκις προορίζεται για τη μεταφορά βαθέως
κατεφυγμένων αερίων, θα είναι εφοδιασμένο με άνοιγμα
αρκετά μεγάλο ώστε να μπορεί το δεξαμενο-CONTAINER ή δια-
μέρισμα να επιθεωρηθεί.

Δεξαμενο-CONTAINER προοριζόμενο για τη μετα- 2Ι2.Ι33
φορά υγρών εχόντων πρeσιν ατμού όχι μεγαλύτεραν των
 1.1 KG/CM^2 (απόλυτον) εις 50°C θα έχει σύστημα εξαερι-
σμού και μηχανισμόν ασφαλείας που να εμποδίζουν να χυθεί
έξω από το κέλυφος το περιεχόμενον εάν το δεξαμενο-
CONTAINER αναποδογυρσει, ή θα είναι σύμφωνον προς τις
παρακάτω διατάξεις του περιθωρίου 2Ι2.Ι34 ή 2Ι2.Ι35.

Δεξαμενο-CONTAINER προοριζόμενο για τη μετα- 2Ι2.Ι34
φορά υγρών εχόντων πρeσιν ατμού όχι μικροτέραν των 1.1
και όχι μεγαλύτεραν των 1.75 KG/CM^2 (απόλυτον) εις
 50°C θα έχει την βαλβίδα ασφαλείας (ασφαλιστικόν επι-
στέμιον) ρυθμισμένην όχι κάτω των 1.5 KG/CM^2 (πρeσιν
θλιβομέτρου), και κατά τρόπον ώστε να είναι πλήρως ανοι-
κτή σε πίεση μη υπερβαίνουσα τη πίεση δοκιμής· ή θα συμ-
μορφούται προς τις διατάξεις του περιθωρίου 2Ι2.Ι35.

Δεξαμενο-CONTAINER προοριζόμενο για τη μετα- 2Ι2.Ι35
φορά υγρών εχόντων πρeσιν ατμού όχι μικροτέραν των 1.75

και όχι μεγαλύτεραν των 3 KG/CM^2 (απόλυτον) εις 50°C θα 2Ι2.Ι35
 είναι εξοπλισμένον με/ασφάλειας ρυθμισμένην σε πίεση θλι- (Συνεχι-
 βόμετρου όχι μικροτέραν των 3 KG/CM^2 και κατά τρόπο ώστε ζεται)
 να είναι πλήρως ανοικτή σε πίεση μη υπερβαίνουσα τη πίεση
 δοκιμής· ή θα έχει ερμητικά στεγανοποιηθεί.

Κινοούμενα εξαρτήματα όπως καλύμματα, κλεισί- 2Ι2.Ι36
 ματα, κλπ., τα οποία ενδέχεται να τριβούν ή έλθουν σε επι-
 κρουστικήν επαφήν με δεξαμενο-CONTAINERS εξ αλουμινίου
 προοριζόμενα για τη μεταφορά ευφλέκτων υλών εχουσών ση-
 μέλον αναφλέξεως όχι άνω των 55°C ή για τη μεταφορά ευφλέ-
 κτων αερίων δεν θα κατασκευάζωνται από απροστάτευτον δυ-
 νάμενον να διαβρωθεί χάλυβα.

2Ι2.Ι37-

2Ι2.Ι39

Άρθρο 4

Έγκριση Τύπου

Η αρμόδια αρχή ή υπηρεσία εντεταλμένη υπό της 2Ι2.Ι40
 εν λόγω αρχής θα εκδώσει έξ σχέσής με κάθε νέον τύπον
 δεξαμενο-CONTAINER πιστοποιητικόν βεβαιούν ότι το πρωτό-
 τυπον δεξαμενο-CONTAINER, συμπεριλαμβανομένων των προσδέ-
 σεων, που επιθεώρησε είναι κατάλληλον για τον σκοπόν για
 τον οποίον προορίζεται και πληροί τις διατάξεις κατασκευής
 του άρθρου 2 και τις περί εξοπλισμού διατάξεις του άρθρου 3.
 Εάν τα δεξαμενο-CONTAINERS κατασκευάζωνται εις συνεχείας
 χωρίς τροποποιήσεις, η έγκρισίς αυτή θα ισχύει για όλες
 τις συνέ-χειες. Τα αποτελέσματα του ελέγχου, οι ύλες για
 τη μεταφορά των οποίων εγκρίνεται το δεξαμενο-CONTAINER,

και ο αριθμός της εγκρίσεως θα καθορίζονται στην έκθεση 2Ι2.Ι40 του ελέγχου. Ο αριθμός της εγκρίσεως θα αποτελείται (Συνεχίζεται)
από το διακριτικόν χαρακτηριστικόν (ένδειξιν) 6/ του Κράτους στην επικράτεια του οποίου εδόθη η έγκριση, και από αριθμόν μητρώου.

2Ι2.Ι4Ι-

2Ι2.Ι49

Άρθρο 5Δοκιμές. (Έλεγχοι)

Τα κελύφη και τα είδη εξοπλισμού των ελτεο- 2Ι2.Ι50
μού ελτε χωριστά θα υποβάλλονται σε αρχική επιθεώρηση
προτού τεθούν σε υπηρεσία και ~~δ~~τη συνέχεια θα υποβάλλων-
ται σε περιοδικές επιθεωρήσεις. Η αρχική επιθεώρηση θα
περιλαμβάνει έλεγχο των χαρακτηριστικών του σχεδίου,
εσωτερικήν και εξωτερικήν εξέταση και δοκιμήν (έλεγχον) υδραυλικής πίεσεως. Εάν τα κελύφη και τα είδη εξοπλισμού των ελεγχθούν χωριστά μετά την συναρμολόγησίν των θα υποβάλλονται από κοινού σε δοκιμήν διαρροής. Οι περιοδικές επιθεωρήσεις θα περιλαμβάνουν εξωτερικήν και εσωτερικήν εξέτασιν και, ως γενικόν κανόνα, έλεγχον υδραυλικής πίεσεως. Η επικάλυψη για θερμομόνωση και τα παρόμοια θα αφαιρούνται μόνον καθ' ό μέτρον απαιτείται για αξιόπιστη εκτίμηση των χαρακτηριστικών του δεξαμενο-CONTAINER. Οι αρχικοί και περιοδικοί έλεγχοι πίεσεως θα διεξάγονται, από ειδικόν εγκριθέντα από την αρμόδια αρχή, στη πίεση δοκιμής

6/ Το διακριτικόν χαρακτηριστικόν (ένδειξιν) προς χρήσιν σε διεθνή κυκλοφορία το προβλεπόμενον υπό της Συμβάσεως Οδικής Κυκλοφορίας (Βιέννη, 1968).

την σημειουμένην στη πλάκα των στοιχείων του δεξαμενο- 2Ι2.Ι50
CONTAINER, εκτός σε περιπτώσεις στις οποίες χαμηλές πιέ- (Συνεχίζε-
σεις δοκιμής εξουσιοδοτούνται για τους περιοδικούς ελέγ-
τους. Σε ειδικές περιπτώσεις, και από συμφώνου μετά της
αρμόδιας αρχής, ο έλεγχος της υδραυλικής πίεσεως μπορεί
να αντικατασταθεί με έλεγχο πίεσεως χρησιμοποιούντα άλλο
υγρό ή αέριο.

Τα δεξαμενο-CONTAINERS, προτού τεθούν σε υπη- 2Ι2.Ι5Ι
ρεσία και μεταταύτα σε χρονικά διαστήματα μη υπερβαίνον-
τα τα πέντε έτη, θα ελέγχονται συμφώνως προς τις διατάξεις
του ανωτέρω περιθωρίου 2Ι2.Ι50. Προτού τα δεξαμενο-CONTAIN-
ERS τεθούν σε υπηρεσία, και μεταταύτα σε χρονικά διαστήμα-
τα μη υπερβαίνοντα τα δύομισι έτη, όλος ο εξοπλισμός θα ε-
λέγχεται για στεγανότητα και ικανοποιητική λειτουργία.

Πιστοποιητικά εικονίζοντα τα αποτελέσματα των 2Ι2.Ι52
ελέγχων αυτών θα εκδίδονται από ειδικόν εγκριθέντα από την
αρμόδια αρχή.

2Ι2.Ι53-

2Ι2.Ι59

Άρθρο 6

Μαρκάρισμα (Σήμανσις)

Κάθε δεξαμενο-CONTAINER θα είναι εφοδιασμένο 2Ι2.Ι60
με ανθεκτική στη διάβρωση μεταλλική πλάκα μόνιμως τοπο-
θετημένη στο κέλυφος σε μέρος ευχερώς προσιτό για επιθεώ-
ρηση. Τα παρακάτω στοιχεία τουλάχιστων θα μαρκάρωνται
στη πλάκα δια σφραγίσεως ή οιασδήποτε άλλης όμοιας μεθό-
δου. Τα στοιχεία μπορούν να χαραχθούν απ' ευθείας πάνω στα

τοιχώματα αυτού τούτου του κελύφους εάν τα τοιχώματα ελ- 2Ι2.Ι60
 ναι έτσι ενισχυμένα ώστε να μην εξασθενείται η αντοχή του (Συνεχίζε-
 ται)
 κελύφους.

- Αριθμός Εγκρίσεως*
- Όνομα ή σήμα Κατασκευαστού*
- Αύξων αριθμός Κατασκευαστού*
- Έτος κατασκευής*
- Πίεση δοκιμής σε KG/CM^2 (πίεση θλιβομέτρου)*
- 2 Χωρητικότητα σε λίτρες* στη περίπτωση δεξαμενο-
 CONTAINERS πολλαπλών-στοιχείων: η χωρητικότητα
 κάθε στοιχείου*
- Θερμοκρασία σχεδίου (μόνον εάν άνω των 50°C ή
 κάτω των 20°C)*
- Μήνας και έτος αρχικού ελέγχου και πλέον προσφάτου
 περιοδικού ελέγχου* και
- Σφραγίδα του ειδικού που έκανε τους ελέγχους.

Αναφορικώς με δεξαμενο-CONTAINERS πληρώσεως ή εκκε-
 νώσεως δια πίεσεως η επιτρεπομένη ανωτάτη πίεση λειτουργίας
 θα καταχωρείται επιπροθέτως.

Τα παρακάτω στοιχεία θα είναι γραμμένα είτε πάνω
 σ' αυτό τούτο το δεξαμενο-CONTAINER ή σε πινακίδα:-

- ± Τα ονόματα του ιδιοκτήτη ή και του χειριστού*
- Η χωρητικότητα του κελύφους*
- Το βάρος άνευ φορτίου (ντάρα)*
- Το ανώτατο επιτρεπτό βάρος εμφόρτου δεξαμενο-
 CONTAINER* και
- Η ονομασία της μεταφερομένης ύλης. 7/

Επιπροσθέτως, τα δεξαμενο-CONTAINERS θα φέρουν τις προβλεπόμενες ετικέτες κινδύνου.

2Ι2.Ι62-

2Ι2.Ι69

Άρθρο 7

Λειτουργία

Διαρκούσης της μεταφοράς, τα δεξαμενο-CONTAINERS 2Ι2.Ι70 θα είναι στερεωμένα πάνω στο μεταφέρον αυτό όχημα κατά τέτοιο τρόπο ώστε να προστατεύονται καταλλήλως από τα εξαρτήματα του μεταφέροντος οχήματος ή αυτού τούτου του δεξαμενο-CONTAINER κατά πλευρικής και μετωπικής κρούσεως και κατά ανατροπής (αναποδογυρίσματος). 8/ Εάν τα κελύφη και ο εξοπλισμός σέρβις είναι έτσι κατασκευασμένα ώστε να ανθίστανται στη πρόσκρουση ή ανατροπή δεν χρειάζεται να προστατευθούν κατά τον τρόπον αυτόν.

7/ Συλλογική περιγραφή ή χαρακτηριστικός αριθμός μπορεί να δοθεί αντι της ονομασίας της ύλης.

8/ Παραδείγματα προστασίας των κελυφών:

1.- Προστασία κατά της πλευρικής προσκρούσεως μπορεί π.χ. να συνίσταται σε επιμήκεις ράβδους προστασίας του κελύφους και στις δύο πλευρές εις το ύψος της μεσαίας γραμμής.

2.- Προστασία κατά της ανατροπής μπορεί π.χ. να συνίσταται σε ενισχυτικούς δακτυλίους ή ράβδους στερεωμένες εγκαρσίως εν σχέσει με το πλαίσιο.

3.- Προστασία κατά της οπισθίας προσκρούσεως μπορεί π.χ. να συνίσταται από προφυλακτήρα ή πλαίσιο.

Τα δεξαμενο-CONTAINERS δεν θα φορτώνονται με επι- 212.171
κίνδυνες ύλες πλην εκείνων για τις οποίες ενεκρίθη η μετα-
φορά.

Οι παρακάτω βαθμοί πληρώσεως δεν θα υπερβαίνουν 212.172
σε δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά υγρών
σε θερμοκρασίες περιβάλλοντος:-

(1) (α) Εύφλεκτες ύλες που δεν παρουσιάζουν προσθέτους
κινδύνους (π.χ. που δεν είναι τοξικές ή διαβρω-
τικές) σε δεξαμενο-CONTAINERS με σύστημα εξαε-
ρισμού και με ή χωρίς βαλβίδες ασφαλείας (ασφα-
λιστικά επιστόμια):

βαθμός πληρώσεως $\frac{100}{I \neq \alpha(50-T_F)}$ ή $\frac{100}{I \neq 35\alpha}$ °/ο χωρητικότητας.

(β) Τοξικές ή διαβρωτικές ύλες, είτε παρουσιάζουν είτε
δεν παρουσιάζουν κίνδυνο αναφλέξεως, σε δεξαμενο-
CONTAINERS με σύστημα εξαερισμού και με ή χωρίς
βαλβίδες ασφαλείας (ασφαλιστικά επιστόμια):

βαθμός πληρώσεως $\frac{98}{I \neq \alpha(50-T_F)}$ ή $\frac{98}{I \neq 35\alpha}$ °/ο χωρητικότητας.

(γ) Εύφλεκτες ύλες χαμηλής-συμπυκνώσεως και χαμηλής
συμπυκνώσεως οξέα και αλκαλικά διαλύματα σε κλει-
στά δεξαμενο-CONTAINERS:

βαθμός πληρώσεως $\frac{97}{I \neq \alpha(50-T_F)}$ ή $\frac{97}{I \neq 35\alpha}$ °/ο χωρητικότητας.

(δ) Τοξικές ύλες υψηλής-συμπυκνώσεως και υψηλής συμ-
πυκνώσεως οξέα και αλκαλικά διαλύματα σε κλειστά
δεξαμενο-CONTAINERS:

βαθμός πληρώσεως $\frac{95}{I \neq \alpha(50-T_F)}$ ή $\frac{95}{I \neq 35\alpha}$ °/ο χωρητικότητας.

(2) Στους τύπους αυτούς το α είναι ο μέσος συντελεστής κυβικής διαστολής του υγρού μεταξύ 15° και 50°C , τ.έ. δι' ανωτάτην μεταβολήν της θερμοκρασίας των 35°C . 2I2.I72

$$\text{Το } \alpha \text{ υπολογίζεται με τον τύπον: } \frac{\delta_{15} - \delta_{50}}{35 \times \delta_{50}}$$

όπου δ_{15} και δ_{50} είναι η πυκνότης τους υγρού στους 15°C και 50°C αντιστοίχως. Το T_F είναι η μέση θερμοκρασία του υγρού διαρκούσης της πληρώσεως.

(3) Οι διατάξεις του ανωτέρω περιθωρίου 2I2.I72 (I) δεν θα ισχύουν για δεξαμενο-CONTAINERS το περιεχόμενον των οποίων συντηρείται μέσω συσκευής θερμάνσεως σε θερμοκρασία άνω των 50°C διαρκούσης της μεταφοράς. Σε τέτοια περίπτωση ο βαθμός πληρώσεως στο ξεκίνημα θα είναι τέτοιος και η θερμοκρασία θα έχει έτσι ρυθμισθεί ώστε το δεξαμενο-CONTAINER να μην είναι γεμάτο πάνω από το 95 εκατό της χωρητικότητός του οποτεδήποτε διαρκούσης της μεταφοράς.

Εάν τα κελύφη δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά υγρών 9/ δεν χωρίζονται με χωρίσματα ή πλάκες για απότομο τήναγμα σε τμήματα χωρητικότητας άνω των 5.000 λιτρών, τα λεχθέντα κελύφη θα πληρούνται μέχρι όχι κάτω του 80 εκατό της χωρητικότητάς των εκτός εάν είναι πρακτικώς άδεια. 2I2.I73

Τα δεξαμενο-CONTAINERS θα κλείουν κατά τρόπον ώστε το περιεχόμενον να μη μπορεί να τρέξει προς τα έξω ανεξέλεγκτο. 2I2.I74

Όσκις πολλά συστήματα κλεισίματος υπάρχουν σε σειρά, το πλησιέστερο προς την μεταφερομένην ύλην θα 2I2.I75

κλείεται πρώτο.

Κανένα υπόλειμμα της μεταφερομένης επικινδύνου 2Ι2.Ι76
ύλης θα κολλάει στο εξωτερικό του δεξαμενο-CONTAINER
διαρκούς της μεταφοράς.

Για να γίνουν δεκτά για μεταφορά, άδεια δεξαμε- 2Ι2.Ι77
νο-CONTAINERS θα κλείνονται κατά τον αυτόν τρόπον και
θα είναι του αυτού βαθμού στεγανά σαν να ήσαν πλήρη.

2Ι2.Ι78-

2Ι2.Ι79

Άρθρο 8

Μεταβατικά Μέτρα

(Ι) Δεξαμενο-CONTAINERS χωρητικότητας κάτω των 2Ι2.Ι80
Ι.000 λιτρών κατασκευασμένα προτού τεθούν σε ισχύ οι
παρούσες διατάξεις και μη συμμορφούμενα προς αυτές μπο-
ρούν, εάν κατεσκευάσθησαν σύμφωνα με τις διατάξεις της
ADR και RID τις διέπουσες τα δοχεία (RECEPTABLES), να
χρησιμοποιηθούν δια χρονικήν περίοδον τριών ετών αμέσως
μετά την θέσιν σε ισχύ των διατάξεων αυτών για τη μετα-
φορά υγρών, αερίων, εις κόνιν ή κόκκους υλών.

(2) Δεξαμενο-CONTAINERS χωρητικότητας όχι μικρο-
τέρας των Ι.000 λιτρών μπορούν, με την έγκριση της αρμό-
διας αρχής των χωρών εις τις οποίες πρόκειται να μεταφερ-
θούν, να χρησιμοποιηθούν για χρονικήν περίοδο πέντε ετών
αμέσως μετά την θέσιν σε ισχύ των διατάξεων αυτών για τη
μεταφορά υγρών, αερίων, εις κόνιν ή κόκκους υλών.

2Ι2.Ι8Ι

2Ι2.Ι99

Κεφάλαιο II

ΕΙΔΙΚΑ ΔΙΑΤΑΞΕΙΣ ΣΥΜΠΛΗΡΟΥΣΑΙ Η ΤΡΟΠΟΠΟΙΟΥΣΑΙ

ΤΙΣ ΔΙΑΤΑΞΕΙΣ ΤΟΥ ΚΕΦΑΛΑΙΟΥ I

ΚΛΑΣΙΣ 2

Αέρια: πεπιεσμένα, υγροποιημένα ή διαλυόμενα υπό πίεσηΆρθρο IΓενικά· αντικείμενο· ορισμός

2Ι2.200-

2Ι2.2Ι9

Άρθρο 2Κατασκευή

Τα κελύφη δεξαμενο-CONTAINERS προοριζομένων για 2Ι2.220 τη μεταφορά υλών των Ι^ο έως 6^ο και 9^ο δεν θα κατασκευάζονται από αλουμίνιο ή κράμα αλουμινίου.

Οι διατάξεις των περιθωρίων 2Ι4.250 έως 2Ι2.22Ι 2Ι4.285, της Προσθήκης Β.Ιδ, θα ισχύουν για τα υλικά και τη κατασκευή των κελυφών των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά αερίων της 7^ο και 8^ο.

2Ι2.222-

2Ι2.229

9/ Υλεις των οποίων ο χρόνος εκροής στους 20^ο από πώμα DIN με οπήν 4 MM(χιλ.) είναι μικρότερος των Ι0 λεπτών (αντιστοιχών σε χρόνο εκροής κάτω των 96 δευτ. στους 20^ο από πώμα FORD No.4, ή κάτω των 2.680 CENTISTOKES) θα θεωρούνται ότι είναι υγρά για την εφαρμογή της παρούσας διάταξης.

Άρθρο 3

Είδη Εξοπλισμού

Επιπροσθέτως του ότι θα εξοπλισθούν με τους μηχανο- 2Ι2.230
νισμούς τους προβλεπόμενους στο περιθώριο 2Ι3.Ι3Ι, οι σωλή-
νες εκκενώσεως των κελυφών του δεξαμενο-CONTAINER θα είναι
ικανοί να κλείνουν με τυφλές φλάντζες ή με κάποιο άλλο εξ-
έσου αξιόπιστο μηχανισμό.

Τα κελύφη των δεξαμενο-CONTAINERS των προοριζομέ- 2Ι2.23Ι
νων για τη μεταφορά υγροποιημένων αερίων μπορούν να εξοπλι-
σθούν, επιπροσθέτως των οπών πληρώσεως, εκκενώσεως και εξι-
ώσεως της πίεσης του αερίου, με ανοίγματα εις τα οποία
να μπορούν να τοποθετηθούν δείκτες (θλιβόμετρα), θερμόμετρα
και μανόμετρα.

Οι βαλβίδες ασφαλείας (ασφαλιστικά επιστόμια) θα 2Ι2.232
πληρούν τους όρους τους προβλεπομένους στις παρακάτω παρα-
γράφους (Ι), (2) και (3).

(Ι) Τα κελύφη των δεξαμενο-CONTAINERS των προορι-
ζομένων για τη μεταφορά των αερίων των Ι^ο έως 6^ο και 9^ο
μπορούν να εφοδιασθούν με όχι περισσότερας των δύο βαλβί-
δων ασφαλείας (αφαιριστικών επιστομών). Οι βαλβίδες ασφα-
λείας θα είναι ικανές να ανοίγουν αυτομάτως υπό πρέσιν από
0.9 έως Ι.0 φορές τη πρέση δοκιμής του κελύφους εις το οποί-
ον έχουν τοποθετηθεί. Θα είναι επιπροσθέτως κατασκευασμένες
κατά τέτοιο τρόπο ώστε σε περίπτωση ολικής υπό του πυρός
καταβροχθίσεως (FIRE ENGULFMENT) η πρέση στο εσωτερικό
του κελύφους να μην υπερβαίνει τη πρέση δοκιμής. Θα είναι
τέτοιου τύπου ώστε να ανθίστανται στις δυναμικές τάσεις,

συμπεριλαμβανομένης της αποτόμου ροής του υγρού. Η χρή- 212.232
σις ασφαλιστικών βαλβίδων απλής βαρύτητος (DEADWEIGHT (Συνεχίζε-
VALVES) ή αντιβάρου (COUNTERWEIGHT VALVES) απαγορεύεται. ται)

Τα κελύφη δεξαμενο-CONTAINERS προοριζομένων
για τη μεταφορά αερίων των 1^ο έως 9^ο επιβλαβών για τα ανα-
πνευστικά όργανα ή συνεπαγομένων κίνδυνον δηλητηριάσεως
10/ δεν θα έχουν βαλβίδες ασφαλείας (ασφαλιστικά επιστό-
μια) εκτός εάν των βαλβίδων ασφαλείας προηγείται δίσκος εκ-
ρήξεως (BURSTING DISC). Στη δεύτερη περίπτωση η διευθέτησις
του δίσκου εκρήξεως και της βαλβίδος ασφαλείας θα γίνεται
κατά τρόπον ικανοποιούντά την αρμόδια αρχή.

(2) Τα κελύφη των δεξαμενο-CONTAINERS των προο-
ριζομένων για τη μεταφορά αερίων των 7^ο(α) και 8^ο(α) τα ο-
ποία δεν είναι σε συνεχή επικοινωνία με τον έξω αέρα, και
των προοριζομένων για τη μεταφορά των αερίων των 7^ο(β) και
8^ο(β) θα είναι εφοδιασμένα με δύο ανεξάρτητες βαλβίδες ασφα-
λείας (ασφαλιστικά επιστόμια) η κάθε μία των οποίων θα ελ-
ναι έτσι σχεδιασμένη ώστε να επιτρέπεται η εκκένωση των αερίων
από το κέλυφος κατά τέτοιο τρόπο που η πίεση ουδέποτε να
υπερβάλει τη πίεση λειτουργίας την σημειωμένην στο δεξα-
μενο-CONTAINER περισσότερο από 10 ~~πλά~~ εκατό .

Επιπροσθέτως, τα κελύφη των τοιούτων δεξαμενο-
CONTAINERS μπορούν να εφοδιασθούν με δίσκους εκρήξεως ~~σε~~
σειρά μαζί με και προηγούμενοι των βαλβίδων ασφαλείας. Στη
περίπτωση αυτή η διευθέτησις του δίσκου εκρήξεως και της
βαλβίδος ασφαλείας θα γίνει κατά τρόπον ικανοποιούντα την
αρμόδια αρχή.

(3) Οι βαλβίδες ασφαλείας (ασφαλιστικά επροσδόμια) των κελυφών των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά των αερίων των 7^ο και 8^ο θα είναι ικανά να ανοίγουν στη πίεση λειτουργίας την σημειούμενην στο δεξαμενο-CONTAINER. Θα είναι έτσι σχεδιασμένες ώστε να λειτουργούν αλάνθαστα ακόμη και στη χαμηλότερη θερμοκρασία λειτουργίας. Το αξιόπιστον της λειτουργίας των στη θερμοκρασία αυτή θα διαπιστούται και ελέγχεται είτε διά δοκιμής εκάστης βαλβίδας είτε δια δοκιμής δείγματος βαλβίδας εκάστου τύπου. 2Ι2.232 (Συνεχίζεται)

Μία εσωτερική περιορίζουσα τη ροή βαλβίδα ή ισοδύναμος μηχανισμός θα εφαρμόζεται σε κάθε οπή διαμέτρου άνω των 1.5 MM (χιλ.) που θα φέρει το κέλυφος για τη διέλευση των αερίων ή υγρών, πλην των οπών των φερουσών τις βαλβίδες ασφαλείας. 2Ι2.233

Θερμομόνωσης. 2Ι2.234

(Ι) Εάν τα κελύφη των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά των υγροποιημένων αερίων των 3^ο έως 4^ο είναι εξοπλισμένα με θερμομόνωση, η μόνωση αυτή θα υπόκειται στις ειδικές διατάξεις υπό στοιχείον (2) κατωτέρω

ΙΟ/ Αέρια χαρακτηριζόμενα δια του γράμματος "I" εις την Κατάστασιν των υλών θεωρούνται αέρια επιβλαβή για τα αναπνευστικά όργανα ή συνεπαγόμενα κίνδυνον δηλητηριάσεως.

είτε αυτή:

2Ι2.234

αποτελείται από προστατευτικό κατά του ηλίου κάλυμμα όχι λιγότερο του άνω τρίτου αλλά όχι περισσότερο του άνω ημίσεος της επιφανείας του δεξαμενο-CONTAINER και χωρισμένο από το κέλυφος με διάστημα αέρος περίπου 4 CM διαγωνίως· είτε αποτελείται από πλήρη επένδυση (CLADDING), καταλλήλου πάχους, μονωτικών υλικών.

Η θερμομόνωση θα είναι έτσι σχεδιασμένη ώστε να μη εμποδίζεται η είσοδος στους μηχανισμούς πληρώσεως και εκκενώσεως.

(2) Τα κελύφη των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά I,3-βουταδιένης ($3^{\circ}(\gamma)$), ή μεθυλοβινυλιοαιθέρα, τριφθοροχλωροαιθυλένιο ή βρωμιούχο βινύλιο ($3^{\circ}(\text{CT})$), θα προστατεύονται από προστατευτικό κατά του ηλίου κάλυμμα ως ορίζεται ανωτέρω.

(3) Τα κελύφη των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά αερίων των 7° και 8° θα είναι θερμομονωμένα. Η θερμομόνωση θα προστατεύεται κατά της προσκορυσσεως δια συνεχούς μεταλλικής επενδύσεως. Εάν το διάστημα μεταξύ του κελύφους και της μεταλλικής επενδύσεως είναι υπό κενόν (μόνωση κενού), η προστατευτική επένδυσις θα είναι έτσι σχεδιασμένη ώστε να ανθίσταται άνευ παρα^{σε}ορφώσεως/εξωτερική πίεση τουλάχιστον 1 KG/CM^2 (πίεση θλιβομέτρου). Εάν η επένδυση είναι έτσι κλεισμένη ώστε να είναι αεριοστεγανή, θα προμηθευθεί μηχανισμός εμποδίζων οποιαδήποτε επικίνδυνον πίεσιν να αναπτυχθεί στο στρώμα της μονώσεως ~~σε~~ περιπτώσει μη επαρκούς αεριοστεγανότητας του κελύφους ή των ειδών εξο-

πλισμού αυτού. Ο μηχανισμός θα εμποδίζει την εισχώρηση υγρασίας στη θερμομονωτική επένδυση. 2Ι2.234
(Συνεχίζεται)

(4) Τα κελύφη των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά οξυγόνου (7^ο (α)), ή αέρος ή μιγμάτων οξυγόνου με άζωτον (8^ο (α)), δεν θα περιλαμβάνουν οιοδήποτε καύσιμον υλικόν είτε στη θερμομόνωση είτε στα μέσα προσκολλησεως (συνδέσεως) στο πλαίσιο.

Στη περίπτωση δεξαμενο-CONTAINERS πολλαπλών στοιχείων, θα πληρούνται οι κάτωθι όροι. 2Ι2.235

(Ι) Εάν ένα από τα στοιχεία του δεξαμενο-CONTAINER πολλαπλών στοιχείων είναι συναρμολογημένο με βαλβίδα ασφαλείας (ασφαλιστικό επιστόμιο) και παρέχονται μηχανισμοί κλεισίματος μεταξύ των στοιχείων, κάθε στοιχείο θα είναι έτσι συναρμολογημένο.

(2) Οι μηχανισμοί πληρώσεως και εκκενώσεως μπορούν να συναρμολογηθούν σε σωλήνωση.

(3) Κάθε στοιχείο δεξαμενο-CONTAINER πολλαπλών στοιχείων προοριζομένου για τη μεταφορά πεπιεσμένων αερίων των 1^ο και 2^ο επιβλαβών για τα αναπνευστικά όργανα ή συνεπαγομένων κίνδυνον δηλητηρίασεως ΙΟ/ θα πρέπει να είναι ικανό

ΙΟ/ Τα παρακάτω θεωρούνται ότι είναι υδροποιημένα αέρια επιβλαβή για τα αναπνευστικά όργανα και συνεπαγόμενα κίνδυνον δηλητηρίασεως: υδροβρώμιο (άνυδρο υδροβρωμικό οξύ), υδροφθόριο (άνυδρο υδροφθορικό οξύ), υδροθείο (θειωμένο υδρογόνο), αμμωνία, χλώριο, διοξείδιο του θείου (άνυδρο θειώδες οξύ), διοξείδιο του αζώτου (υπεροξείδιο του αζώτου· τετροξείδιο του αζώτου), αέριο T, μεθυλοβινυλιοαιθέρας,

να μονωθεί με βαλβίδα.

2Ι2.235

(4) Τα στοιχεία δεξαμενο-CONTAINER πολλαπλών στοιχείων προοριζομένου για τη μεταφορά υγροποιημένων αερίων των 3^ο έως 5^ο επιβαλβών για τα αναπνευστικά όργανα ή συνεπαγομένων κίνδυνον δηλητηρίασεως ΙΟ/ θα είναι έτσι σχεδιασμένα ώστε να μπορούν να πληθούνται χωριστά και να τηρούνται μονωμένα δια βαλβίδος ικανής να στεγανοποιηθεί.

2Ι2.236-

2Ι2.239

Άρθρο 4

Έγκριση Τύπου

(Ουδεμία ειδική διάταξις)

2Ι2.240-

2Ι2.249

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Τα υλικά των κελύφων δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά αερίων των 7^ο και 8^ο θα ελέγχονται δια της μεθόδου της περιγραφομένης στη Προσθήκη Β.Ιδ, περιθώρια 2Ι4.250 έως 2Ι4.285.

2Ι2.250

Η δοκιμή πίεσεως θα έχει ως κάτωθι:-

2Ι2.25Ι

χλωρομεθάνιο (χλωριούχο μεθύλιο), βρωμομεθάνιο (βρωμιούχο μεθύλιο), φωσγένιο (χλωριούχο καρβ/ονύλιο), βρωμιούχο βινύλιο, μεθυλαμίνη (μονομεθυλαμίνη), διμεθυλαμίνη, τριμεθυλαμίνη, αιθυλαμίνη (μονοαιθυλαμίνη), οξείδιο αιθυλενίου, μεθανεθιδόλη (μεθυλομερκαπτάνη), μίγματα διοξειδίου του άνθρακος με αιθυλενοξείδιο και υγροποιημένο υδροχλώριο (άνυδρο υδροχλωρικό οξύ).

(1) Δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά αερίων των 1^ο έως 2^ο, συμφώνως προς το περιθώριο 2219 (1)•

(2) Δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά αερίων των 3^ο και 4^ο, συμφώνως προς το περιθώριο 2220 (2) εάν τα κελύφη δεν είναι διαμέτρου μεγαλύτερου των 1.5 μ., και συμφώνως προς το περιθώριο 2II.25I (2) (β) εάν τα κελύφη είναι διαμέτρου μεγαλύτερας των 1.5 μ.

(3) Δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά των αερίων των 5^ο και 6^ο, συμφώνως προς περιθώριον 2220 (3) και (4), και συμφώνως προς περιθώριο 2II.25I (3) (β) στη περίπτωση δεξαμενο-CONTAINERS πολλαπλών στοιχείων τα στοιχεία των οποίων αλληλοσυνδέονται και σχηματίζουν συστοιχίαν, δεν είναι μονωμένα αλλήλων, και είναι εγκιβωτισμένα σε θερμομόνωση.

(4) Δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά αμμωνίας διαλυομένης υπό πίεσιν (9^ο (α T)), συμφώνως προς το περιθώριον 2II.25I (4)•

(5) (α) Δεξαμενο-CONTAINERS συναρμολογημένα με βαλβίδες ασφαλείας (ασφαλιστικά επιστόμια) και προοριζόμενα για τη μεταφορά αερίων των 7^ο και 8^ο. 1.5 φορές την πίεση λειτουργίας την σημειουμένην στα κελύφη, αλλά όχι μικροτέρα των 3 KG/CM² (πίεση θλιβομέτρου)• για δεξαμενο-CONTAINERS με μόνωσιν κενού η πίεση δοκιμής θα είναι 1.5 φορές την πίεση λειτουργίας ηυξημένην κατά 1 KG/CM².

(β), Προκειμένου περί δεξαμενο-CONTAINERS 2Ι2.25Ι
 άνευ βαλβίδων ασφαλείας (ασφαλιστικών (Συνεχίζεται)
 επιστομών) προοριζομένων για τη μεταφορά
 των αερίων των 7^ο (α) και 8^ο (α), η πρώτη
 δοκιμή θα εκτελείται σε 2 KG/CM² (πίεση
 θλιβομέτρου) και οι περιοδικοί έλεγχοι
 σε 1 KG/CM² (πίεση θλιβομέτρου).

Η πρώτη δοκιμή (έλεγχος) υδραυλικής πίεσεως θα εκτε2Ι2.252
 λείται προ της εφαρμογής της θερμομονώσεως.

Η χωρητικότης του κελύφους εκάστου δεξαμενο- 2Ι2.253
 CONTAINER προοριζομένου για τη μεταφορά αερίων των 3^ο, 4^ο
 και 9^ο θα καθορίζεται, υπό την επίβλεψιν ειδικού εγκριθέν-
 τος από την αρμόδια αρχή, δια ζυγίσεως ή ογκομετρικής
 μετρήσεως της ποσότητος του ύδατος της απαιτουμένης για
 να γεμίσει το κέλυφος. Η μέτρηση της χωρητικότητος του
 κελύφους θα είναι ακριβείας μέχρι 1 ~~εκατ~~ εκατό . Ο καθο-
 ρισμός της χωρητικότητος βάσει των διαστάσεων του κελύ-
 φους δεν επιτρέπεται. Τα ανώτατα επιτρεπτά βάρη πληρώσεως
 συμφώνως προς τα περιθώρια 2220 (4) και 2ΙΙ.25Ι (3) θα προ-
 βλέπωνται (καθορίζονται) από εγκριθέντα ειδικόν.

Όλ~~α~~ αι συγκολλήσεις του κελύφους θα ελέγχωνται 2Ι2.254
 ραδιογραφικώς ή υπερηχητικώς χωρίς να προκαλούνται εις
 αυτές καταστροφές.

Κατά παρέκβαση των διατάξεων των περιθωρίων 2Ι2.255
 2Ι2.Ι50 και 2Ι2.Ι5Ι, οι περιοδικοί έλεγχοι θα λαμβάνουν
 χώρα:-

(Ι) Κάθε δύομιση έτη προκειμένου περι δεξαμενο-
 CONTAINERS προοριζομένων για τη μεταφορά τριφθοριούχου

βορλου (I^0 (α T)), δημοτικού αερίου (2^0 (β T)), χλωρ- 2Ι2.255
ου, υδροβρωμίου, διοξειδίου του αζώτου, φωσγενίου ή (Συνεχίζεται)
διοξειδίου του θείου (3^0 (α T)), υδροθείου (3^0 (β T)) ή
υδροχλωρίου (5^0 (α T)).

(2) Μετά από υπηρεσίαν έξη ετών, προκειμένου περί δεξαμενο-CONTAINERS, άνευ βαλβίδων ασφαλείας, προοριζομένων για τη μεταφορά αερίων των 7^0 (α) και 8^0 (α).

(3) Μετά από υπηρεσίαν οκτώ ετών, και μετάπειτα κάθε Ι2 έτη προκειμένου περί δεξαμενο-CONTAINERS άνευ βαλβίδων ασφαλείας και προοριζομένων για τη μεταφορά αερίων των 7^0 (α) και 7^0 (β) και δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά αερίων των 7^0 (β) και 8^0 (β). Έλεγχος στεγανότητας μπορεί να γίνει, κατόπιν αιτήσεως της αρμόδιας αρχής μεταξύ δύο διαδοχικών ελέγχων.

Κατά τους περιοδικούς ελέγχους δεξαμενο-CONTAIN-2Ι2.256
ERS εξοπλισμένων με μόνωση κενού, και προοριζομένων για τη μεταφορά αερίων των 7^0 και 8^0 , η υδραυλική δοκιμή μπορεί να αντικατασταθεί από δοκιμήν διαρροής εκτελουμένην είτε με τα αέρια τα οποία τα δεξαμενο-CONTAINERS προορίζονται να περιέχουν είτε με αδρανές αέριο.

Εάν, κατά τας περιοδικάς επιθεωρήσεις, κατα- 2Ι2.257
σκευάζονται ανθρωποθυρίδες σε δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά αερίων των II^0 έως $Ι3^0$, η μέθοδος με την οποία θα κλεισθούν ερμητικά προτού τα δεξαμενο-CONTAINERS επανέλθουν σε υπηρεσία θα είναι εκείνη που θα εγκρίνει ο εγκριθείς ειδικός και θα εξασφαλίζει την ακεραιότητα του κελύφους.

2Ι2.258-

2Ι2.259

Άρθρο 6Μαρκάρισμα

Επιπρόσθετα, τα παρακάτω στοιχεία θα μαρκάρων- 2Ι2.260
ται δια σφραγίσεως ή δι' οιασδήποτε άλλης ισοδυνάμου με-
θόδου πάνω στη πλάκα που περιγράφεται στο περιθώριον
2Ι2.Ι60 ή απ' ευθείας πάνω στα τοιχώματα αυτού τούτου του
κελύφους (μπόμπας, SHELL) εάν τα τοιχώματα είναι έτσι ενι-
του κελύφους
σχυμένα ώστε η αντοχή/ να μην εξασθενείται.

(Ι) Επί δεξαμενο-CONTAINERS προοριζομένων για τη
μεταφορά μιάς μόνον ύλης:

Το όνομα του αερίου πλήρως.

Τούτο θα συνοδεύεται, προκειμένου περί δεξαμε-
νο-CONTAINERS προοριζομένων για τη μεταφορά πεπιεσμένων αε-
ρίων της 1^ο και 2^ο από την ανωτάτη επιτρεπομένη πίεση φορτί-
σεως και, προκειμένου περί δεξαμενο-CONTAINERS προοριζομέ-
νων για τη μεταφορά υγροποιημένων αερίων των 3^ο έως 8^ο και
διαλυμένης αμμωνίας υπό πίεση της 9^ο (Α Τ), από το επιτρε-
πόμενο ανώτατο φορτίο σε κιλά (KG).

(2) Επί δεξαμενο-CONTAINERS πολλαπλών σκοπών:

Τα ονόματα πλήρως, των αερίων για τα οποία η μετα-
φορά του δεξαμενο-CONTAINER έχει εγκριθεί, ακολου-
θούμενα από τα στοιχεία του επιτρεπομένου ανωτάτου
φορτίου, σε κιλά (KG), για έναστο από αυτά.

(3) Επί δεξαμενο-CONTAINERS εφοδιασμένων με βαλβί-
δες ασφαλείας και προοριζομένων για τη μεταφορά αερίων της
7^ο(α) και 8^ο(α), και επί δεξαμενο-CONTAINERS προοριζομένων
για τη μεταφορά αερίων της 7^ο(β) και 8^ο(β):

Η πύεση λειτουργίας.

2Ι2.260

(4) Επί δεξαμενο-CONTAINERS εφοδιασμένων με (Συνεχίζεται)
θερμικήν μόνωσιν η διατύπωση "θερμικώς μονωμένα" θα εγ-
γράφεται σε μία από τις επίσημες γλώσσες της ADR.

Το πλαίσιο ενός πολλαπλών στοιχείων δεξαμενο- 2Ι2.26Ι
CONTAINER θα είναι εφοδιασμένο πλησίον του σημείου πληρώ-
σεως με μία πλάκα στην οποία θα ορίζεται:-

Η πύεση δοκιμής των στοιχείων.

Η πύεση λειτουργίας των στοιχείων των προοριζο-
μένων για πεπιεσμένα αέρια.

Ο αριθμός των στοιχείων.

Η ολική χωρητικότητα των στοιχείων, σε λίτρες.

Το όνομα του αερίου πλήρως,

και, προκειμένου περί υγροποιημένων αερίων:

Το ανώτατο επιτρεπόμενο φορτίο ανά στοιχείον σε
κιλά (KG).

2Ι2.262-

2Ι2.269

Άρθρο 7

Λειτουργία

Δεξαμενο-CONTAINER προοριζόμενον εις διαφόρους 2Ι2.270
χρόνους για τη μεταφορά διαφόρων υγροποιημένων αερίων
των 3^ο έως 8^ο (δεξαμενο-CONTAINERS πολλαπλών σκοπών) δεν
μπορεί να μεταφέρει ύλες άλλες από τις απαριθμούμενες σε
μία, και μόνο μία, από τις παρακάτω ομάδες:-

Ομάς Ι: αλογονοποιημένοι υδρογονάνθρακες της 3^ο(α) και 4^ο(α),

Ομάς 2: υδρογονάνθρακες της 3^ο(β) και 4^ο(β),

Ομάς 3: αμμωνία (3° (α Τ)), διμεθυλικός αέρας, διμεθυ- 2Ι2.270
λαμίνη, αιθυλαμίνη, μεθυλαμίνη και τριμεθυλα- (Συνεχίζεται)
μίνη (3° (β Τ)), και βινυλχλωρίδιο (3° (γ)),

Ομάς 4: μεθυλοβρωμίδιο (3° (α Τ)), αιθυλοχλωρίδιο και
μεθυλοχλωρίδιο (3° (β Τ)),

Ομάς 5: μίγματα αιθυλενοξειδίου με διοξείδιο του άνθρακος
αιθυλενοξειδίου με άζωτον (4° (γ Τ)),

Ομάς 6: αέρια της 7° (α) και μίγματα αερίων της 8° (α),

Ομάς 7: αιθάνιο, αιθυλένιο και μεθάνιο (7° (β)), και μίγμα-
τα αιθανίου με μεθάνιο, επίσης όταν περιέχουν προ-
πάνιο ή βουτάνιο (8° (β)).

Δεξαμενο-CONTAINERS τα οποία έχουν πληρωθεί με όλη 2Ι2.27Ι
της ομάδος Ι ή ομάδος 2 θα αδειάζονται από υγροποιημένο
αέριο προτού φορτωθούν με άλλην ύλην ανήκουσαν εις την Ι-
δια ομάδα. Δεξαμενο-CONTAINERS τα οποία έχουν πληρωθεί με
ύλην μίας των ομάδων 3 έως 5 θα αδειάζονται πλήρως από
υγροποιημένο αέριο και θα φουσούνται προτού φορτωθούν με
άλλην ύλην ανήκουσαν εις την ίδια ομάδα.

Η πολλαπλή χρήση δεξαμενο-CONTAINERS για τη μεταφορά 2Ι2.272
υγροποιημένων αερίων της ίδιας ομάδος θα επιτρέπεται εάν
τηρηθούν άπαντες οι όροι οι προβλεπόμενοι για τα αέρια που
θα μεταφερθούν σε ένα και το αυτό δεξαμενο-CONTAINER. Μία
τέτοια πολλαπλή χρήση θα υπόκειται στην έγκριση εγκεκρι-
μένου εμπειρογνώμονα.

Η πολλαπλή χρήση δεξαμενο-CONTAINERS για τη μετα- 2Ι2.273
φορά αερίων διαφόρων ομάδων θα εγκρίνεται εάν επιτρέπε-
ται υπό των εγκεκριμένων εμπειρογνώμωνων.

Οσάνκις φορτωμένα δεξαμενο-CONTAINERS ή κενά 2Ι2.274
 αλλά ακαθάριστα δεξαμενο-CONTAINERS παραδίδονται για μετα-
 φορά, μόνον τα στοιχεία του περιθωρίου 2ΙΙ.Ι6Ι τα ισχύοντα
 για τα φορτωθέν αέριον ή το μόλις εκκενωθέν θα είναι ο-
 ρατά: ~~Α~~ τα στοιχεία τα αφορώντα άλλα αέρια θα καλύ-
 πωνται (κρύπτονται).

Όλα τα στοιχεία ενός πολλαπλών στοιχείων δε- 2Ι2.275
 ξαμενο-CONTAINER θα περιέχουν μόνον ένα και το αυτό αέριο.
 Στη περίπτωση δεξαμενο-CONTAINER πολλαπλών στοιχείων προ-
 οριζομένου για τη μεταφορά υγροποιημένων αερίων επίβλαβών
 εις τα αναπνευστικά όργανα ή συνεπαγομένων κίνδυνον δηλη-
 τηριάσεως Ι0%, τα στοιχεία θα πληρούνται χωριστά και θα
 τηρούνται απομονωμένα (θα απομονώνονται) με στεγανή βαλβί-
 δα (επιστόμιο).

Οι ανώτατοι επιτρεπτοί βαθμοί πληρώσεως σε κι- 2Ι2.276
 λά/λίτρα οι προβλεπόμενοι στα περιθώρια 22Ι9(2), 2220(2),
 (3) και (4) και 2ΙΙ.25Ι(2), (3) και (4) θα τηρούνται.

Ο βαθμός πληρώσεως των κελυφών (βομβών, SHELLS) 2Ι2.277
 δεξαμενο-CONTAINERS των εφοδιασμένων με βαλβίδες ασφαλεί-
 ας και προοριζομένων για τη μεταφορά αερίων των $II^0 - I3^0$
 θα είναι τέτοιος ^{εις} ώστε την θερμοκρασία "εγρηφόρσεως, συναγερ-
 μού" εις την οποίαν η πίεση ατμού ισούται με τη πίεση ανοίγ-
 ματος της βαλβίδος, ο όγκος του υγρού δεν υπερβαίνει τον
 επιτρεπόμενο βαθμό πληρώσεως του κελύφους (βόμβας, SHELL)
 εις την θερμοκρασίαν αυτήν, τ.έ. 95 ~~εκατό~~ εκατό στη περι-
 πτωση ευφλέκτων αερίων και 98 ~~εκατό~~ εκατό στη περίπτωση άλ-
 λων αερίων.

Πάνω στα κελύφη (μπόμπες, SHELLS) των δεξαμε- 2Ι2.278
νο-CONTAINERS των προοριζομένων για τη μεταφορά οξυγόνου
(7° (α)), ή αέρος ή μιγμάτων οξυγόνου με άζωτον (8° (α)),
όλες περιέχουσες λίπος ή έλαιον (πετρέλαιον) δεν θα χρησι-
μοποιούνται για να εξασφαλίζεται η στεγανότητα των ενώσεων
ή για τη συντήρηση των κλεισιμάτων.

2Ι2.279

Άρθρο 8Μεταβατικά μέτρα

2Ι2.280-

2Ι2.299

ΚΛΑΣΙΣ 3Εύφλεκτα ΥγράΆρθρο ΙΓενικά, αντικείμενον, ορισμοί

2Ι2.300-

2Ι2.3Ι9

Άρθρο 2Κατασκευή

Τα κελύφη (μπόμπες, SHELLS) των δεξαμενο- 2Ι2.320
CONTAINERS των προοριζομένων για τη μεταφορά διθειάν-
θρακος (Ι° (α)) θα σχεδιάζονται για υπολογισθείσα πίεση
10 ΚΓ/CM² (πίεση θλιβομέτρου).

2Ι2.32Ι-

2Ι2.329

Άρθρο 3Είδη εξοπλισμού

Δεξαμενο-CONTAINERS τα οποία είναι εφοδιασμένα 2Ι2.330

με σύστημα αερισμού άνευ μηχανισμού διακοπής (κλειστό- 2Ι2.330
ματος), και τα οποία προορίζονται για τη μεταφορά ευ-
φλέκτων υγρών τα οποία έχουν σημείον αναφλέξεως μη υπερ-
βαίνον τους 55°C, και δεξαμενο-CONTAINERS εφοδιασμένα
με βαλβίδα ασφαλείας θα έχουν φλογοπαγίδα στο σύστημα
αερισμού.

Όλα τα ανοίγματα (οπές) στα κελύφη των δεξα- 2Ι2.33Ι
μενο-CONTAINERS των προοριζομένων για τη μεταφορά ακρυ-
λαλδεΰδης (ακρολεΐνης), χλωροπρενίου (χλωρο-βουταδιε-
νίου) και διθειάνθρακος (I^ο (α)) θα είναι πάνω από το
επίπεδο επιφανείας του υγρού. Ουδεμία σωλήνων ή ενώσεις
σωλήνων θα διέρχονται από τα τοιχώματα του κελύφους κάτω
από το επίπεδο επιφανείας του υγρού. Τα ανοίγματα (οπές)
θα είναι ικανά να κλείουν ερμητικά και το κλείσιμο θάναί
ικανό (θα μπορεί) να προστατεύεται με ασφαλιστικό πώμα.

2Ι2.332-

2Ι2.339

Άρθρο 4Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις)

2Ι2.340-

2Ι2.349

Άρθρο 5Δοκιμαί (Έλεγχοι)

(Ουδεμία ειδική διάταξις)

2Ι2.350-

2Ι2.359

Άρθρο 6Μαρκάρισμα

(Ουδεμία ειδική διάταξις)

2Ι2.360-

2Ι2.369

Άρθρο 7Λειτουργία

Στη περίπτωση υγρών που έχουν πίεση ατμού άνω 2Ι2.370 των 1.75 KG/CM^2 (απόλυτον) στους 50°C , οι παρακάτω βαθμοί πληρώσεως ερμητικώς κλεισμένων κελυφών (μπομπών, (SHELLS)) δεν θα πρέπει να υπερβαίνονται: για μυρμηκικό μεθυλεστέρα (I° (α)) και άλλα υγρά έχοντα συντελεστήν διαστολής άνω των 150×10^{-5} αλλά όχι άνω των 180×10^{-5} 91 ~~τά~~ εκατό της χωρητικότητος· για ακεταλδεΰδη (5°) και λοιπά υγρά έχοντα συντελεστήν κυβικής διαστολής άνω των 180×10^{-5} αλλά όχι άνω των 230×10^{-5} 90 ~~τά~~ εκατό της χωρητικότητος.

Κέλυφος (μπόμπα, SHELL) από αλουμίνιο δεν θα 2Ι2.37Ι χρησιμοποιείται για τη μεταφορά ακεταλδεΰδης (5°) εκτός εάν το κέλυφος φυλάσσεται αποκλειστικώς για τέτοια μεταφορά και η ακεταλδεΰδη είναι απηλλαγμένη από οξύ.

Την ψυχρά εποχήν (Οκτώβριος - Μάρτιος), ελαφρά 2Ι2.372 αποστάγματα για διάσπαση και λοιποί υγροί υδρογονάνθρακες έχοντες πίεση ατμού μη υπερβαίνουσα τα 1.5 KG/CM^2 (απόλυτον) στους 50°C μπορούν να μεταφέρονται σε κελύφη (μπόμπες) του τύπου του προβλεπομένου στο περιθώριο 2Ι2.Ι33.

Διθειάνθρακας (I° (α)) δεν θα μεταφέρεται 2Ι2.373 εκτός εντός ερμητικώς κλεισμένων κελυφών ή σε κελύφη εφοδιασμένα με βαλβίδες ρυθμισμένες όχι κάτω των 3 KG/CM^2 (πίεσιν θλιβομέτρου).

2Ι2.374-

2Ι2.379

Άρθρο 8Μεταβατικά Μέτρα

2Ι2.380-

2Ι2.399

ΚΛΑΣΙΣ 4.Ι

Εύφλεκτα στερεά

ΚΛΑΣΙΣ 4.2

Υλεις υποκείμενες σε αυτανάφλαφλεξιν

ΚΛΑΣΙΣ 4.3

Υλεις που αναδύουν εύφλεκτα αέρια σε επαφή με τα νεράΆρθρο ΙΓενικά, αντικείμενον, ορισμοί

2Ι2.400-

2Ι2.4Ι9

Άρθρο 2Κατασκευή.-

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ-
οριζομένων για τη μεταφορά λευκού ή κιτρίνου φωσφόρου
του περιθωρίου 243Ι, Ι^ο, και τριχλωροσιλανίου (πυριτο-
χλωροφορφου) του περιθωρίου 247Ι. 4^ο, θα σχεδιάζονται
(κατασκευάζονται) για υπολογισθείσα πίεση 10 KG/CM²
(πίεσιν θλιβομέτρου).

2Ι2.420

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ-
οριζομένων για τη μεταφορά αλκυλίων αλουμινίου, και
αλογονιδίων και υδριδίων αλκυλίων αλουμινίου, περιθωρίου
243Ι, 3^ο, θα σχεδιάζονται (κατασκευάζονται) γθα πίεση
δχι μικροτέρα των 2Ι KG/CM² (πίεση θλιβομέτρου).

2Ι2.42Ι

2Ι2.422-

2Ι2.429

Άρθρο 3Είδη εξοπλισμού

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προοριζο-2Ι2.430
μένων για τη μεταφορά θείου του περιθωρίου 240Ι, 2^ο(β),
και ναφθαλίνης του περιθωρίου 240Ι, ΙΙ^ο (γ), θα είναι
εφοδιασμένα με θερμικήν μόνωσιν γενομένην από υλικά τα
οποία δεν είναι ευχερώς εύφλεκτα ώστε η θερμοκρασία εις
την εξωτερικήν επιφάνειαν να μη μπορεί να ανεβεί πάνω από
50^ο C διαρκούσης της μεταφοράς. Μπορούν να είναι εφοδια-
σμένα με βαλβίδες που να ανοίγουν αυτομάτως προς τα μέσα
ή προς τα έξω υπό την επίδραση διαφοράς πίεσεως από 0.2
έως 0.3 KG/CM². Οι μηχανισμοί εκκενώσεως θά είναι ικανοί
να προστατεύονται με ασφαλιστικό μεταλλικό πώμα.

Τα κελύφη δεξαμενο-CONTAINERS προοριζομένων 2Ι2.43Ι
για τη μεταφορά λευκού ή κιτρίνου φωσφόρου του περιθωρί-
ου 243Ι, Ι^ο θα πληρούν τους κάτωθι όρους:

(Ι) Ο μηχανισμός θερμάνσεως δεν θα εισχωρεί εις
το σώμα του κελύφους αλλά θα εφαρμόζεται από έξω από αυτό.
Άλλη σωλήνωση θα εισέρχεται στο κέλυφος στο άνω μέρος
του· τα ανοίγματα (οπές) θα είναι πάνω από το ανώτατο επι-
τρεπτό επίπεδο του φωσφόρου και θα είναι ικανά να κλείνουν
πλήρως με ασφαλιστικά πώματα.

(2) Το κέλυφος θα είναι εφοδιασμένο με σύστημα
μετρήσεως της στάθμης (επιπέδου) προς επαλήθευσιν του επι-
πέδου του φωσφόρου και, εάν το ύδωρ χρησιμοποιείται ως προ-

σταθευτικός άγων, με σταθερόν σημείον εικονίζον το ανώ- 2Ι2.43Ι
τατον επιπρεπτόν επίπεδον (στάθμην) του ύδατος.

Τα ανοίγματα και οι οπές (βαλβίδες, αγωγοί, 2Ι2.432
ανθρωποθυρίδες, κλπ.) στα κελύφη (μπόμπες) δεξαμενο-
CONTAINERS προοριζομένων για τη μεταφορά υλών του περι-
θωρίου 247Ι, Ι^ο(α), θα είναι εφοδιασμένα με στεγανά
ασφαλιστικά πώματα, και τα τοιαύτα κελύφη θα είναι εφο-
διασμένα με θερμικήν μόνωσιν γενομένην από υλικά τα οποί-
α δεν είναι ευχερώς εύφλεκτα ώστε η θερμοκρασία στην
εξωτερική επιφάνεια να μη μπορεί να ανεβεί πάνω από
50^ο C διαρκούσης της μεταφοράς.

[Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.433
οριζομένων για την μεταφορά αλκυλίων αλουμινίου , και
αλογονιδίων και υδριδίων αλκυλίων αλουμινίου του περι-
θωρίου 243Ι, 3^ο, δεν θα έχουν ανοίγματα ή συνδέσεις, ακό-
μη και αν μπορούν να κλείνουν, κάτω του επιπέδου επιφα-
νείας του υγρού. Ανοίγματα, περιλαμβανομένων των παρα-
κολουθημάτων αυτών, στο άνω μέρος του κελύφους (μπόμπας)
θα είναι ικανά να προστατεύονται με προστατευτικό κάλυμ-
μα (πώμα).

2Ι2.434-

2Ι2.439

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις)

2Ι2.440-

2Ι2.449

Άρθρο 5Δοκιμαίες (Έλεγχοι)

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προορι- 2Ι2.450
ζομένων για τη μεταφορά θείου του περιθωρίου 240Ι, 2^ο
(η θερμοκρασία πληρώσεως πρέπει εποπροσθέτως να λαμβάνε-
ται υπόψη στη περίπτωση κελύφων κατασκευασμένων από αλου-
μίνιο), ναφθαλίνης του περιθωρίου 240Ι, ΙΙ^ο, λευκού ή κι-
τρίνου φωσφόρου του περιθωρίου 243Ι, Ι^ο, και τριχλωροσιλα-
νίου (πυριτοχλωροφορμίου) του περιθωρίου 247Ι, 4^ο, θα ελέγ-
χονται σε πίεση 4 KG/CM² (πίεση θλιβομέτρου).

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προορι- 2Ι2.45Ι
ζομένων για τη μεταφορά αλκυλίων αλουμινίου, και αλογο-
νιδίων και υδριδίων αλκυλίων αλουμινίου, του περιθωρίου
243Ι, 3^ο, θα υποβάλλονται σε αρχικό έλεγχο πίεσεως, και
σε περιοδικούς ελέγχους κάθε πέντε χρόνια, εκτελουμένους
σε πίεση 10 KG/CM² (πίεση θλιβομέτρου) με υγρό το οποίο
δεν αντιδρά με την υπό μεταφοράν ύλην.

2Ι2.452-

2Ι2.459

Άρθρο 6Μαρκάρισμα

(Ουδεμία ειδική διάταξις)

2Ι2.460-

2Ι2.469

Άρθρο 7Λειτουργία

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προορι- 2Ι2.470
ζομένων για τη μεταφορά θείου του περιθωρίου 240Ι, 2^ο,
θα πληρούνται όχι άνω του 98 ~~εκα~~ εκατό της χωρητι-

αότητάς των.

Λευκός ή κίτρινος φωσφόρος του περιθωρίου 2I2.471
243I, I⁰, εάν το ύδωρ χρησιμοποιείται ως προστατευτικός
άγων θα καλύπτεται με βάθος όχι μικρότερον των 12 CM ύδα-
τος κατά τον χρόνον της πληρώσεως· ο βαθμός πληρώσεως εις
θερμοκρασίαν 60⁰C δεν θα υπερβαίνει το 98 ~~εκα~~ εκατό . Εάν
άζωτον χρησιμοποιηθεί ως προστατευτικός άγων, ο βαθμός πλη-
ρώσεως εις θερμοκρασίαν 60⁰C δεν θα υπερβαίνει το 96 ~~εκα~~
εκατό . Ο απομένων χώρος θα πληρωθεί με άζωτον κατά τοιούτον
τρόπον ώστε, ακόμη και μετά την φύξιν, η πίεσις εις ουδένα
χρόνον (ουδέποτε) να πέπτει κάτω της ατμοσφαιρικής πιέσεως.
Το κέλυφος (μπόμπα) θα είναι ερμητικώς κλεισμένη εις τρόπον
ώστε να μη προκύψει διαρροή αερίου.

Για τη μεταφορά υλών του περιθωρίου 247I, I⁰ 2I2.472
(α), τα πώματα θα κλείνωνται συμφώνως προς το περιθώριο
2I2.432 και η θερμοκρασία της εξωτερικής επιφανείας του κε-
λύφους (μπόμπας) δεν θα υπερβαίνει τους 50⁰C.

Στη περίπτωση του τριχλωροσιλανίου (πυριτοχλω- 2I2.473
ροφορμίου) του περιθωρίου 247I, 4⁰, ο βαθμός πληρώσεως
δεν θα υπερβαίνει τα 1.14 KG ανά λίτρον χωρητικότητος εάν
η πλήρωσις γίνεται κατά βάρος, ή 85 ~~εκα~~ εκατό εάν η πλήρω-
σις γίνεται κατ'όγκον.

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS τα 2I2.474
οποία περιείχαν φωσφόρον του περιθωρίου 243I, I⁰, όταν πα-
ραδοθούν για μεταφορά είτε:-

- θα πληρούνται με άζωτον· ο αποστολεύς πρέπει
να βεβαιού εις το έγγραφο μεταφοράς ότι η δεξα-

· μενή μετά το κλείσιμο είναι αεροστεγανή· είτε
 - θα πληρούνται με ύδωρ όχι λιγώτερο του 96 ~~εβα~~
 εκατό και όχι περισσότερο του 98 ~~έδα~~ εκατό
 της χωρητικότητος των · μεταξύ της 1ης Οκτω-
 βρίου και της 31ης Μαρτίου το ύδωρ τούτο θα πε-
 ριέχει έναν ή περισσότερους αντιψυκτικούς άγον-
 τας απηλλαγμένους από διαβρωτικήν ενέργειαν, μη
 δυναμένους να αντιδράσουν με φωσφόρον, και επαρ-
 κώς συμπεπυκνωμένους ώστε να αποφεύγεται η ψύξη
 του ύδατος διαρκούσης της μεταφοράς.

2Ι2.475-

2Ι2.479

Άρθρο 8Μεταβατικά μέτρα

2Ι2.480-

2Ι2.499

ΚΛΑΣΙΣ 5.1

Οξειδωτικές Ύλεις

ΚΛΑΣΙΣ 5.2

Οργανικά ΥπεροξειδίαΆρθρο ΙΓενικά, αντικείμενο, ορισμοί

2Ι2.500-

2Ι2.519

Άρθρο 2Κατασκευή.-

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS, και 2Ι2.520
 τα είδη του εξοπλισμού των, προοριζόμενα για τη μεταφορά

υπεροξειδίου του υδρογόνου ή υδατίνων διαλυμάτων 2Ι2.520
 υπεροξειδίου του υδρογόνου του περιθωρίου 250Ι, Ι^ο, (Συνεχίζε-
 ται)
 ή για τη μεταφορά υγρών οργανικών υπεροξειδίων του
 περιθωρίου 255Ι, Ι^ο, Ι⁴^ο και Ι⁵^ο θα είναι κατασκευασ-
 μένα από αλουμίνιο όχι λιγότερο του 99.5 ~~έβα~~ εκατό
 καθαρού ή καταλλήλου κράματος χάλυβος μη δυναμένου να
 προκαλέσει την αποσύνθεσιν του υπεροξειδίου του υδρογόνου
 ή των οργανικών υπεροξειδίων.

2Ι2.52Ι-
 2Ι2.529

Άρθρο 3

Είδη εξοπλισμού

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.530
 οριζομένων για τη μεταφορά υδατίνων διαλυμάτων υπεροξει-
 δίου του υδρογόνου περιέχοντος άνω του 70 ~~έβα~~ εκατό
 υπεροξειδίου του υδρογόνου του περιθωρίου 250Ι, Ι^ο, θα
 έχουν τα ανοίγματα (οπάς) των άνωθι του επιπέδου επιφανεί-
 ας του υγρού. Στη περίπτωση διαλυμάτων που περιέχουν άνω
 του 60 τοις εκατόν αλλά όχι άνω του 70 ~~έβα~~ εκατό υπερο-
 ξείδιον του υδρογόνου, θα επιτρέπωνται ανοίγματα (οπαί)
 κάτωθι του επιπέδου επιφανείας του υγρού. Στη περίπτωση
 αυτή το σύστημα εκκενώσεως του κελύφους (μπόμπας) θα περι-
 λαμβάνει δύο αμοιβαίως ανεξαρτήτους μηχανισμούς κλεισίμα-
 τος, του πρώτου όντος ταχέως κλείνοντος εσωτερικού ατμο-
 φράκτου εγκεκρομένου τύπου και του δευτέρου όντος υδατο-
 φράκτου (βαλβίδος εκροής), συναρμολογήσεως ~~έβα~~ σειρά, εις
 τούτων ~~έβα~~ ^{1ο} ~~κάθε~~ άκρο του σωλήνα ~~έβα~~ εκροής. Τυφλή φλάντζα

ή κάποιος άλλος εξ ίσου αξιόπιστος μηχανισμός θα εφαρμ- 2Ι2.530
 ζεται επίσης εις την έξοδον εκάστου εξωτερικού υδατοφρά- (Συνεχί-
 κτου. Ο εσωτερικός ατμοφράκτης θα είναι τέτοιος ώστε να ζεται)
 παραμένει ακάμπτως ασφαλισμένος εις το κέλυφος και εις
 την κλειστήν θέσιν εάν ο σωλήν αποσπασθεί.

Η σύνδεσις με τα εξωτερικά στόμια των σωλή- 2Ι2.53Ι
 νων των δεξαμενο-CONTAINERS θα επενδύεται με κατάλληλη
 πλαστική ύλη.

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.532
 οριζομένων για τη μεταφορά υγρών οργανικών υπεροξειδίων
 του περιθωρίου 255Ι, Ι0⁰, Ι4⁰ και Ι5⁰, θα είναι εφοδια-
 σμένα με μηχανισμόν αερισμού συνδεδεμένον με φλογοπαγίδα
 και θα ακολουθούνται ~~εξ~~ σειρά από ασφαλιστική
^{που να} βαλβίδα ~~αυτομάτα~~ ^{αυτομάτα} σε πίεση Ι.8 έως 2.2 KG/CM²
 (πίεση θλιβομέτρου). Τα υλικά, από τα οποία τα κλεισίματα
 τα οποία μπορούν να έλθουν σε επαφή με το υγρό ή τον ατμό
 του κατασκευάζονται, δεν θα έχουν καταλυτικήν επίδρασιν
 (ελατηριοειδής ασφαλιστική βαλβίς κατασκευασμένη από κρά-
 μα αλουμινίου-πυριτίου (SILUMIN) ή από ανοξείδωτο χάλυβα
 V2A ή από υλικό ισοδυνάμου ποιότητας).

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.533
 οριζομένων για τη μεταφορά οργανικών υπεροξειδίων του
 περιθωρίου 255Ι, Ι0⁰, Ι4⁰ και Ι5⁰, θα είναι εφοδιασμένα
 με θερμικήν μόνωσιν συμφώνως προς τους όρους του περιθω-
 ρίου 2Ι2.234 (Ι). Το κάλυμμα και το ακάλυπτον μέρος του
 κελύφους (μπόμπας) θα είναι βαμμένα λευκά.

2Ι2.534

2Ι2.539

Άρθρο 4Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις)

2Ι2.540-

2Ι2.549

Άρθρο 5Δοκιμασί (Έλεγχος)

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS ^{που} προ- 2Ι2.550
ορίζονται για τη μεταφορά υπεροξειδίου του υδρογόνου
ή υδατίνων διαλυμάτων υπεροξειδίου του υδρογόνου, του
περίθωρου 250Ι, Ι^ο ή υγρού οργανικού υπεροξειδίου του
περίθωρου 255Ι, ΙΟ^ο, Ι4^ο και Ι5^ο, θα ελέγχωνται με
πίεση 4 ΚG/CM² (πίεση θλιβομέτρου).

2Ι2.55Ι-

2Ι2.559

Άρθρο 6Μαρκάρισμα

(Ουδεμία ειδική διάταξις)

2Ι2.560-

2Ι2.569

Άρθρο 7Λειτουργία

Το εσωτερικό του κελύφους (μπόμπας) του δεξα- 2Ι2.570
μενο-CONTAINER, και όλα τα μεταλλικά εξαρτήματα τα ο-
ποία είναι δυνατόν να έλθουν σε επαφή με το υπεροξει-
διο του υδρογόνου του περιθωρίου 250Ι, Ι^ο, θα διατηρέ-
ται καθαρό. Ουδέν υλικόν ικανόν να συνδυασθεί επικινδύνως
με την μεταφερομένην ύλην θα χρησιμοποιεῖται για αντλίες,
βαλβίδες ή άλλους μηχανισμούς.

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.57Ι
 οριζομένων για τη μεταφορά υγρών του περιθωρίου 250Ι,
 Ι° έως 3°, θα πληρούνται μέχρι όχι άνω του 95 ~~τα~~ εκα-
 τό της χωρητικότητός των εις θερμοκρασίαν Ι5°C. Τα κε-
 λύφη δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά
 υγρών οργανικών υπεροξειδίων του περιθωρίου 255Ι, Ι0°,
 Ι4° και Ι5°, θα πληρούνται μέχρι όχι περισσότερο του
 80 ~~τα~~ εκατό της χωρητικότητός των. Τα κελύφη θα είναι
 απηλλαγμένα από ακαθαρσίες κατά τον χρόνο της πληρώσεως.

2Ι2.572-

2Ι2.579

Άρθρο 8

Μεταβατικά μέσα

2Ι2.580-

2Ι2.599

ΚΛΑΣΙΣ 6.Ι

Τοξικές Ύλες.-

Άρθρο Ι

Γενικάμ ανεικείμενον, ορισμοί

2Ι2.600-

2Ι2.6Ι9

Άρθρο 2

Κατασκευή.-

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.620
 οριζομένων για τη μεταφορά υλών του περιθωρίου 260Ι,
 2° (α), 3°, 4° (α), ΙΙ° (α), Ι3° (β), Ι4°, 23°, 6Ι°
 (α), 6Ι° (ε), 6Ι° (στ), 8Ι° και 82°, θα σχεδιάζονται
 εάν οι ύλες αυτές είναι υγρές σε 40°C (πλήν των τε-

τραχλωριούχου άνθρακος, χλωροφορμίου και χλωριούχου με- 2Ι2.620
θυλενίου) για υπολογισθείσα πίεσιν ΙΟ ΚG/CM² (πίεση (Συνεχίζεται)
θλιβομέτρου).

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.62Ι
οριζομένων για τη μεταφορά υλών αναφερομένων στο περιθώ-
ριο 6Ι.Ι2Ι (3) πλην των απαριθμουμένων στο περιθώριο
2Ι2.620 ανωτέρω θα είναι έτσι κατασκευασμένα ώστε να μπο-
ρούν να εκκενούνται σε πίεση όχι μικρότερα των 3 ΚG/CM²
(πίεση θλιβομέτρου).

2Ι2.622-

2Ι2.629

Άρθρο 3

Είδη Εξοπλισμού

(Ι) Όλα τα ανοίγματα (οπαί) των κελυφών (μπομπών) 2Ι2.630
δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά υλών
αναφερομένων στο περιθώριο 6Ι.Ι2Ι (3) θα είναι πάνω από
το επίπεδο επιφανείας του υγρού.

(2) Ουδεμία σωλήνωση ή συνδέσεις σωλήνων θα διέρ-
χονται από τα τοιχώματα του κελύφους (μπόμπας) κάτωθι του
επιπέδου επιφανείας του υγρού. Τα ανοίγματα (οπαί) θα μπο-
ρούν να κλείνουν ερμητικά και το κλείσιμο θα μπορεί να
προστατεύεται με ασφαλιστικό πώμα. Επιπρόσθετα, τα κελύ-
φη (μπόμπες) των τοιούτων δεξαμενο-CONTAINERS μπορούν να
είναι εφοδιασμένα με δίσκους εκρήξεως (BURSTING DISKS)
συναρμολογημένους εν σειρά προ των ασφαλιστικών βαλβίδων.
Σε τέτοια περίπτωση η διάταξη του δίσκου εκρήξεως και της
ασφαλιστικής βαλβίδος θα είναι η διάταξη η ικανοποιούσα
την αρμόδια αρχή.

2Ι2.63Ι-

2Ι2.639

Άρθρο 4Έγκρισις Τύπου

(Ουδεμία Ειδική Διάταξις)

2Ι2.640-

2Ι2.649

Άρθρο 5Δοκιμαί (Έλεγχοι)

Δεξαμενο-CONTAINERS (δεξαμενο-Υποδοχείς)

2Ι2.650

προοριζόμενοι για τη μεταφορά υλών του περιθωρίου

260Ι 2° (α), 3°, 4° (α), ΙΙ° (α), Ι3° (β), Ι4°, 23°, 6Ι°

(α), 6Ι° (ε), 6Ι° (στ), 8Ι° και 82°, εάν οι ύλες αυτές

είναι υγρές σε $+40^{\circ}\text{C}$ θα ελέγχωνται αρχικώς και περιο-δικώς σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου).

2Ι2.65Ι-

2Ι2.659

Άρθρο 6Μαρμάρισμα

(Ουδεμία Ειδική Διάταξις)

2Ι2.660-

2Ι2.669

Άρθρο 7Λειτουργία

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS

2Ι2.670

(δεξαμενο-Υποδοχέων) προοριζομένων για τη μεταφορά υλών

του περιθωρίου 260Ι, 2° (α), 2° (β), 4° (α), Ι2° (α), Ι3°

(α), Ι3° (β) και 8Ι° έως 83°, θα πληρούνται μέχρι όχι άνω

του 93 στα εκατό της χωρητικότητός των.

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS

2Ι2.67Ι

(δεξαμενο-υποδοχέων) προοριζομένων για τη μεταφορά υδα- 2Ι2.67Ι
 τίνων διαλυμάτων αιθυλενεΐμνης (ETHYLENEIMINE) (3^ο) και
 υλών του περιθωρίου 260Ι, Ι4^ο, θα πληρούνται μέχρι όχι
 περισσότερο του 95 ~~εκα~~ εκατό της χωρητικότητός των.

2Ι2.672-

2Ι2.679

Άρθρο 8Μεταβατικά μέτρα

2Ι2.680-

2Ι2.699

ΚΛΑΣΙΣ 7

Ραδιενεργείς ΎλειςΆρθρο ΙΓενικά, αντικείμενο, ορισμοί

2Ι2.700-

2Ι2.7Ι9

Άρθρο 2Κατασκευή

Δεξαμενο-CONTAINERS (δεξαμενο-υποδοχείς) προ-+ 2Ι2.720
 οριζόμενοι για τη μεταφορά υλών αναφερομένων στο Παράρτη-
 μα 5, με εξαίρεσιν το εξαφθοριούχο ορράνιο, θα σχεδιάζων-
 ται (κατασκευάζονται) για υπολογισθείσα πίεση 4KG/CM² του-
 λάχιστον. Στη περίπτωση δεξαμενο-CONTAINERS (δεξαμενο-
 υποδοχέων) προοριζομένων για τη μεταφορά εξαφθοριούχου
 ουρανίου, η πίεση υπολογισμού θα ορίζεται σε 10 KG/CM².
 Όταν η ραδιενεργός ύλη είναι διάλυμα ή αιώρημα σε επικίν-
 δυνες ύλες άλλων Κλάσεων και όταν αι απαιτούμεναι πιέσεις
 υπολογισμού για δεξαμενο-υποδοχείς προοριζομένους για τη

μεταφορά των τελευταίων υλών είναι μεγαλύτεραι, θα εφαρ- 2Ι2.720
 μόζονται αι πιέσεις αυτές. (Συνεχίζε-
 ται)

2Ι2.72Ι-

2Ι2.729

Άρθρο 3

Εξοπλισμός

Τα ανοίγματα (οπές) δεξαμενο-CONTAINERS (δεξαμε- 2Ι2.730
 νο-υποδοχέων) προοριζομένων για τη μεταφορά υγρών ραδιε-
 νεργών υλών 9/ θα είναι άνω του επιπέδου του υγρού και
 ουδεμία σωλήνωσης ή σύνδεσις σωλήνων θα διέρχεται από
 τα τοιχώματα του κελύφους (μπόμπας) κάτω από το επίπεδον
 επιφανείας του υγρού.

2Ι2.73Ι-

2Ι2.739

Άρθρο 4

Έγκρισις Τύπου

Δεξαμενο-CONTAINERS (δεξαμενο-υποδοχείς) εγκρι- 2Ι2.740
 θέντες για τη μεταφορά ραδιενεργών υλών δεν θα εγκρι-
 νωνται για τη μεταφορά οινωδήποτε άλλων υλών.

2Ι2.74Ι-

2Ι2.749

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Οι δεξαμενο-CONTAINERS (δεξαμενο-υποδοχείς) θα 2Ι2.750
 υποβάλλονται, τουλάχιστον μία φορά κάθε πέντε χρόνια, σε
 δοκιμή υδραυλικής πίεσεως σε πίεση 4 KG/CM². Κατά παρέκ-
 βασιν του περιθωρίου 2Ι2.Ι50, η περιοδική εσωτερική επι-

θεώρηται μπορεί να αντικαθίσταται με δοκιμήν υπερηχητικών κυμάτων του πάχους του τοιχώματος διεξαγομένην κάθε δυόμισυ χρόνια.

2Ι2.75Ι-

2Ι2.759

Άρθρο 6Μαρμάρισμα

2Ι2.760-

(Ουδεμία Ειδική Διάταξις)

2Ι2.769

Άρθρο 7Λειτουργία

Ο βαθμός πληρώσεως σε θερμοκρασία 15°C δεν θα υπερβαίνει το 93 ~~εκα~~ εκατό της ολικής χωρητικότητας του κελύφους (μπόμπας). Δεξαμενο-CONTAINERS (δεξαμενο-υποδοχείς) οι οποίοι εχρησιμοποιήθησαν για τη μεταφορά ραδιενεργών υλών δεν θα χρησιμοποιούνται για τη μεταφορά άλλων υλών.

2Ι2.770

2Ι2.77Ι-

2Ι2.779

Άρθρο 8Μεταβατικές διατάξεις

2Ι2.780-

2Ι2.799

ΚΛΑΣΙΣ 8

Διαβρωτικές ΎλεςΆρθρο ΙΓενικά, αντικείμενο, ορισμοί

2Ι2.800-

2Ι2.8Ι9

Άρθρο 2Κατασκευή

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS (δεξα- 2Ι2.820
μενο-υποδοχέων) προοριζομένων για τη μεταφορά υδροφθορ-
ου (άνυδρου υδροφθορικού οξέος) (6° (α)), υδατίνων διαλυ-
μάτων υδροφθορικού οξέος (6° (β)), ή βρωμίου (14°), θα
σχεδιάζονται (κατασκευάζονται) για πίεση όχι μικρότερη
των $2Ι \text{ KG/CM}^2$ (πίεση θλιβομέτρου).

Τα κελύφη δεξαμενο-CONTAINERS (δεξαμενο-υποδο- 2Ι2.82Ι
χέων) προοριζομένων για τη μεταφορά υλών της $Ι^{\circ}$, (α) και
(β)· 2° , (α) και (β)· 6° (γ)· 7° έως 9° · $2Ι^{\circ}$ (α)· και
 23° , θα κατασκευάζονται για πίεση όχι μικρότερη των $Ι0$
 KG/CM^2 (πίεση θλιβομέτρου).

Τα κελύφη δεξαμενο-CONTAINERS (δεξαμενο-υποδο- 2Ι2.822
· χέων) προοριζομένων για τη μεταφορά των υλών των αναφερο-
μένων στο περιθώριο 8Ι.Ι2Ι (2), πλην των απαριθμουμένων
στο περιθώριο 2Ι8.200 και 2Ι8.20Ι, θα σχεδιάζονται (κατα-
σκευάζονται για υπολογισθείσα πίεση 4 KG/CM^2 (πίεση θλιβο-
μέτρου) και θα είναι έτσι κατασκευασμένα ώστε να μπορούν
να εκκενούνται σε πίεση όχι μικρότερη των 3 KG/CM^2 (πίεση
θλιβομέτρου).

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS (δεξαμε- 2Ι2.823
νο-υποδοχέων) προοριζομένων για τη μεταφορά υδατίνων δια-
λυμάτων του υπεροξειδίου του υδρογόνου ($4Ι^{\circ}$) θα πληρούν
τους όρους του περιθωρίου 2Ι6.200.

2Ι2.824-

2Ι2.829

Άρθρο 3Είδη Εξοπλισμού

Όλα τα ανοίγματα (οπάδες) των κελυφών (μπομπών) 2Ι2.830
δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) προοριζομένων
για τη μεταφορά υλών της 6^ο ή βρωμίου (Ι4^ο) θα είναι άνω
της επιπέδου της επιφανείας του υγρού. Ουδέμια σωλήνωσης
ή συνδέσεις σωλήνων θα διέρχονται από τα τοιχώματα του
κελύφους (μπόμπας) κάτω από το επίπεδο της επιφανείας
του υγρού. Τα κλεισίματα θα μπορούν να προστατεύονται
αποτελεσματικά με μεταλλικό κάλυμμα (πώμα).

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS (δεξαμε- 2Ι2.83Ι
νο-υποδοχέων) προοριζομένων για τη μεταφορά σταθεροποιημέ-
νου τριοξειδίου του θείου (9^ο) θα είναι θερμικώς μονωμέ-
νον και θα είναι εφοδιασμένον με μηχανισμόν θερμάνσεως
από έξω. Τα κελύφη (μπόμπες) μπορεί να είναι του τύπου
εκκενώσεως εκ του πυθμένου. Στη περίπτωση αυτή το σύστημα
εκκενώσεως του κελύφους θα περιέχει δύο αμοιβαίως ανεξαρτή-
τους μηχανισμούς κλεισίματος (διακοπής), του πρώτου όντος
ταχείος κλειόντος εσωτερικού ατμοφράκτου εγκεκριμένου τύ-
που και του δευτέρου όντος υδατοφράκτου, συναρμολογήσεως
εν σειρά, εις τούτων εις έκαστον άκρον του σωλήνος εκκενώ-
σεως. Τυφλή φλάντζα ή κάποιος άλλος εξ ίσου αξιόπιστος μη-
χανισμός θα εφαρμόζεται επίσης εις την εξαγωγή εκάστου
εξωτερικού υδατοφράκτου.

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS (δεξαμ 2Ι2.832
μενο-υποδοχέων) προοριζομένων για τη μεταφορά διαλυμάτων
υδροχλωρίτου (37^ο) και υδατίνων διαλυμάτων υπεροξειδίου

του υδροφθόνου ($4I^0$) θα είναι έτσι σχεδιασμένα (κατασκευασμένα), ώστε να αποφεύγεται η είσοδος ξένης ύλης, η διαρροή του υγρού, και η ανάπτυξης οιασδήποτε επικινδύνου υπερβολικής πίεσεως στο κέλυφος (μπόμπα).

2I2.833-

2I2.839

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία Ειδική Διάταξις)

2I2.840-

2I2.849

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS (δεξαμενο-2I2.850 υποδοχέων) προοριζομένων για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6^0 (α)), ή υδατίνων διαλυμάτων υδροφθορικού οξέος της 6^0 (β), θα υφίστανται την αρχική δοκιμή πίεσεως και τις περιοδικές δοκιμές σε πίεση 10 KG/CM^2 (πίεση θλιβομέτρου), και των προοριζομένων για τη μεταφορά των λοιπών υλών των αναφερομένων στο περιθώριο 8I.12I (2), σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου).

Η δοκιμή της πίεσεως των δεξαμενο-CONTAINERS 2I2.85I (δεξαμενο-υποδοχέων) των προοριζομένων για τη μεταφορά σταθεροποιημένου τριοξειδίου του θείου (9^0) θα επαναλαμβάνεται κάθε δύομισι χρόνια.

Κ κατάσταση της μολυβδίνου επενδύσεως των κελύ- 2I2.852
φών (μπομπών) των δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων)
των προοριζομένων για τη μεταφορά βρωμίου (14^0) θα ελέγχε-

ται κατ'έτος από εγκεκριμένο εμπειρογνώμονα, ο οποίος θα επιθεωρεί το εσωτερικό του κελύφους (μπόμπας).

Επιπρόσθετα των δοκιμών των προβλεπομένων 2Ι2.853 στο Άρθρο 5, η κατά της διαβρώσεως αντίστασις των δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) των προοριζομένων για τη μεταφορά υδροφθορίου (ανύδρου υδροφθορικού οξέος) (6^ο (α)), ή υδατίνων διαλυμάτων υδροφθορικού οξέος της 6^ο (β), θα ελέγχεται δια καταλλήλων οργάνων (π.χ. δια μεθόδων υπερηχητικών κυμάτων)* και η κατάσταση των ειδών εξοπλισμού θα επαληθεύεται, κάθε δυόμισι χρόνια.

2Ι2.854-

2Ι2.859

Άρθρο 6

Μαρκάρισμα

Επιπρόσθετα των στοιχείων των προβλεπομέ- 2Ι2.860 νων στα περιθώρια 2Ι2.Ι60 και 2Ι2.Ι6Ι, τα παρακάτω στοιχεία θα μαρκάρωνται επί των δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) των προοριζομένων για τη μεταφορά υδροφθορίου (ανύδρου υδροφθορικού οξέος) (6^ο (α)), υδατίνων διαλυμάτων υδροφθορικού οξέος της 6^ο (β), ή βρωμίου (Ι4^ο): το επιτρεπτό ανώτατο καθαρό φορτίο σε κιλά (KG), και την ημερομηνίαν (μήνας και έτος) της πειό τελευταίας εσωτερικής επιθεωρήσεως του κελύφους.

2Ι2.86Ι-

2Ι2.869

Άρθρο 7

Λειτουργία

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS 2Ι2.870

(δεξαμενο-υποδοχέων) προοριζομένων για τη μεταφορά 2Ι2.870
 θειϊκού οξέος (I^α (γ)) θα πληρούνται μέχρι όχι περισσό- (Συνεχί-
 τερο του 95 ~~έκα~~ εκατό της χωρητικότητός των, των προο- ζεται)
 ριζομένων για τη μεταφορά σταθεροποιημένου τριοξειδίου
 του θείου (9^ο) μέχρι όχι περισσότερο του 88 ~~έκα~~ εκατό,
 και των προοριζομένων για τη μεταφορά βρωμίου (I4^ο) μέχρι
 όχι λιγώτερο του 88 τοις εκατόν και όχι περισσότερο του
 92 ~~έκα~~ εκατό ή μέχρι 2.86 KG ανά λίτρο χωρητικότητας.
 Κελύφη (μπόμπες) προοριζόμενα για τη μεταφορά υδροφθορίου
 (άνυδρου υδροφθορικού οξέος) (6^ο (α)) και υδατίνων διαλυ-
 μάτων υδροφθορικού οξέος (6^ο (β)) δεν θα πληρούνται πάνω
 από 0.84 KG ανά λίτρον χωρητικότητας.

2Ι2.87Ι-

2Ι2.879

Άρθρο 8Μεταβατικά Μέτρα

2Ι2.880-

2Ι3.099

Προσθήκη Β. Ιγ

ΔΙΑΤΑΞΕΙΣ ΠΟΥ ΑΦΟΡΟΥΝ ΣΤΑΘΕΡΕΣ ΔΕΞΑΜΕΝΕΣ (ΒΥΤΙΑ) ΚΑΙ
 ΑΥΟΜΕΝΕΣ ΔΕΞΑΜΕΝΕΣ ΣΕ ΕΝΙΣΧΥΜΕΝΑ ΠΛΑΣΤΙΚΑ

Παρατηρήσεις

- Η παρούσα Προσθήκη έχει εφαρμογήν επί σταθερών
 δεξαμενών και λυομένων δεξαμενών· δεν έχει εφαρμογήν
 επί συστοιχιών δοχείων (BATTERIES OF RECEPTACLES), επί
 δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων), ή επί δοχείων
 (RECEPTACLES).

- Για δοχεία (RECEPTACLES), βλέπε τις αφορώσεις αυτά διατάξεις στο Παράρτημα Α (κδλα).

- Υπενθυμίζουμε ότι το περιθώριο IO.I2I (I) απαγορεύει τη μεταφορά επικινδύνων υλών σε δεξαμενές εκτός όταν μία τέτοια μεταφορά ρητώς εξουσιοδοτείται. Η παρούσα Προσθήκη περιορίζεται επομένως σε διατάξεις που έχουν εφαρμογήν επί σταθερών δεξαμενών και λυομένων δεξαμενών σε ενισχυμένα πλαστικά (πλαστικές ύλες) που χρησιμοποιούνται σε επιχειρήσεις μεταφοράς οι οποίες έχουν ρητώς εξουσιοδοτηθεί.

Άρθρο I

Γενικές διατάξεις αφορώσαι την κατασκευή σταθερών δεξαμενών και λυομένων δεξαμενών

Οι δεξαμενές (βυτία) πρέπει να πληρούν τους 2I3.I00 παρακάτω όρους της Προσθήκης Β.Ια:-

(I) Γενικώς διατάξεις ισχύουσας για δεξαμενές που χρησιμοποιούνται για τη μεταφορά υλών όλων των Κλάσεων:- περιθώρια 2II.I20, (4), (5) και (6)* 2II.I2I, (I) και (2)* 2II.I22* 2II.I24* 2II.I26* 2II.I27, (5)* 2II.I28* 2II.I30* 2II.I32* 2II.I37* 2II.I40* 2II.I50 έως 2II.I53* 2II.I60 και 2II.I6I* 2II.I7I* 2II.I72, (I) και (2)* και 2II.I73 έως 2II.I78.

(2) Διατάξεις ισχύουσας για δεξαμενές που χρησιμοποιούνται για τη μεταφορά των υλών της Κλάσεως 3: περιθώριο 2II.330.

Η δοκιμή στεγανότητας και η εσωτερική επιθεώρησης θα εκτελούνται κάθε τρία χρόνια.

(3) Ειδικές διατάξεις ισχύουσας για δεξαμενές

που χρησιμοποιούνται για τη μεταφορά των υλών της Κλάσεως 8: περιθώριο 2II.833.

Τα τοιχώματα της δεξαμενής δεν πρέπει να πα- 2I3.I01
ρουσιάζουν ουσιαστικό ελάττωμα προκαλούν μείωσιν της ασφαλείας.

Τα τοιχώματα της δεξαμενής πρέπει να έχουν 2I3.I02
διαρκή αντίστασιν κατά των μηχανικών, θερμικών και χημικών τάσεων εις τας οποίας υποβάλλονται.

2I3.I03

Ανοίγματα (οπές) Δεξαμενών

(I) Οσάκις η δεξαμενή έχει ένα ή περισσότερα ανοίγματα (οπές) εκκενώσεως κάτωθι του επιπέδου του υγρού, οιοσδήποτε σωλήν ή βαλβίς τοποθετημένη στο τοιούτο άνοιγμα (οπή) ή ανοίγματα (οπές) θα προστατεύεται δια της εμπήξεως εις το κέλυφος της δεξαμενής ή δι' οιοδήποτε άλλου μέσου εγκεκριμένου υπό της αρμοδίας αρχής και παρέχοντος ισοδύναμον προστασίαν.

(2) Η χρήσις κοχλιωτών πωμάτων αυστηρώς απαγορεύεται. Οι βαλβίδες θα είναι μοντέλου εγκεκριμένου υπό της αρμοδίας αρχής.

(3) Οι οπές πληρώσεως θα κλείωνται με ερμητικό μηχανισμόν. Εάν ο μηχανισμός εξέχει προς τα έξω από το κέλυφος της δεξαμενής θα προστατεύεται από ένα κάλυμμα ικανό να αντισταθεί (να ανθέξει) εις τας τάσεις στρεβλώσεως από τυχαίο αναποδογύρισμα (ανατροπή) της δεξαμενής.

2I3.I04-

2I3.II9

Άρθρο 2Υλεις χρησιμοποιούμενες για τα τοιχώματα της δεξαμενής

Τα τοιχώματα των δεξαμενών μπορούν να κατασκευασθούν 2Ι3.Ι20 από τα παρακάτω υλικά:-

(Ι) Συνθετική ρητίνη

- μη-κεκορεσμένα ρητίνη πολυεστέρος
- εποξιναι ρητίνη (EPOXIDE RESINS)
- άλλαι ρητίνη με όμοια χαρακτηριστικά, υπό τον όρον ότι επιδεικνύεται η ασφάλεια του τοιχώματος.

(2) Ενισχύσεις ινών

Ίνες υάλου (ύαλος των τύπων Ε και C) Ι/ με κατάλληλον επένδυσιν, π.χ. με βάσιν σιλανίου ή παρόμοια προϊόντα. Αι ίνες υάλου μπορούν να χρησιμοποιούνται υπό μορφήν κομμένων ή μη-κομμένων χονδρών νημάτων (ROVINGS) συμπεριλαμβανομένων ενισχυμένων δια συρμάτων χονδρών νημάτων ή νημάτων, λινατσών ή υφασμάτων.

(3) Προσθετικά

(α) Προσθετικά απαραίτητα δια την μεταχείρισιν των ρητινών, π.χ., καταλύται, επιταχυνται, μονομερή (MONOMERS), σκληρυνται, θιξοτροπικές ύλες, συμφώνως προς τις οδηγίες του κατασκευαστού της ρητίνης.

(β) Χρωστικές ύλες, EXTENDERS, και άλλα προϊόντα που επιτρέπουν την χήψιν των απαιτούμενων ιδιοτήτων, π.χ. την αύξησιν των ανθεκτι-

Ι/ Η ύαλος των τύπων Ε και C ορίζεται εις τον Πίνακα Ι.

κών εις το πυρ ιδιοτήτων, υπό τον όρον ότι δεν θα προκαλέσουν μείωσιν εις την ασφάλειαν χρήσεως (αφαλή χρήσιν) των τοιχωμάτων της δεξαμενής.

2Ι3.Ι2Ι-

2Ι3.Ι29

Άρθρο 3

Κατασκευή των τοιχωμάτων της δεξαμενής

Το στρώμα της εξωτερικής επιφανείας των τοιχωμάτων της δεξαμενής πρέπει να αντέχει στις ατμοσφαιρικές επιδράσεις καθώς και στη βραχεία επαφή με τις υπό μεταφοράν ύλες.

Τα τοιχώματα της δεξαμενής και οι σφραγισμένες ενώσεις πρέπει να ικανοποιούν τους όρους μηχανικής αντιστάσεως τους αναφερομένους στο άρθρο 4.

Το στρώμα της εσωτερικής επιφανείας των τοιχωμάτων πρέπει να αντέχει στις διαρκείς επιδράσεις της υπό μεταφοράν ύλης. Το στρώμα αυτό πρέπει να κατασκευάζεται από ενισχυμένην ρητίνην έχουσαν κατώτατον πάχος 1 MM (χιλ.). Οι χρησιμοποιούμενες ίνες δεν πρέπει να ελαττώνουν την χημικήν αντίστασιν του στρώματος. Το εσωτερικόν μέρος του στρώματος πρέπει να είναι πλούσιον εις ρητίνες και πρέπει να έχει κατώτατο πάχος 0.2 MM (χιλ.).

Οι όροι οι λεπτομερώς αναφερόμενοι στα περιθώρια 2Ι3.Ι40 (6) και 2Ι3.Ι42 (2) του άρθρου 4 πρέπει να τηρούνται.

Η τελική επεξεργασία των τοιχωμάτων πρέπει να ικανοποιεί τους όρους τους λεπτομερώς αναφερομένους στο περιθώριο 2Ι3.Ι40 (3) του άρθρου 4.

Το κατώτατον πάχος του τοιχώματος θα είναι 213.134

- 3.5 mm (χιλ.) εάν η χωρητικότητα της δεξαμενης δεν υπερβαίνει τις 3.000 λίτρες.

- 5.0 mm (χιλ.) εάν η χωρητικότητα της δεξαμενής είναι άνω των 3.000 λιτρών.

213.135-

213.139

Άρθρο 4

Μέθοδοι δοκιμής και απαιτούμενοι ποιοτήτες

Δοκιμαί και ποιοτήτες απαιτούμενοι για υλικά της προ- 213.140

τοτύπου δεξαμενής.-

(1) Δειγματοληψία

Τα απαιτούμενα δια την δοκιμήν δείγματα πρέπει όταν είναι δυνατόν να λαμβάνονται από τα τοιχώματα της δεξαμενής. Προς τον σκοπόν τούτον κομμένα τμήματα από την κατασκευήν των οπών κλπ. μπορούν να χρησιμοποιούνται.

(2) Ποσοστόν ιών υάλου (υάλου εις λίνας).

Η δοκιμή πρέπει να διεξάγεται συμφώνως προς τας μεθόδους τας προβλεπομένας εν ISO RECOMMENDATION R1172 1970.

Το εις ύαλον περιεχόμενον του δείγματος πρέπει να είναι υψηλότερον του 25 ~~έβα~~ εκατό και κατώτερον του 85 ~~έβα~~ εκατό κατά βάρος.

(3) Βαθμός πολυμερισμού

(α) Τοίχωμα ρητινών πολυεστέρος

Το περιεχόμενον υπολειμματικού στυρενίου δεν πρέπει να είναι μεγαλύτερον του 2 ~~έβα~~ς εκατόν, υπολογιζόμενον επί της ολικής ποσότητος των ρητινών. Ο έλεγχος (δοκιμή) θα διεξάγεται συμ-

φώνως προς κατάλληλον μέθοδον. 2/

213.140

(4) Κάμψις και αντοχή εις εφελκυσμόν

(Συνεχίζεται)

Αι μηχανικά ιδιότητες πρέπει να καθορίζονται:-

για το κέλυφος, στις αξονικές και περιφερειακές κατεύθυνσεις

- για τα άκρα και τα τοιχώματα των διαμερισμάτων, σε κάθε οποιαδήποτε κατεύθυνση.

Εάν οι κύριες κατευθύνσεις της ενισχύσεως δεν συμπίπτουν με τις αξονικές και περιφερειακές κατευθύνσεις (π.χ. στη περίπτωση της διαξονικής περιελίξεως), η αντοχή πρέπει να καθορίζεται στις κύριες κατευθύνσεις της ενισχύσεως και να υπολογίζονται για τις αξονικές και περιφερειακές κατευθύνσεις δια της εφαρμογής των κάτωθι συνθέσεων (τύπων):-

Εφελκυσμός

$T, C = 2 \sqrt{T, H \text{ ημίτονον}^2 \alpha}$ $T = \text{εφελκυσμός}$

$T, \alpha = 2 \sqrt{T, H \text{ συνημίτονον}^2 \alpha}$ $C = \text{περιφερειακή}$

Κάμψις

$\alpha = \text{αξονική}$

$F, C = 2 \sqrt{F, H \text{ ημίτονον}^2 \alpha}$ $H = \text{ελικοειδής}$

$F, \alpha = 2 \sqrt{F, H \text{ συνημίτονον}^2 \alpha}$ $F = \text{κάμψις}$

$\alpha = \text{προνομιούχος γωνία περιελίξεως}$

2/ Η μέθοδος του προτύπου (STANDARD) DIN I6945 του Ιουνίου 1969, παράγραφος 6.4.3 θεωρείται κατάλληλος.

3/ Η μέθοδος του προτύπου (STANDARD) DIN I6945 του Ιουνίου 1969, παράγραφος 6.4.2 θεωρείται κατάλληλος.

Η αντοχή εις εφελκυσμόν πρέπει να ελέγχεται 213.140
 συμφώνως προς τας μεθόδους του εγγράφου ISO/TC61/ (Συνεχίζεται)
 WG2/TG "Δοκιμασί πλαστικών ενισχυμένων με ύαλον" No. 4
 του Φεβρουαρίου 1971.

Η αντοχή εις την κάμψιν πρέπει να ελέγχεται
 συμφώνως προς τας μεθόδους της RECOMMENDATION ISO/TC61
 No. 1540 του Απριλίου 1970.

Όροι

Καθ' ουργίαν δεξαμενάς πρέπει να πληροῦν τοὺς
 παρακάτω συντελεστές ασφαλείας κατὰ τῆς θραύ-
 σεως:

Συντελεστής ασφαλείας για στατική φόρτωση: 7.5

Συντελεστής ασφαλείας για δυναμική φόρτωση: 5.5

Αι τιμαὶ ἐπιταχύνσεως που θα ἐφαρμοσθοῦν κατὰ
 τον υπολογισμόν του δυναμικοῦ φορτίου ἔχουν ὡς κάτωθι:-

2 G εις την κατεύθυνσιν του ταξειδίου

1 G εις ὀρθές γωνίας προς την κατεύθυνσιν του
 ταξειδίου

1 G κατακορύφως προς τα ἄνω, και

2 G κατακορύφως προς τα κάτω.

Ἐπειδὴ τα χαρακτηρίστικά ελασματοειδούς ἐξ ἐνι-
 σχυμένης πλαστικῆς ὕλης μπορεῖ να διαφέρουν συμφώνως προς
 την κατασκευὴν του, κατώταται τιμαὶ δὲν καθορίζονται για
 αντοχὴν εις κάμψιν και εις εφελκυσμόν ἀλλὰ για φορτία:-

$A = \epsilon \sigma_T$ ὅπου σ_T εἶναι ἡ αντοχή εις εφελκυσμόν κατὰ
 την θραύσιν

$B = \epsilon^2 \sigma_F$ ὅπου σ_F εἶναι ἡ αντοχή εις κάμψιν κατὰ την
 θραύσιν

Αι κατώταται τιμαί για δυνάμεις Α και Β είναι: 213.140

Για κάμψιν:—

(Συνεχίζεται)

Χωρητικότης δεξαμενής ≤ 3.000 λίτρες

— περιφερειακή κατεύθυνσις $B = 600 \text{ DaN}$

— αξονική κατεύθυνσις $B = 300 \text{ DaN}$

Χωρητικότης δεξαμενής > 3.000 λίτρες

— περιφερειακή κατεύθυνσις $B = 600 \text{ DaN}$

— αξονική κατεύθυνσις $B = 600 \text{ DaN}$

Για εφελκυσμό:

— περιφερειακή κατεύθυνσις $A = 100 \text{ DaN/MM}$

— αξονική κατεύθυνσις $A = 70 \text{ DaN/MM}$

Ο συντελεστής Ε στην κάμψιν μετράται εις -40°C και εις

$+60^{\circ}\text{C}$. Οι δύο τιμαί μπορεί να μη διαφέρουν περισσότερο

από 30 εκατό της τιμής της λαμβανομένης εις 20°C .

Συμπεριφορά υλικού τοιχώματος διαρκούσης δοκιμής εφελκυσμού διαρκείας άνω των 1.000 ωρών.

Η τάσις δοκιμής είναι $\frac{\sigma}{7.5}$

7.5

Διαρκούσης της δοκιμής ο συντελεστής $K = \frac{\sum_{i=0}^{1000} \sigma_i}{\sum_{i=0}^{\infty} \sigma_i}$ μπορεί να μην είναι υψηλότερος του 1.6

$\sum_{i=0}^{\infty} \sigma_i$ = επιμήκυνσις φορτωθέντος δείγματος κατά την έναρξιν της δοκιμής

1.000 = επιμήκυνσις φορτωθέντος δείγματος εις το τέλος της δοκιμής.

(5) Συμπεριφορά κρούσεως

(α) Φάσις της δοκιμής

Η συμπεριφορά κρούσεως καθορίζεται επί δείγματος

ελασματοειδούς αντιστοιχούντος εις το κατασκευαστικό 2Ι3.Ι40 υλικό το χρησιμοποιηθέν για τη κατασκευή της δεξαμενής. (Συνεχίζεται)
Η δοκιμή διεξάγεται δια ρίψεως βάρους χάλυβος 5 KG (χιλ.) επί της επιφανείας ελασματοειδούς αντιστοιχούντος προς την εξωτερικήν επιφάνειαν της δεξαμενής.

(β) Συσσκευή

Η συσκευή αποτελείται από βάρος χάλυβος 5 KG, μηχανισμόν καθοδήγησης (GUIDANCE DEVICE) για το βάρος αυτό, και φέρον το δείγμα σασσί. Γενικόν διάγραμμα της συσκευής δίδεται στο διάγραμμα Ι. Το βάρος είναι υπό μορφήν χαλυβδίνου κυλίνδρου εφοδιασμένου με δύο οδηγούς διαδρόμους, του κάτω άκρου έχοντος σφαιρικόν σχήμα, διαμέτρου 90 MM (χιλ.).

Ο μηχανισμός καθοδήγησης (GUIDANCE DEVICE) εφαρμόζεται κάθετα προς το τοίχωμα.

Ο δειγματο-φορέας αποτελείται από δύο γωνιακούς-δοκούς (μπάρες) των 100 X 100 X 25 MM και 300 MM μήκους, συγκολλημένους σε μεταλλικό στήριγμα 400 X 400 MM (χιλ.).

Το διάκενο μεταξύ των δύο δοκών είναι 175 MM (χιλ.).

Ο δειγματο-φορέας, σταθεροποιημένος στο έδαφος, είναι εφοδιασμένος με βαθύ κοίλωμα για να επιτρέπεται το λύγισμα (η κάμψις) του δείγματος.

(γ) Προετοιμασία δειγμάτων.

Εκ του δείγματος, λαμβάνονται τρία μέρη, το καθένα 200 X 200 MM (χιλ.) X το πάχος του δείγματος.

(δ) Μέθοδος λειτουργίας
(μέρος του δείγματος)

Το δείγμα/τοποθετείται συμμετρικώς επί του δειγματο-

φορέως· εάν είναι δυνατόν κάζεται στο στήριγμα εν 213.140
συνεχεία δύο βασικών ευθειών γραμμών της επιφάνειας,
κατά τοιούτον τρόπον ώστε το βάρος κτυπά το κέντρον
της όψεως του δείγματος της αντιστοιχούσης προς/την (με)
εξωτερικήν επιφάνειαν της δεξαμενής.

Το βάρος αφήνεται να πέσει από ένα καθορισμένο ύψος,
και λαμβάνεται μέριμνα να εξασφαλίζεται ότι δεν ανα-
πηδά και κτυπά το δείγμα δεύτερη φορά.

Η δοκιμή πρέπει να διεξάγεται σε θερμοκρασία περιβάλ-
λοντος.

Το ύψος εις το οποίο το βάρος υψώνεται στον μηχανισμόν
καθοδηγήσεως σημειούται.

Τα άλλα δύο μέρη του δείγματος ελέγχονται κατά τον ίδιον
τρόπον.

(ε) Όρος

Τό ύψος ρίψεως για βάρος 5 KG θα είναι 1 μέτρο· το δείγ-
μα δεν πρέπει να επιτρέπει διαρροήν άνω του 1 λίτρου
ανά 24 ώρες όταν υποβάλεται σε στήλη ύδατος 1 μ.

(6) Αντίστασις σε χημικούς άγοντας.

Επίπεδοι πλάκες ενισχυμένης πλαστικής ύλης, παρα-
σκευασθείσαι εις το εργαστήριο υποβάλλονται στην προσβολή
από την επικίνδυνον ύλην σε θερμοκρασία 50°C για 30 ημέρες
συμφώνως προς την παρακάτω διαδικασίαν:-

(α) Περιγραφή της συσκευής δοκιμής (εικονίζεται και στο
διάγραμμα 2).

Η συσκευή δοκιμής αποτελείται από κύλινδρον εξ υάλου,
διαμέτρου 140 X 150 MM, ύψους 150 MM με δύο ακροφύσια

τοποθετημένα εις 135° το ένα εφαρμοσμένο με μίαν 2I3.I40
ένωσιν NS 29 για να λάβει έναν ενδιάμεσο σωλήνα (Συνεχί-
ζεται)
για πυκνωτήν αντιθέτου ροής (REFLUX CONDENSER) (1),
το άλλο ακροφύσιο εφαρμοσμένο με μίαν ένωσιν NS I4.5
για να λάβει ένα θερμόμετρο (2), αποτελείται επίσης
από έναν ενδιάμεσο σωλήνα για πυκνωτήν αντιθέτου
ροής και από έναν πυκνωτήν αντιθέτου ροής μη εικονι-
ζόμενον εις το διάγραμμα. Το εξ υάλου τμήμα της συ-
σκευής θα είναι από υάλον που να αντέχει στις αλλα-
γές της θερμοκρασίας.

Τα δείγματα ληφθέντα από τις πλάκες δοκιμής σχημα-
τίζουν την βάση και το άνω μέρος του υάλινου κυλίν-
δρου. Έχουν ασφαλισθεί στα άκρα του κυλίνδρου με κολ-
λάρο PTFE. Ο κύλινδρος με τα δύο δείγματα συσφίγγεται
μεταξύ δύο πλακών πίεσεως εκ χάλυβος αντέχοντος εις
την διάβρωσιν με έξη κολλιωτές βίδες που σφίγγονται
με πτερυγιωτά περικόχλια (περικόχλια μετ' ωτίλων).

Ένας παράκυκλος (ροδέλλα) από αμίαντον πρέπει να το-
ποθετείται μεταξύ των πλακών πίεσεως και των δειγμά-
των. Οι παράκυκλοι αυτοί δεν εικονίζονται στο διά-
γραμμα 2. Η θέρμανσις πραγματοποιείται από έξω με
αυτομάτως ελεγχόμενο σωληνωτό θερμαντήρα. Η θερμο-
κρασία μετράται εις τον θάλαμον που περιέχει το υγρό.

(β) Λειτουργία της συσκευής δοκιμής

Η συσκευή δοκιμής επιτρέπει μόνον επίπεδες πλάκες
ομοιομόρφου πάχους να ελέγχωνται. Οι πλάκες δοκιμής
πρέπει, εάν είναι δυνατόν, να είναι πάχους 4 MM (χιλ.)

Εάν οι πλάκες αυτές καλύπτονται με επένδυσιν γέ- 213.140
λης (πυκτής) πρέπει να ελέγχωνται αναφορικώς με (Συνεχίζε-
ται)
την πρακτική των χρήσιν. Έξη εξαγωνα δείγματα, 100 χιλ.
εκάστη πλευρά, κόβονται από τη πλάκα δοκιμής.

Για κάθε δοκιμή, τρία δείγματα ετοιμάζονται ανά συ-
σκευήν. Ένα από αυτά τα δείγματα χρησιμοποιείται
ως αφετηρία (REFERENCE) και τα άλλα δύο χρησιμοποι-
ούνται δια τον έλεγχο στην υγρή ζώνην, και ζώνην ατ-
μού του μηχανισμού αντιστοίχως.

(γ) Διαδικασία δοκιμής

Τα υπό έλεγχο δείγματα τοποθετούνται επί της συ-
σκευής με την επιφάνειαν η οποία μπορεί να έχει
επενδυθεί με γέλην (πυκτή) βλέπουσαν προς τα μέσα.
1200 ML υγρού δοκιμής χύνονται στον υάλινο κύλινδρο.
Η συσκευή ακολουθώς θερμαίνεται στη θερμοκρασία
δοκιμής. Μία σταθερή θερμοκρασία διατηρείται διαρ-
κούσης της δοκιμής. Μετά την δοκιμή η συσκευή ψύ-
χεται στη θερμοκρασία του περιβάλλοντος και αφαι-
ρείται το υγρό δοκιμής. Τα ελεγχθέντα δείγματα πλέ-
νονται αμέσως με διυλισμένον ~~υδρο~~^{υδρο}. Υγρά τα οποία
δεν είναι διαλυτά στο ~~υδρο~~^{υδρο} αφαιρούνται με διαλυτι-
κόν το οποίο δεν προσβάλλει τα δείγματα.

Μηχανικόν καθάρισμα των πλακών δεν μπορεί να γίνει
λόγω κινδύνου καταστροφής της επιφάνειας των δειγμά-
των.

(δ) Εκτίμησις

Οπτική εξέτασις γίνεται:

- εάν η οπτική εξέταση αποκαλύψει υπερβολικήν 2Ι3.Ι40
 προσβολήν (ρήγματα, φυσαλλίδες, πόροι, ξε- (Συνεχίζεται)
 φλούδισμα, φούσκωμα, ή τραχύτης), η δοκιμή
 είναι αναμφισβήτητα αρνητική·
- εάν η οπτική δεν αποκαλύψει ανωμαλίαν, δοκιμές
 κάμψεως ενεργούνται δια των μεθόδων των οριζο-
 μένων εις περιθώριον 2Ι3.Ι40 (4) επί των δύο
 δειγμάτων των υποβληθέντων εις χημικήν προσβο-
 λήν και επί του δείγματος αφετηρίας. Στη περι-
 πτωση αυτή η αντοχή στην κάμψη δεν θα πρέπει
 να είναι άνω του 20 στα, εκατό χαμηλωτέρα της
 τιμής της εξακριβωθείσης δια την πλάκα δοκιμής
 την μη υποβληθείσα εις οιαδήποτε τάση.

Δοκιμή και ποιότητος απαιτούμενη για τη πρωτότυπο μονάδα 2Ι3.Ι4Ι

Η πρωτότυπος δεξαμενή θα υποβάλεται σε δοκιμή
 υδραυλικής πίεσεως διεξαγομένη από εμπειρογνώμονα εγκεκρι-
 μένον υπό των αρμοδίων αρχών Συμβαλλομένου Μέρους.

Εάν η πρωτότυπος δεξαμενή διαιρεθεί σε διαμερί-
 σματα είτε με διαφράγματα είτε με κόντρα πόρτες, η δοκιμή
 θα διεξάγεται επί μονάδος/δια τον σκοπόν αυτόν με τα αυτὰ
 εξωτερικά άκρα ολοκλήρου της δεξαμενής και η οποία αντιπρο-
 σωπεύει το τμήμα της δεξαμενής το υποβαλλόμενον, υπό κανο-
 νικάς συνθήκας χρήσεως, στις μεγαλύτερες τάσεις.

Η δοκιμή αυτή δεν θα πρέπει να διεξάγεται εάν
 υπάρχει ήδη επιτυχής δοκιμή επί άλλης πρωτοτύπου μονάδος
 της αυτής (διατομής ή (δια)τομής μεγαλυτέρων διαστάσεων,
 γεωμετρικώς ομοίας με εκείνην της περί ής πρόκειται πρωτοτύ-

που μονάδας, ακόμη και εάν η μονάς αυτή έχει διαφορετι- 2Ι3.Ι4Ι
κόν στρώμα εσωτερικής επιφανείας. (Συνεχίζεται)

Η δοκιμή αυτή πρέπει να καταδεικνύει ότι η πρω-
τότυπος μονάς έχει, υπό κανονικής συνθήκας χρήσεως, συν-
τελεστήν όχι μικρότερον του 7.5 όσον αφορά την θραύσιν
(σπάσιμο).

Πρέπει να αποδεικνύεται, π.χ. δι' υπολογισμού,
ότι οι συντελεστές ασφαλείας κατά της θραύσεως οι διδόμε-
νοι εις το περιθώριο 2Ι3.Ι40 (4) τηρούνται για κάθε τμήμα
της δεξαμενής.

Θραύσις λαμβάνει χώρα όταν το υγρό της δοκιμής
διαφεύγει από τη δεξαμενή υπό μορφήν πίδακος. Συνεπώς, προ-
της θραύσεως αυτής, η ύπαρξις στοιβάδων (DELAMINATIONS) και
απωλειών υγρού δια των στοιβάδων τούτων υπό μορφήν σταγονι-
δίων επιτρέπεται. Η πρωτότυπος μονάς θα υποβάλεται σε υδραυ-
λική πύεση.

$$H = 7.5 \times D \times \eta$$

όπου H είναι το ύψος της στήλης του ύδατος

η είναι το ύψος της δεξαμενής

D είναι η πυκνότης της υπό μεταφοράν ύλης.

Εάν θραύσις λάβει χώρα μέ ύψος στήλης ύδατος H_I
μικρότερον του H, πρέπει να εξακολουθεί να είναι

$$H_I \geq 7.5 \times D \times (\eta - \eta_I)$$

όπου η_I είναι το ύψος του ανωτάτου σημείου όπου ο πρώτος
πίδαξ του υγρού εμφανίζεται.

Εάν η ροή του υγρού εις το σημείον η_I είναι πολύ
μεγάλη, είναι ουσιώδες να γίνει προσωρινή επισκευή καθώς

προσωρινή τοπική ενίσχυσις για να μπορέσει η δοκιμή να συνεχισθεί σε ύψος Η.

Έλεγχος συμμορφώσεως επί δεξαμενών παραγομένων εν σειρά 2Ι3.Ι42

(Ι) Η επιθεώρηση της συμμορφώσεως για δεξαμενές που παραχθήκαν σε σειρά θα εκτελείται δια της διεξαγωγής ενός ή πλειόνων εκ των ελέγχων των απαριθμούμενων εις το περιθώριο 2Ι3.Ι40.

Εν τούτοις, η μέτρησις του βαθμού πολυμερισμού αντικαθίσταται με την μέτρησιν σκληρότητος του BARCOL.

(2) Σκληρότης BARCOL

Ο έλεγχος πρέπει να διεξάγεται συμφώνως προς κατάλληλους μεθόδους 4/. Η σκληρότης BARCOL μετράται επί της εσωτερικής επιφανείας της υποστάσεως τελικήν επεξεργασίαν δεξαμενής και δεν πρέπει να είναι μικρότερη του 75 ⁶βα εκατ. της τιμής της ληφθείσης εις το εργαστήριο επί καθαρής εσκληρυνθείσης ρητίνης.

(3) Το ποσοστόν ινών υάλου (GLASS FIBRE) πρέπει να είναι εντός των ορίων των προβλεπομένων εις περιθώριον 2Ι3.Ι40 (2) και, επιπροσθέτως, δεν πρέπει να παρεκκλίνει κατά άνω του Ι0 ⁶βα εκατ. του αριθμού για τη πρωτότυπο δεξαμενή.

4/ Οι μέθοδοι αι προβλεπόμενες σε πρότυπο ASTM-D 2583-67 θεωρούνται κατάλληλοι.

Δοκιμές και ποιότητες απαιτούμενες για όλες τις δεξαμε- 2Ι3.Ι43
νές προτού τεθούν σε υπηρεσία.

Δοκιμή στεγανότητας

Η δοκιμή στεγανότητας θα διεξάγεται σύμφωνα προς τις διατάξεις των περιθωρίων 2ΙΙ.Ι50 και 2ΙΙ.Ι5Ι της ADR και η σφραγίδα του εμπειρογνώμονος θα τίθεται στη δεξαμενή.

2Ι3.Ι44-

2Ι3.Ι49

Άρθρο 5

Ειδικές διατάξεις για δεξαμενές που χρησιμοποιούνται για 2Ι3.Ι50
τη μεταφορά υλών με σημείον αναφλέξεως 55°C ή χαμηλότερον

Η δεξαμενή πρέπει να κατασκευάζεται κατά τρόπον εξασφαλίζοντα την απαλοιφή (μηδενισμόν) του στατικού ηλεκτρισμού από τα διάφορα συστατικά μέρη ώστε να αποφεύγεται η συσσώρευσις επικινδύνων ηλεκτρικών φορτίων.

Όλα τα μεταλλικά μέρη της δεξαμενής και η μονάς 2Ι3.Ι5Ι μεταφοράς καθώς και τα στρώματα των τοιχωμάτων που είναι αγωγοί ηλεκτρισμού πρέπει να αλληλοσυνδέωνται.

Η αντίσταση μεταξύ εκάστου αγωγίμου τμήματος 2Ι3.Ι52 και του σασσί δεν πρέπει να είναι μεγαλύτερα των 10^6 OHMS.

Απαλοιφή κινδύνων οφειλομένων σε φορτία προερχόμενα από 2Ι3.Ι53
τρίβην

Η επιφανειακή αντίσταση και η αντίσταση εκ- 2Ι3.Ι53
κενώσεως εις την γήν της ολικής επιφανείας της δεξαμενής θα συμμορφούνται προς τους όρους του περιθωρίου 2Ι3.Ι54.

Η επιφανειακή αντίσταση και η αντίσταση εκ- 2Ι3.Ι54
κενώσεως εις το έδαφος (γή) μετρούμενες συμφώνως προς το

περιθώριο 213.155 πρέπει να ικανοποιούν τους παρακάτω όρους.

213.154
(Συνεχίζεται)

(I) Τοιχώματα μη εφοδιασμένα με στοιχεία που είναι αγωγοί ηλεκτρισμού:

(α) Επιφάνειες επί των οποίων μπορεί κάποιος να βαδίσει:

Η αντίστασις εκκένωσης στη γή δεν πρέπει να είναι μεγαλύτερα των 10^8 OHMS (Ω M).

(β) Άλλες επιφάνειαι:

Η επιφανειακή αντίστασις δεν πρέπει να είναι μεγαλύτερα των 10^9 OHMS (Ω M).

(2) Τοιχώματα εφοδιασμένα με στοιχεία που είναι αγωγοί ηλεκτρισμού:

(α) Επιφάνειες επί των οποίων κάποιος μπορεί να βαδίσει:

Η αντίστασις εκκένωσης στην γή δεν πρέπει να είναι μεγαλύτερα των 10^8 OHMS (Ω M).

(β) Άλλες επιφάνειες:

Η αγωγιμότης θα θεωρείται επαρκής εάν το ανώ-
τον πάχος των μη-αγωγίμων στρωμάτων επί αγω-
γίων στοιχείων, π.χ. αγωγιμα φύλλα (ελάσματα), μεταλλική δικτύωσις ή άλλο κατάλληλο υλι-
κό, συνδεδεμένα με την προσγείωσιν, δεν υπερ-
βαίνει τα 2 MM, και στη περίπτωση μεταλλικής
(το εμβαδόν επιφανείας)
δικτυώσεως, ο επιφανειακός χώρος/της οπής του
δικτύου (MESH) δεν υπερβαίνει τα 64 CM^2 .

(3) Οιαδήποτε μέτρησις επιφανειακής αντιστάσεως ή αντι-
στάσεως εκκένωσης στη γή απαιτούμενη να διεξαχθεί επ' αυτής

ταύτης της δεξαμενής θα αντικαθίσταται σε χρονικά δια- 2Ι3.Ι54
στήματα όχι μεγαλύτερα του ενός έτους για να εξασφαλί- (Συνεχίζεται)
ζεται ότι δεν υπερβαίνονται οι καθορισθείσαι αντιστάσεις.

Μέθοδοι Δοκιμών (Ελέγχων)

2Ι3.Ι55

Ι.- Επιφανειακή Αντίστασις (R_{100}) - (μονωτική
αντίστασις) σε OHMS (Ωμ), ηλεκτρόδια (ELECTRODES OF
CONDUCTING PAINT) συμφώνως προς τον αριθμόν (σχήμα) 3
της RECOMMENDATION IEC I67 του Ι964, μετρούμενα με το
πρότυπον 23/50 ατμοσφαιρών συμφώνως προς την RECOMMENDA-
TION ISO R29I, παράγραφος 3.Ι του Ι963.

2.- Η αντίστασις εκκένωσης στη γή σε OHMS (Ωμ)
είναι ο λόγος μεταξύ της συνεχούς τάσεως μετρουμένης
μεταξύ ηλεκτροδίου περιγραφομένου κατωτέρω σε επαφή με
την επιφάνεια της δεξαμενής του οχήματος και του γειωμένου
σασί του οχήματος, και του ολικού ρεύματος.

Η κατάσταση (CONDITIONING) των δειγμάτων είναι
η αυτή της παραγράφου Ι. Το ηλεκτρόδιο είναι δίσκος με
εμβαδόν επιφάνειας 20 CM² και διάμετρον 50 MM. Η στενή
του επαφή με την επιφάνεια της δεξαμενής πρέπει να εξασφα-
λίζεται, π.χ. δια της χρήσεως υγρού χάρτου ή υγρού σπόγ-
γου ή οιασδήποτε άλλης καταλλήλου ύλης. Το γειωμένο σασί
του οχήματος χρησιμοποιείται ως το άλλο ηλεκτρόδιο. Διαρ-
κής τάσις της κλίμακος Ι00 βόλτ - 500 βόλτ θα εφαρμόζεται.
Η μέτρησις θα διεξάγεται μετά την επί ένα λεπτό εφαρμο-
γήν της τάσεως δοκιμής. Το ηλεκτρόδιο μπορεί να τοποθετη-
θεί επί οιοδήποτε σημείου της εσωτερικής ή εξωτερικής επι-
φάνειας της δεξαμενής.

Εάν η μέτρησιν είναι αδύνατος επί της δεξα- 2Ι3.Ι55
μενής, μπορεί επίσης να διεξαχθελ, υπό τούς αυτούς δ- (Συνεχί-
ρους, εις το εργαστήριο, επί δείγματος του υλικού. ζεται)

Απαλοιφή κινδύνων οφειλομένων σε φορτία προερχόμενα
διαρκούσης της πληρώσεως

Μεταλλικά συστατικά μέρη συνδεδεμένα στη γή 2Ι3.Ι56
θα παρέχονται και διατίθενται κατά τούτον τρόπον ώστε
σε οποιοδήποτε στάδιο της πληρώσεως ή της διαδικασίας
εκκενώσεως να υπάρχει εμβαδόν όχι μικρότερον των 0.04
τετραγ. μέτρων γειωμένου μετάλλου ~~εξ~~ επαφής με το προϊόν
ανά κυβικόν μέτρον προϊόντος περιεχομένου εις την δεξα-
μενήν την στιγμήν εκείνην, και κανένα τμήμα του προϊόντος
να απέχει περισσότερον από 2.0 μέτρα από το πλησιέστερο
γειωμένο μεταλλικό συστατικό μέρος. Τα μεταλλικά αυτά
συστατικά μέρη μπορούν να είναι της μορφής:-

- (α) Μεταλλικής ποδοβαλβίδος, στομίου σωλήνος, ή
πλανίδς (ελάσματος) εφ' όσον το ολικόν εμβαδόν
του σε επαφή με το υγρό μετάλλου δεν είναι μι-
κρότερον του οριζομένου, ή
- (β) Μεταλλικής σχάρας με σύρμα πάχους όχι μικροτέ-
ρας του I MM (χιλ.) διαμέτρου και εμβαδού οπής
όχι μεγαλύτερον των 4 τετραγ. εκατοστών, εφ' ό-
σον το ολικόν εμβαδόν της σε επαφή με το υγρό
σχάρας δεν είναι μικρότερο του οριζομένου.

Το περιθώριο 2Ι3.Ι56 δεν θα έχει εφαρμογήν σε 2Ι3.Ι57
δεξαμενές από ενισχυμένη πλαστική ύλη εφοδιασμένες με οποιο-
δήποτε άλλο σύστημα απαλοιφής του κινδύνου από φορτία προερ-

χόμενα (δημιουργούμενα) διαρκούσης της πληρώσεως, 2Ι3.Ι57
 εφ' όσον έχει καταδειχθεί δια πρακτικής συγκριτικής (Συνεχίζεται)
 δοκιμής συμφώνως προς το περιθώριον 2Ι3.Ι58 ότι ο χρό-
 νος χαλαρώσεως (μεταπτωτικός χρόνος) του φορτίου του
 δημιουργουμένου εντός της δεξαμενής διαρκούσης της πλη-
 ρώσεως είναι ισοδύναμος με τον χρόνο τον λαμβανόμενον
 για μεταλλική δεξαμενή αναλόγων διαστάσεων.

Συγκριτική Δοκιμή (Έλεγχος)

2Ι3.Ι58

(Ι) Συγκριτική δοκιμή του χρόνου χαλαρώσεως ηλε-
 κτροστατικού φορτίου συμφώνως προς τους όρους δοκιμής
 τους περιγραφόμενους στην παράγραφο (2) θα διεξαχθεί
 επί πρωτοτύπου δεξαμενής ~~απ~~ ενισχυμένης πλαστικής ύλης
 και δεξαμενής ~~απ~~ χάλυβος κατά τον παρακάτω τρόπον
 (βλέπε διάγραμμα 3).

(α) Η ~~απ~~ ενισχυμένης πλαστικής ~~ύλης~~ δεξαμενή θα
 μοντάρεται κατά τον αυτόν τρόπον όπως θα ήτο
~~απ~~ χρήσεως, π.χ., επί χάλυβδίνου στηρίγματος
 ομοίου με σασά οχήματος και θα πληρούται
 μέχρι όχι κάτω του 75 ~~ετα~~ εκατό της χωρητι-
 κότητος με αυτόκινούμενον (AUTOMOTIVE) καύσι-
 μον ντήζελ, μία αναλογία του οποίου διέρχεται
 δια καταλλήλου μικροφίλτρου κατά ~~τείσι~~ τρι-
~~π~~ ώστε η πυκνότης του φορτίου της ολικής
 ροής να είναι περίπου 100 U C/M^3 .

(β) Η έντασις του πεδίου εις τον χώρον ατμού της
 δεξαμενής ~~να~~ μετράται δια καταλλήλου μέτρου
 πεδίου συνεχών ενδείξεων μονταρισμένου με τον
 άξονά του κάθετον και τοποθετημένον τουλάχιστον

20 CM από τον κάθετον σωλήνα πληρώσεως. 213.158

- (γ) Παρομοία δοκιμή θα διεξαχθεί επί δεξαμενής (Συνεχίζεται)
 εκ χάλυβος της οποίας το πλάτος, μήκος,
 και όγκος είναι εντός του 15 τοις εκατό
 εκείνων της εξ ενισχυμένης πλαστικής ύλης
 δεξαμενής, ή επί δεξαμενής εξ ενισχυμένης
 πλαστικής ύλης ομοίων διαστάσεων, επενδε-
 υμένης εσωτερικώς με μεταλλικό λεπτό φύλλο
 συνδεδεμένο με τη γη.

(2) Οι παρακάτω όροι της δοκιμής θα τηρούνται:-

- (α) Η δοκιμή θα διεξάγεται σε καλυμμένο χώρον υπό συν-
 θήκας σχετικής υγρασίας κάτω του 80 τοις εκατόν.
 (β) Το αυτοκινούμενον καύσιμον ντίζελ το χρησιμοποιού-
 μενον εις την δοκιμήν θα έχει αγωγιμότητα ανάπαυλας
 (REST CONDUCTIVITY) στη θερμοκρασία μετρήσεως μεταξύ
 3 και 5 pS/M . Αυτή θα μετράται σε κύτταρο (στοιχείο,
 CELL) εις το οποίον η

$$\frac{VT}{D^2} \text{ είναι μικρότερη ή ίση με } 2.5 \times 10^6$$

όπου V = εφαρμοζόμενη τάσις
 (απόστασις)

D = χώρος/μεταξύ ηλεκτροδίων σε μέτρα

T = διάρκεια μετρήσεως σε δευτερόλεπτα

Η αγωγιμότης ανάπαυλας (REST CONDUCTIVITY) μετρου-
 μένη επί δειγμάτων του προϊόντος ληφθέντων από την
 δεξαμενή δοκιμής μετά την πλήρωσιν δεν θα διαφέρει
 σε διαδοχικές δοκιμές επί πλαστικών και μεταλλικών
 δεξαμενών κατά περισσότερο των 0.5 pS/M .

- (γ) Η πλήρωσις θα γίνεται με σταθερό ρυθμό εντός της 213.158 κλίμακος I έως 2 μ^3 /το λεπτόν και θα είναι ο ίδιος δια την δεξαμενήν ~~από~~ ενισχυμένης πλαστικής ύλης και για την δεξαμενήν ~~από~~ χάλυβα. Εις το τέλος της πληρώσεως, η ροή πρέπει να διακόπτεται εις χρόνον ο οποίος είναι βραχύς συγκρινόμενος με τον χρόνον χαλάρωσης (RELAXATION TIME) για το φορτίο εις την δεξαμενήν εκ χάλυβος.
- (δ) Η πυκνότης του φορτίου θα μετράται ~~με~~ κατάλληλον μέτρο συνεχών ενδείξεων (π.χ., τύπου FIELD MILL /μύλου/) εμβυθιζόμενου εις το προϊόν και τοποθετημένου όσον το δυνατόν πειό κοντα στον σωλήνα πληρώσεως.
- (ε) Οι σωλήνες τροφοδοσίας και ο κάθετος σωλήν πληρώσεως θα είναι/διαμέτρου 10 CM (εκ.) και θα καταλήγουν σε έξοδον σωλήνος πληρώσεως τύπου "T".
- (στ) Κατάλληλον μικροφίλτρον $\frac{0}{2}$, με ρυθμιζομένην παρακαμπτήριον καθιστούσα δυνατήν την ρύθμισιν της δι' αυτής διερχομένης ροής, θα εφαρμόζεται όχι άνω των 5 μέτρων από την έξοδον του σωλήνος πληρώσεως.
- (ζ) Η στάθμη του υγρού δεν θα φθάσει τον πυθμένα (κάτω μέρος) του σωλήνος πληρώσεως ή του μέτρου/ ^{πέδου} (FIELD METER).

0/ Το RELUMIT 5 ευρέθη ότι είναι κατάλληλον.

Σύγκρισις χρόνων χαλαρώσεως (RELAXATION TIMES)

(3) Η αρχική τιμή της έντασεως πεδίου θα είναι η 2Ι3.Ι58 καταγραφείσα εις το ενωρίτατον χρονικόν σημείον μετά την παύση της ροής του καυσίμου όταν μία λεία καμπύλη εξασθενήσεως (DECAY CURVE) δημιουργηθεί. Ο χρόνος χαλαρώσεως (RELAXATION TIME) ~~απ~~ αμφοτέρων τις δοκιμές θα διατυπούται ως ο χρόνος που χρειάσθηκε η έντασις πεδίου να εξασθενήσει (φθίνει) από την αρχική τιμή εις 0.37 της αρχικής τιμής. (Συνεχίζεται)

(4) Ο χρόνος χαλαρώσεως (RELAXATION TIME) της ~~απ~~ ενισχυμένης πλαστικής ύλης δεξαμενής δεν θα υπερβαίνει τον της ~~απ~~ χάλυβος δεξαμενής.

2Ι3.Ι59-

2Ι3.999

Πίναξ I

ΣΥΝΘΕΣΙΣ ΥΑΛΟΥ

Υαλος Ε: Σύνθεσις κατά βάρος:-

| | | | |
|---|--|---------------------|---|
| Πυρίτης λίθος (Διοξει- διο πυριτίου) | (Si O_2) | 52 - 55 τοις εκατόν | |
| Αλουμίνα | (Al_2O_3) | 14 - 15.5 " | " |
| Άσβεστος | (Ca O) | 16.5 - 18 " | " |
| Μαγνησία | (Mg O) | 4 - 5.5 " | " |
| Βορικόν οξείδιον | (B_2O_3) | 6.5 - 21 " | " |
| Φθόριο | (F) | 0.2 - 0.6 " | " |
| Οξείδιο του σιδήρου | (Fe_2O_3) | < 1 " | " |
| Οξείδιο Τιτανίου | (Ti O_2) | < 1 " | " |
| Αλκαλικά οξείδια | ($\text{Na}_2\text{O} + \text{K}_2\text{O}$) | | |

Υαλος C: Σύνθεσις κατά βάρος:-

| | | | |
|---------------------|-----------------------------|-------------|---|
| Διοξείδιο πυριτίου | (Si O_2) | 63.5 - 65 " | " |
| Αλουμίνα | (Al_2O_3) | 4 - 4.5 " | " |
| Άσβεστος | (Ca O) | 14 - 14.5 " | " |
| Μαγνησία | (Mg O) | 2.5 - 3 " | " |
| Βορικόν οξείδιον | (B_2O_3) | 5 - 6.5 " | " |
| Σίδηρος | (Fe_2O_3) | 0.3 " | " |
| Οξείδιο του Νατρίου | (Na_2O) | 7 - 9 " | " |
| Οξείδιο του Καλίου | (K_2O) | 0.7 - 1 " | " |

Διάγραμμα I (σελίδα 3288)

Μηχανισμός (επινδύσεις) δια την μέτρηση της αντιστάσεως κρού-
 πτόντος
 σεως μέσω/βάρους σφαιρικού άκρου

WEIGHT GUIDANCE :- Καθοδήγησις Βάρους

SPECIMEN :- δείγμα

SECTION AA' :- (Δια)-τομή AA'

ANGLE-BAR WELDED TO CHASSIS :- Γωνιωτή δοκός συγκολλημένη στο
 σασό

STEEL CHASSIS :- σασό από χάλυβα

CONCRETE BASE :- βάση από μπετόν

Διάγραμμα 2 (σελίδα 3289)

Μηχανισμός δια τον έλεγχο της αντιστάσεως έναντι των χημικών
 αγόντων

TIGHTENING RING (CLAMP) :- Δακτύλιος συσφίξεως (σφιγκτήρ)

SPECIMEN-PLATE :- πλάκα (έλασμα) δειγματος

(GASEOUS PHASE) :- αερώδης φάσις

TEFLON JOINT :- ένωσις TEFLON

CONNECTING TUBE :- συνδετικός σωλήν

GLASS CYLINDER :- υάλινος κύλινδρος

LEVEL OF LIQUID :- στάθμη (επίπεδο) υγρού

HEATING SEATH^H :- θήκη θερμάνσεως

TEFLON JOINT :- ένωσις TEFLON

SPECIMEN PLATE :- πλάκα (έλασμα) δειγματος

(LIQUID PHASE) :- (υγρή φάσις)

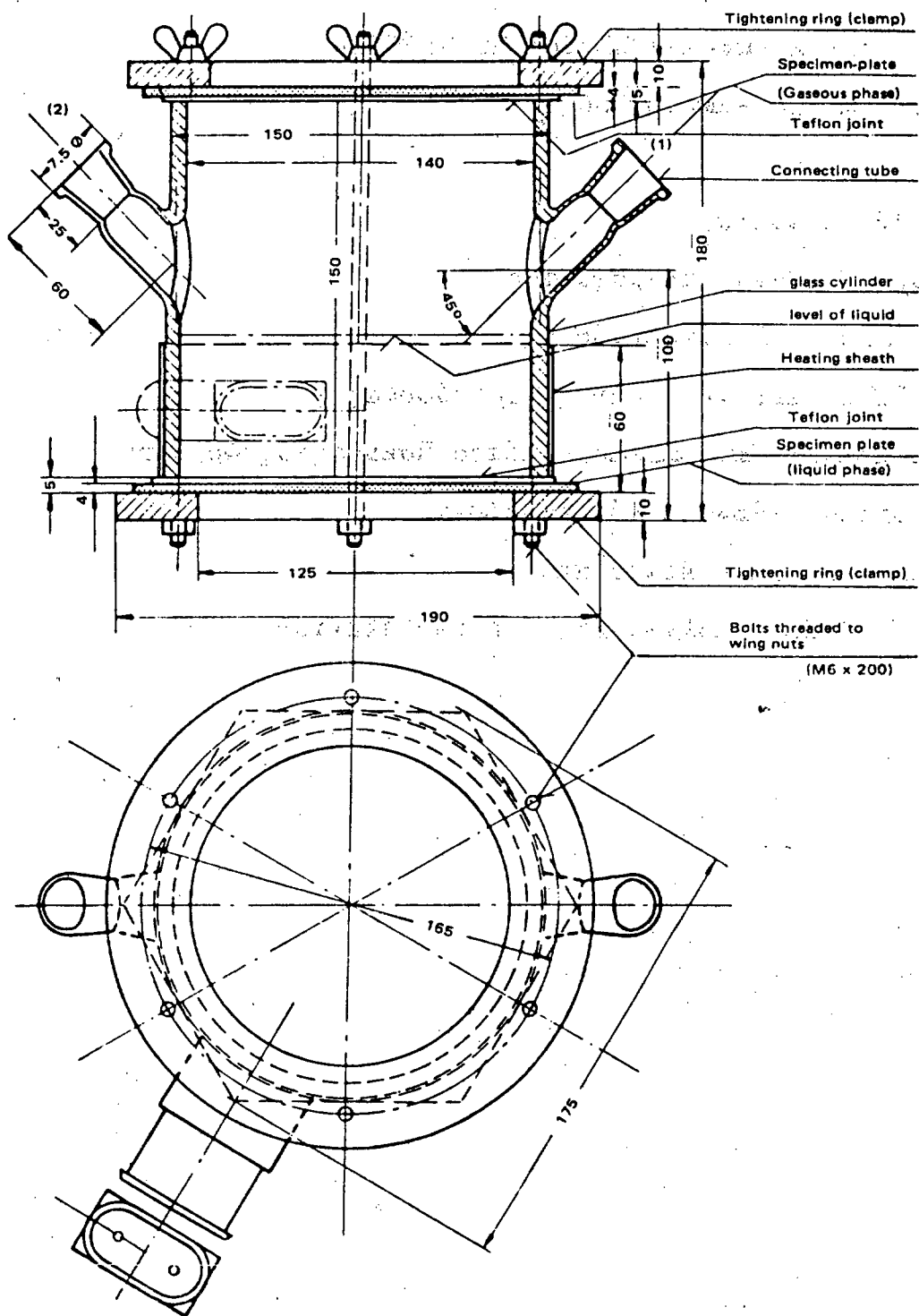
TIGHTENING RING (CLAMP) :- Δακτύλιος συσφίξεως (σφιγκτήρ)

BOLTS THREADED TO WING NUTS :- Βίδες κοχλιωμένες σε πτερυγωτά περι-
 κόχλια

Appendix B.1c

Diagram 2

Device to test resistance to chemical agents



Διάγραμμα 3 (Σελίδα 3291)ΣΧΗΜΑΤΙΚΗ ΔΙΑΤΑΞΙΣ ΤΗΣ ΣΥΣΚΕΥΗΣ ΔΙΑ ΣΥΓΚΡΙΤΙΚΟΝ
ΕΛΕΓΧΟΝ

STORAGE TANK:- ΔΕΞΑΜΕΝΗ ΑΠΟΘΗΚΕΥΣΕΩΣ

FLOW METER:- Μέτρο ροής

FLOW:- Ροή

PUMP:- Αντλία

MICROFILTER:- Μικροφίλτρο

BY PASS:- Παρακαμπτήριο

SUPPLY PIPES:- Σωλήνες Τροφοδοσίας

CHARGE DENSITY METER:- Μέτρο Πυκνότητας Φορτίου

FILLING PIPE:- Σωλήν πληρώσεως

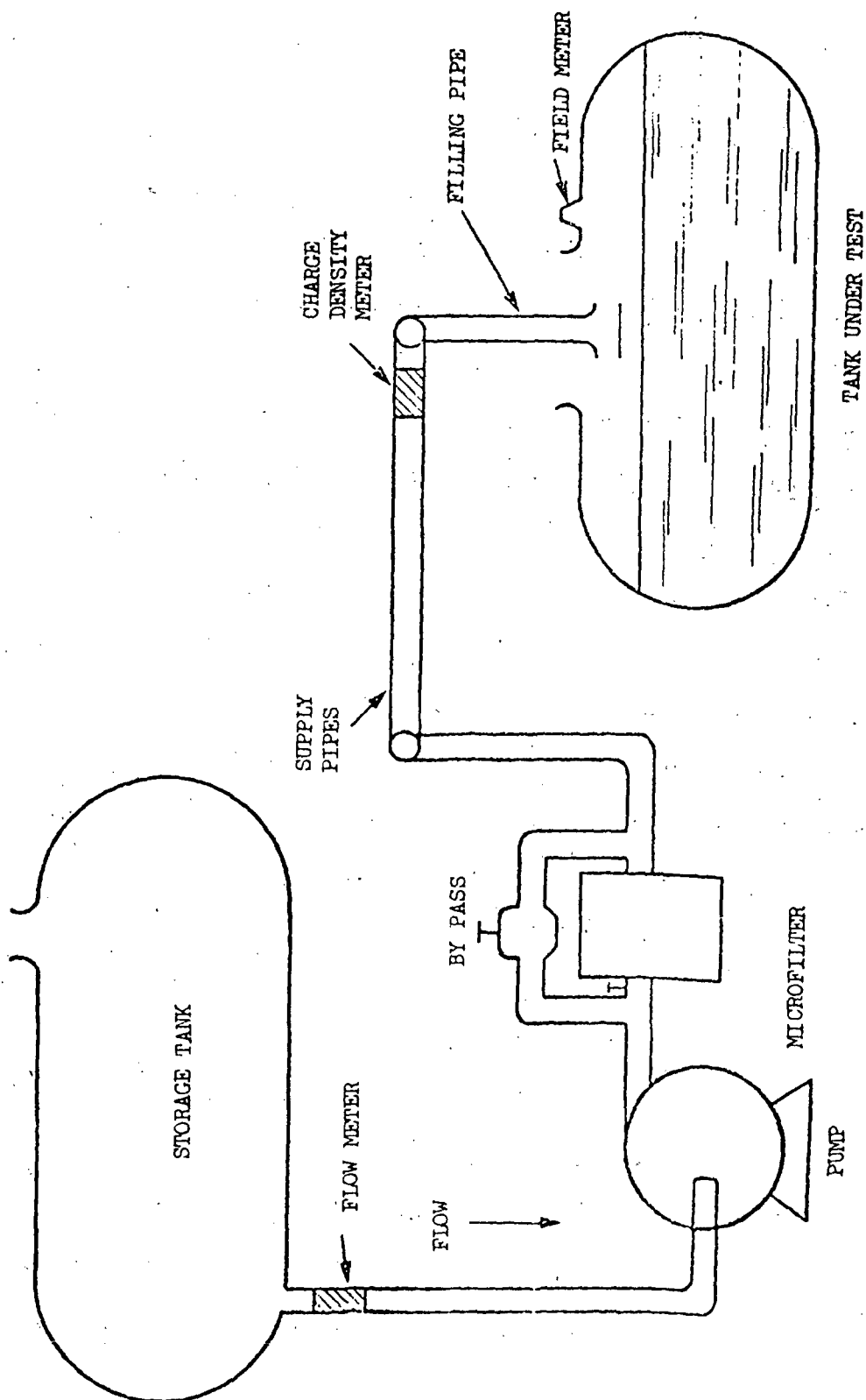
FIELD METER:- Μέτρο πεδίου

TANK UNDER TEST:- Δεξαμενή υπό έλεγχο

Appendix B.1c

Diagram 3

SCHEMATIC LAYOUT OF RIC FOR COMPARATIVE TEST



Προσθήκη Β.Ιδ.-

ΟΡΟΙ ΔΙΕΠΟΝΤΕΣ ΤΑ ΥΛΙΚΑ ΚΑΙ ΤΗΝ ΚΑΤΑΣΚΕΥΗΝ ΣΤΑΘΕΡΩΝ ΔΕΞΑΜΕΝΩΝ, ΛΥΟΜΕΝΩΝ ΔΕΞΑΜΕΝΩΝ, ΚΑΙ ΚΕΛΥΦΩΝ (ΜΠΟΜΠΩΝ) ΔΕΞΑΜΕΝΟ-CONTAINERS (ΔΕΞΑΜΕΝΟ-ΥΠΟΔΟΧΕΩΝ), ΠΡΟΟΡΙΖΟΜΕΝΩΝ ΔΙΑ ΤΗΝ ΜΕΤΑΦΟΡΑΝ ΛΙΑΝ-ΥΓΓΜΕΝΩΝ ΥΓΡΟΠΟΙΗΜΕΝΩΝ ΑΕΡΙΩΝ ΤΗΣ ΚΛΑΣΕΩΣ 2

2Ι4.000-

2Ι4.249

(Ι) Δοχεία, δεξαμενές και κελύφη (μπόμπες) θα κατασκευάζονται από χάλυβα, αλουμίνιο, κράμα αλουμινίου, χαλκό ή κράμα χαλκού, π.χ. ορείχαλκο. Εν τούτοις, δοχεία, δεξαμενές και κελύφη κατασκευασμένα από χαλκό ή κράμα χαλκού θα επιτρέπωνται μόνον για αέρια μη περιέχοντα ακετυλένιον· το αιθυλένιον μπορεί εν τούτοις να περιέχει όχι περισσότερο από 0.005 ~~το~~ εκατό ακετυλένιον. 2Ι4.250

(2) Μόνον υλικά κατάλληλα για την χαμηλότεραν θερμοκρασίαν λειτουργίας των δοχείων, δεξαμενών και κελυφών και των εξαρτημάτων και παρακολουθημάτων αυτών μπορούν να χρησιμοποιηθούν.

Τα παρακάτω υλικά θα επιτρέπωνται για τη κατασκευή δοχείων, δεξαμενών και κελυφών:- 2Ι4.25Ι

(α) χάλυβες μη υποκείμενοι σε εύθραυστο ρήγμα στη χαμηλότερα θερμοκρασία λειτουργίας (βλέπε περίθωριο 2Ι4.265).

Τα παρακάτω μπορούν να χρησιμοποιηθούν:-

Ι.- λεπτόκοκοι αμιγείς χάλυβες, έως θερμοκρασίαν -60°C .

2.- νικελιούχοι χάλυβες (με περιεχόμενον εις νίκελ 0.5 έως 9 τοις εκατόν), έως θερμοκρασίαν -196°C , εξαρτωμένου του εις νίκελ περιεχομένου.

3.- ωστενίται χρωμιο-νικελιούχοι χάλυβες, 2Ι4.25Ι
έως θερμοκρασίαν -270°C . (Συνεχίζεται)

(β) αλουμίνιον καθαρότητας όχι κάτω του 99.5 ~~εκατ~~^{εκατ}, ή κράματα αλουμινίου (βλέπε περιθώριο 2Ι4.266)·

(γ) αποξειδωμένος χαλκός (DEOXIDIZED COPPER) καθαρότητας όχι κάτω του 99.9 ~~εκατ~~^{εκατ}, ή κράματα χαλκού έχοντα περιεχόμενον ~~σε~~^{σε} χαλκόν άνω του 56 ~~εκατ~~^{εκατ} (βλέπε περιθώριο 2Ι4.267).

(Ι) Τα δοχεία, δεξαμενές και κελύφη θα είναι 2Ι4.252
είτε άνευ ραφής είτε συγκολλημένα.

(2) Δοχεία του περιθωρίου 2207 κατασκευασμένα από ωστενίτη χάλυβα, από χαλκό ή κράμα χαλκού μπορούν εναλλακτικώς να υποβληθούν σε σκληρά συγκόλλησιμ.

Τα εξαρτήματα και παρακολουθήματα μπορούν είτε 2Ι4.253 να βιδώνωνται στα δοχεία, δεξαμενές και κελύφη είτε να στερεώνωνται ως κάτωθι:-

(α) δοχεία, δεξαμενές και κελύφη κατασκευασμένα από χάλυβα, αλουμίνιο και κράμα αλουμινίου: δια συγκολλήσεως·

(β) δοχεία, δεξαμενές και κελύφη κατασκευασμένα από ωστενίτη χάλυβα, χαλκό ή κράμα χαλκού/-: δια συγκολλήσεως ή σκληράς-συγκολλήσεως.

Η κατασκευή των δοχείων, δεξαμενών και κελυ- 2Ι4.254
φών και η σύνδεσίς των εις το όχημα στο από κάτω πλαίσιο (UNDERFRAME) ή εις το πλαίσιο του CONTAINER (Υποδοχέως) θα είναι τέτοια ώστε να αποκλείεται μετά βεβαιότητάς οια-

δὴποτε τριτάτη μείωσις τῆς θερμοκρασίας τῶν φερδόντων 2Ι4.254
το φορτίον συστατικῶν μερῶν ἡ ὁποία θὰ μπορούσε νὰ τὰ (Συνεχίζε-
καταστήσει εὐθραυστα. Τὰ μέσα συνδέσεως τῶν δοχείων, δε-
ταί)
ξαμενῶν καὶ κελυφῶν θὰ εἶναι ἔτσι κατασκευασμένα ὥστε
ἀκόμη καὶ εἰάν το δοχεῖον, ἡ δεξαμενὴ ἢ το κέλυφος εἶναι
στὴ χαμηλωτέρα θερμοκρασία λειτουργίας ἐξακολουθοῦν νὰ
ἔχουν τὶς ἀπαραίτητες μηχανικὲς ιδιότητες.

2Ι4.255-

2Ι4.264

Ι.- Υλικά, δοχεία, δεξαμενές καὶ κελύφη

(α) Χαλύβδινα δοχεία, δεξαμενές καὶ κελύφη (μπόμπες)

Τὰ υλικά τὰ χρησιμοποιούμενα γιὰ τὴ κατασκευὴ δοχείων 2Ι4.265
δεξαμενῶν καὶ κελυφῶν, καὶ τὰ πλαίσια συγκολλήσεως, πρέ-
πει στὴν χαμηλωτέρα θερμοκρασία λειτουργίας τῶν νὰ πλη-
ροῦν τουλάχιστον τοὺς παρακάτω ὁρους ὡς πρὸς τὴν ἀντοχὴν
κρούσεως.

Οἱ ἐλέγχοι μποροῦν νὰ διεξάγονται με τεμάχια-δοκιμῶν
ἔχοντα ἐγκοπὴν εἴτε σχήματος "U", εἴτε σχήματος "V".

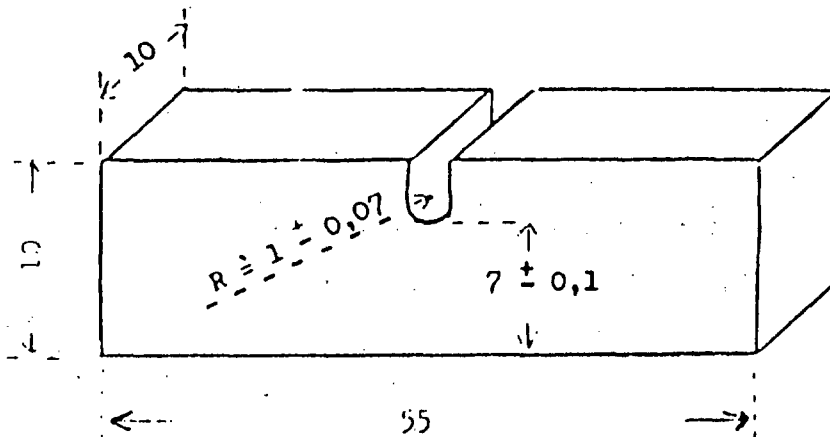
| Υ λ ι κ ὀ | Αντοχὴ κρούσεως 1/ 2/ φύλλου μετάλλου καὶ πλαισίων συγκολλή- σεως στὴ χαμηλωτέρα θερμοκρασία λειτουργίας | |
|---|---|------------------------|
| | KGM/CM ² 3/ | KGM/CM ² 4/ |
| Αμιγῆς καθησυχασμένους χάλυψ | 3.5 | 2.8 |
| Κράμα φερριτικού χάλυβος Ni<5% " " " 5% Ωστενιτικός CR-Ni χάλυψ | 3.5 4.5 4.0 | 2.2 3.5 3.2 |

1/ Αντοχὰ κρούσεως καθορίζομεναι με διάφορα τεμάχια
δοκιμῶν δὲν μποροῦν ἀμοιβαίως νὰ συγκριθοῦν.

2/ Βλέπε περιθώρια 2Ι4.275 ἕως 2Ι4.277.

- 3/ Οι τιμές αναφέρονται σε τεμάχια δοκιμών με εγχοπήν σχήματος "U" όπως εικονίζεται κατωτέρω.
- 4/ Οι τιμές αναφέρονται σε τεμάχια δοκιμών με εγχοπήν σχήματος "V" συμμορφωμένην προς την ISO R I48.

Σχήμα (βλ. 3295)



Στη περίπτωση ωστενιτινικών χάλυβων, μόνο το πλαίσιο συγκολλήσεως (WELD BEAD) χρειάζεται να υποβληθεί σε έλεγχο αντοχής κρούσεως.

Για θερμοκρασίες λειτουργίας κάτω των -196°C ο έλεγχος αντοχής κρούσεως δεν εκτελείται στη χαμηλότερα θερμοκρασία λειτουργίας, αλλά σε -196°C .

(β) Δοχεία, δεξαμενές και κελύφη κατασκευασμένα από αλουμίνιο ή κράμα αλουμινίου

Οι ραφές των δοχείων, δεξαμενών και κελυφών πρέπει σε θερμοκρασία του περιβάλλοντος να πληρούν τους κάτωθι δρους ως προς τον συντελεστήν κάμψεως:

Πάχος φύλλου

ε
σε mm (χιλ.)

Συντελεστής Κάμψεως K I/
για τη ραφή

Ρίζα σε
ζώνη συμπίεσεως

Ρίζα σε
ζώνη τάσεως

≤ 12
 ≥ 12 έως 20
 ≥ 20

≥ 15
 ≥ 12
 ≥ 9

≥ 12
 ≥ 10
 ≥ 8

I/ Βλέπε περιθώριο 2I4.285.

(γ) Φοχέλα, δεξαμενές και κελύφη κατασκευασμένα από χαλκό ή κράμα χαλκού

Δεν είναι απαράιτητος η διεξαγωγή δοκιμών προς καθορισμόν εάν η αντοχή κρούσεως είναι επαρκής. 2Ι4.267

2Ι4.268-

2Ι4.274

2.- Έλεγχοι (Δοκιμές)

(α) Έλεγχοι αντοχής-κρούσεως

Οι αντοχές κρούσεως οι οριζόμενες εις περιθώριο 2Ι4.275

2Ι4.265 αφορούν τεμάχια δοκιμών 10 X 10 MM (χιλ.) και με εγκοπήν σχήματος "U" ή σχήματος "V".

Παρατηρήσεις:-

1.- Αναφορικώς με το σχήμα του τεμαχίου δοκιμής, βλέπε περιθώριο 2Ι4.265 (πίναξ), σημειώσεις 3/ και 4/.

2.- Για φύλλα κάτω των 10 MM (χιλ.) αλλά όχι κάτω των 5 MM (χιλ.) πάχους, τεμάχια δοκιμών με εγκάρσια τομή 10 X ε MM, όπου "ε" παριστά το πάχος του φύλλου, θα χρησιμοποιούνται. Τέτοιοι έλεγχοι αντοχής κρούσεως γενικώς αποδίδουν υψηλότερας τιμές από ότι αποδίδουν τούτοις έλεγχοι επί βασικών (STANDARD) τεμαχίων δοκιμών. ✓

3.- Ουδείς έλεγχος αντοχής κρούσεως θα διεξάγεται επί φύλλων πάχους κάτω των 5 MM (χιλ.) ή επί των ραφών των.

(Ι) Για έλεγχο των φύλλων η αντοχή κρούσεως θα καθορίζεται επί τριών τεμαχίων δοκιμών. Τεμάχια δοκιμών με εγκοπήν σχήματος "U" θα λαμβάνωνται σε ορθές γωνίες προς την κατεύθυνσιν του ρολλαρίσματος/και τεμάχια δοκιμών με εγκοπήν σχήματος "V" εις την κατεύθυνσιν του ρολλαρίσματος (κυλινδροσυμπιέσεως). 2Ι4.276

(2) Για δοκιμή ραφών τα τεμάχια δοκιμών θα λαμβάνωνται ως κάτωθι:- 214.276

(Συνεχίζεται)

τα ως κάτωθι:-
 $\sigma_{\epsilon \leq 10}$

τρία τεμάχια δοκιμών εκ του κέντρου της συγκολλήσεως·
 τρία τεμάχια δοκιμών εκ της ζώνης της παραμορφώσεως της δημιουργημένης εκ της συγκολλήσεως (η εγκοπή θα είναι δλωσδιόλου έξωθι της λιωμένης περιοχής /MELTED AREA/ αλλά όσο το δυνατόν πλησιέστερον εις αυτήν)·

Σχήματα (επί 3298)

π.χ. σύνολον έξι τεμάχια δοκιμών. Κέντρον Ζώνη
 συγκολλήσεως Παραμορφώσεως

Τα τεμάχια δοκιμών θα έχουν έτσι κατεργασθεί μηχανικώς ώστε να έχουν το ανώτατον δυνατόν πάχος.

$10 < \epsilon \leq 20$

τρία τεμάχια δοκιμών εκ του κέντρου της συγκολλήσεως·
 τρία τεμάχια δοκιμών εκ της ζώνης παραμορφώσεως·

Σχήμα

Κέντρον Συγκολλήσεως

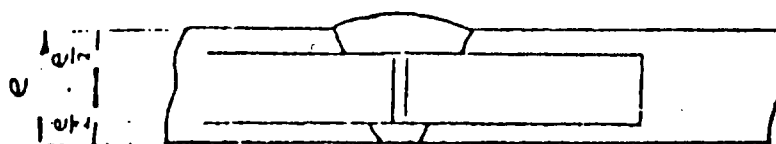
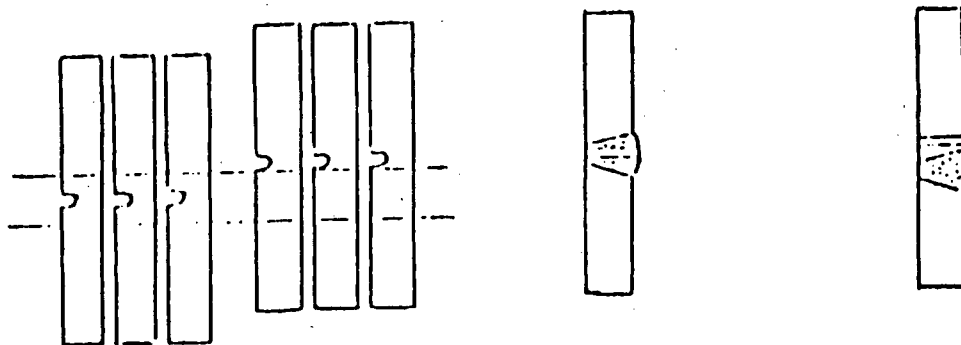
Σχήμα

Ζώνη παραμορφώσεως

π.χ. σύνολον έξι τεμάχια δοκιμών.

$\epsilon > 20$

Δύο σετ τριών τεμαχίων δοκιμών (ένα σετ στην άνω όψη, ένα σετ στη κάτω όψη) σε καθένα των κατωτέρω οριζομένων σημείων:



Centre of weld



Σχήμα

Κέντρον συγκολλήσεως

Σχήμα (661.5 3300)

Ζώνη παραμορφώσεως

π.χ. σύνολον δώδεκα τεμάχια δοκιμών.

(1) Για φύλλα, ο μέσος όρος των τριών δοκιμών θα 2Ι4.277
 πληροί τις κατώτατες τιμές τις οριζόμενες στο περιθώριο
 2Ι4.265* καμμία των τιμών δεν μπορεί να είναι περισσότερο
 από 30 ~~πτα~~ εκατό κάτω της εικονιζομένης ελαχίστης.

(2) Για συγκολλήσεις, οι λαμβανόμενες μέσες τιμές
~~από~~ τεμάχια δοκιμών των ληφθέντων ~~απ~~ διάφορα σημεία,
 κέντρον συγκολλήσεως και ζώνην παραμορφώσεως, θα αντιστοι-
 χούν προς τας οριζόμενας ελαχίστας (κατωτάτας) τιμές. Καμμία
 των τιμών δεν μπορεί να είναι περισσότερο από 30 ~~πτα~~ εκα-
 τό κάτω της οριζομένης ελαχίστης (κατωτάτης).

2Ι4.278-

2Ι4.284

(β) Καθορισμός συντελεστού κάμψεως

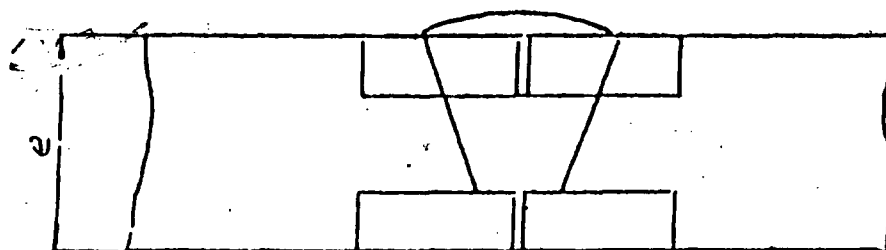
(1) Ο συντελεστής κάμψεως Κ ο αναφερόμενος εις περι- 2Ι4.285
 θώριον 2Ι4.266 καθορίζεται ως έπεται:-

$$K = 50 \frac{\epsilon}{R},$$

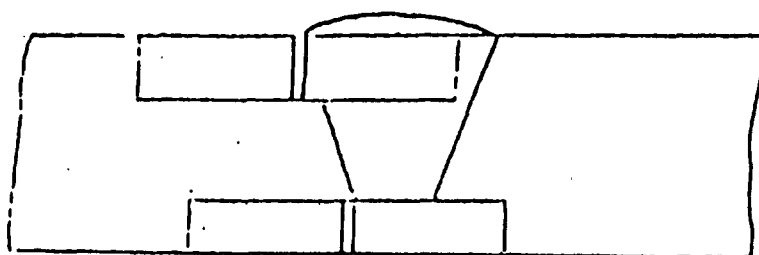
όπου ϵ = πάχος του φύλλου σε MM (χιλ.)* και

R = μέση ακτίς καμπυλότητος εις MM (χιλ.) του τεμαχίου
 δοκιμής όταν η πρώτη ρωγμή εμφανίζεται εις την ζώ-
 νην τάσεως.

(2) Ο συντελεστής κάμψεως Κ θα καθορίζεται για τις ραφές.
 Το πλάτος του τεμαχίου δοκιμής θα είναι ίσον προς 3 ε.



Centre of weld

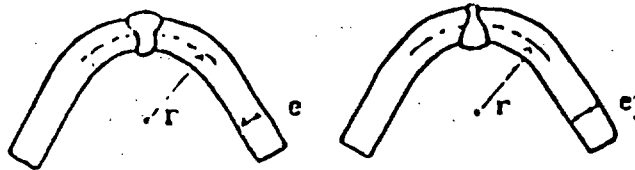


Zone of deformation

(3) Τέσσερες δοκιμές θα εκτελούνται στη ραφή, δύο 2Ι4.285 με τη ρίζα στη ζώνη συμπίεσεως (εικόν 1) και δύο με (Συνεχίζεται) τη ρίζα στη ζώνη τάσεως (εικόν 2). ~~Οι~~ λαμβανόμενες τιμές θα πληρούν τους όρους των κατωτέρων τιμών του περιθωρίου 2Ι4.266.

Εικόν 1

Εικόν 2



2Ι4.286-

2Ι9.999

Πρόσθήκη Β.2

ΗΛΕΚΤΡΙΚΟΣ ΕΞΟΠΛΙΣΜΟΣ

(1) Ο δωτισμός των οχημάτων θα είναι ηλεκτρικός. 220.000

(2) Ο ηλεκτρικός εξοπλισμός των οχημάτων θα πληροί τους κάτωθι όρους:-

Όροι διέποντες τον ηλεκτρικόν εξοπλισμόν ως σύνολον

(α) Συνδεσμολογία:- Οι αγωγοί πρέπει να είναι σε μεγάλην απόστασιν προς αποφυγήν υπερθερμάνσεως. Πρέπει να είναι καταλλήλως μονωμένοι. Τα κυκλώματα θα προστατεύονται κατά υπερβολικού ρεύματος με αντιστάσεις ή αυτομάτους διακόπτας. Η συνδεσμολογία θα είναι σταθερά συνδεδεμένη και τοποθετημένη κατά τρόπο που οι αγωγοί να προστατεύονται κατά των κρούσεων, εξεχόντων λίθων και της θερμότητος της εκπεμπομένης ~~από το~~ ^{από το} σύστημα εξατμίσεως.

(β) Συσσωρεύται:- Διακόπτης δια την διακοπήν όλων των ηλεκτρικών κυκλωμάτων θα τοποθετείται όσο το δυνα-

τόν πλησιέστερον στον συσσωρευτήν. Σύστημα απ' ευθείας 220.000
 ελέγχου ή τηλεχειριστήριο θα έχει εγκατασταθῇ εἰς τὴν ^(Συνεχίζεται)
 θέσιν του οδηγού και από έξω από το δχημα. Θα εἶναι ευ-
 χερῶς προσιτόν και θα σημειούται ευδιακρίτως. Ο διακρόπτης
 θα μπορεί να ανοίγεται ενδσω λειτουργεί η μηχανή χωρίς να
 προκαλείται επικίνδυνος διακύνανσις. Η ηλεκτρική τροφοδο-
 σία προς τον ταχογράφον μπορεί, εν τούτοις, να γίνεται δια
 κυκλώματος συνδεδεμένου απ' ευθείας με τον συσσωρευτήν. Η
 συσκευή αυτή και η εγκατάστασίς της θα εἶναι ουσιαστικῶς
 ασφαεῖς σε μίγμα αποτελούμενον από 20 ~~εκατ~~ εκατῶ υδρογόν-
 νον και 80 ~~εκατ~~ εκατῶ αέρα. Εάν οι συσσωρευτές εἶναι το-
 ποθετημένοι σε άλλο σημείο και ὄχι κάτω από το καπό της μη-
 χανῆς, θα ασφαρίζονται εντός θήκης με ὀπές αερίσμου, μεταλ-
 λικῆς ή ἄλλου υλικού ισοδυνάμου αντοχῆς, με μονωμένα εσω-
 τερικά τοιχώματα.

Όροι διέποντες το τμήμα του ηλεκτρικού εξοπλισμοῦ το κει-
 μενον ὀπισθεν της θέσεως του οδηγού

(γ) Το σύνολο του εξοπλισμοῦ αὐτοῦ θα εἶναι ἔτσι σχε-
 διασμένο, εγκατεστημένο και προφυλαγμένο ὥστε να μη μπορεί
 να προκαλέσει ανάφλεξις ή βραχυκυκλωμα υπό ομαλᾶς συνθή-
 κας χρήσεως των οχημάτων και να ελαττώνει εἰς το ελάχιστον
 τον κίνδυνον της αναφλέξεως ή του βραχυκυκλώματος ~~δὲ~~ περί-
 πτώσεως κρούσεως ή στρεβλώσεως.

Εἰδικώτερον:-

I.- Συνδεσμολογία

Οι αγωγοί (βλέπε 2 (α)) θα αποτελούνται από
 καλώδια προστατευόμενα από περιβλήματα άνευ ραφῆς και στε-
 γανᾶ κατὰ της σκωριάσεως.

2.- Φωτισμός

220.000

Βιδωτές λυχνίες δεν θα χρησιμοποιούνται.

(Συνεχίζεται)

Εάν οι φανοί (λαμπτήρες) εις την καρδότσα του οχήματος δεν είναι σταθεροποιημένοι σε μέρη των τοιχωμάτων ή της οροφής εις τρόπον ώστε να προστατεύονται κατά οιασδήποτε μηχανικής βλάβης, πρέπει να προστατεύονται με έναν γερό κλωβό ή δικτυωτό.

220.001

Τα εύφλεκτα αέρια και είδη της Κλάσεως 2

220.002

των οποίων η μεταφορά δεν εξαιρείται δυνάμει των διατάξεων του περιθωρίου 2Ι.25Ι ~~από την εφαρμογή~~ των όρων του περιθωρίου 220.000 είναι τα κάτωθι:-

(α) Πεπιεσμένα αέριαΥδρογόνο ($1^{\circ}(\beta)$)Μεθάνιο ($1^{\circ}(\beta)$)Μονοξείδιο του άνθρακος ($1^{\circ}(\beta \text{ T})$)Μίγματα αερίων $2^{\circ}(\beta)$ Συνθετικά αέρια ($2^{\circ}(\beta \text{ T})$)Φωταέριο ($2^{\circ}(\beta \text{ T})$)Υγραέριο ($2^{\circ}(\beta \text{ T})$)(β) Υγροποιημένα αέριαΒουτάνιον ($3^{\circ}(\beta)$)Βουτυλένιον ($3^{\circ}(\beta)$)Κυκλοπροπάνιο ($3^{\circ}(\beta)$)Ισοβουτυλένιο ($3^{\circ}(\beta)$)Προπάνιο ($3^{\circ}(\beta)$)Ισοβουτάνιο ($3^{\circ}(\beta)$)

- Προπυλένιο (3^ο (β))
 Αιθυλοχλωρίδιο (3^ο (β Τ))
 Μεθυλοχλωρίδιο (3^ο (β Τ))
 Διμεθυλαιθέρας (3^ο (β Τ))
 Υδροθειο (3^ο (β Τ))
 Αιθυλαμίνη (3^ο (β Τ))
 Μεθυλαμίνη (3^ο (β Τ))
 Τριμεθυλαμίνη (3^ο (β Τ))
 Μεθυλιομερκαπτάνη (3^ο (β Τ))
 Βουταδιένη (3^ο (γ))
 Βινυλχλωρίδιο (3^ο (γ))
 Βινυβρωμίδιο (3^ο (γ Τ))
 Χλωροκυανίδιο (3^ο (γ Τ))
 Αιθυλενοξειδίο (3^ο (γ Τ))
 Αεριώδη μίγματα Α, ΑΟ, ΑΛ, Β ή Γ (4^ο (β))
 Αιθάνιο (5^ο (β))
 Αιθυλένιο (5^ο (β))
 (γ) Αζαν-ψυγμένα υγροποιημένα αέρια
 Τα αέρια της 7^ο (β) και 8^ο (β)
 (δ) Αέρια διαλυόμενα υπό πίεσιν
 Ακετυλένιο (9^ο (γ))
 (ε) Είδη περιέχοντα αέριο
 Διανεμητά Αεροζόλ (AEROSOL DISPENSERS)
 της 10^ο, (β) και (β Τ)

220.002

(Συνεχίζε-
ται)

220.003-

229.999

Προσθήκη Β.3

(βλέπε περιθώριο ΙΟ.Ι82)

| | |
|--|---------|
| ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΕΓΚΡΙΣΕΩΣ ΓΙΑ ΟΧΗΜΑΤΑ ΜΕΤΑ- | 230.000 |
| ΦΕΡΟΝΤΑ ΩΡΙΣΜΕΝΑ ΕΠΙΚΙΝΔΥΝΑ ΕΙΔΗ (ΕΜ/ΤΑ) | 239.999 |

I.- ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ Αρ.

- 2.- πιστοποιούν ότι το κατωτέρω οριζόμενο όχημα πληροί τους όρους τους προβλεπομένους υπό της Ευρωπαϊκής Συμφωνίας περί Διεθνούς Μεταφοράς Επικινδύνων Ειδών (Εμ/των) Οδικώς (ADR) για την αποδοχή του για τη διεθνή μεταφορά επικινδύνων ειδών (εμ/των) οδικώς.
- 3.- Ισχύει μέχρι
- 4.- Το παρόν πιστοποιητικόν πρέπει να επιστραφεί εις την εκδούσαν υπηρεσίαν όταν το όχημα αποσυρθεί της υπηρεσίας· εάν το όχημα μεταβιβασθεί εις άλλον ιδιοκτήτην· κατά την λήξιν της ισχύος του πιστοποιητικού· και εάν υπάρχει ουσιώδης αλλαγή σε ένα ή περισσότερα βασικά χαρακτηριστικά του οχήματος.
- 5.- Τύπος οχήματος: κλειστό όχημα, ανοικτό όχημα, βυτιοφόρο μετά/άνευ κλειστού/ανοικτού ρυμουλκουμένου οχήματος/ημι-ρυμουλκουμένου οχήματος (διαγράψατε λέξεις που δεν έχουν εφαρμογήν)
- 6.- Ονοματεπώνυμο και εμπορική διεύθυνση μεταφορέως (ιδιοκτήτη)
- 7.- Αριθμός/Εγγραφής/Κυκλοφορίας (εάν όχι: αριθμός σασσί)

- 8.- Το ανωτέρω περιγραφόμενο οχήμα έχει υποβληθεί εις
 την επιθεώρησιν την προβλεπομέ-
 νην υπό της ADR, Παράρτημα B, περιθώριο IO.182 και
 πληροί τους όρους που απαιτούνται για την αποδοχή του
 για τη διεθνή μεταφορά οδικώς επικινδύνων ειδών (εμπο-
 ρευμάτων) των Κλάσεων
 αριθμός ειδών
- 9.- Παρατηρήσεις
- 10.- 19..

11.- Υπογραφή και σφραγίς εκδόσης
 υπηρεσίας εν

12.- Η ισχύς του παρόντος πιστοποιητικού παρατείνεται μέ-
 χρι

13.- Υπογραφή και σφραγίς εκδόσης
 υπηρεσίας εν

14.- Η ισχύς του παρόντος πιστοποιητικού παρατείνεται μέ-
 χρι

15.- Υπογραφή και σφραγίς εκδόσης
 υπηρεσίας εν

16.- Η ισχύς του παρόντος πιστοποιητικού παρατείνεται μέ-
 χρι

17.- Υπογραφή και σφραγίς εκδόσης
 υπηρεσίας εν

Παρατηρήσεις:- I.- Οι διαστάσεις του πιστοποιητικού θα
 είναι 210 X 297 MM (χιλ.) (σχήμα A4). Τόσο η προσθία όσο
 και η οπισθία σελίδα θα χρησιμοποιηθούν. Το χρώμα θα είναι
 λευκό, με ροδόχρουν διαγώνιον λωρίδα.

2.- Κάθε ρυμουλκούμενο όχημα θα αποτελεί το αντικείμενο χωριστού πιστοποιητικού εκτός εάν καλύπτεται υπό του πιστοποιητικού του οχήματος με το οποίο είναι συζευγμένο.

3.- Οσάκις πιστοποιητικόν εκδίδεται συμφώνως προς το άρθρο 4, παράγραφος 2, της Συμφωνίας σε όχημα του οποίου η κατασκευή δεν πληροί εξ ολοκλήρου τους όρους του Παραρτήματος "B", η ισχύς του πιστοποιητικού δεν θα παρατείνεται πέραν της διάρκειας της ανακήρυξης της παρεχομένης υπό του ρηθέντος άρθρου 4, επιφυλασσομένων οσάκις θεωρείται ενδεδειγμένον των διατάξεων των περιθωρίων II.605, 2I.605, 3I.605 και 6I.605* και το κείμενον της παραγράφου 8 του πιστοποιητικού της εγκρίσεως θα αντικαθίσταται δια των κάτωθι:- "Το ανωτέρω περιγραφόμενον όχημα δεν πληροί εξ ολοκλήρου τους όρους του Παραρτήματος "B", αλλά δικαιούται του ευεργετήματος των διατάξεων του άρθρου 4, παράγραφος 2, της Συμφωνίας".

Προσθήκη Β.4

Πίνακες αφορώντες την μεταφορά επικινδύνων υλών της Κλάσεως 7°
Ετικέττα που θα τοποθετείται στα οχήματα που μεταφέρουν αυτές
τις ύλες.

Οι κατώτατες αποστάσεις οι οριζόμενες στον κατωτέρω πίνα- 240.000
κα μεταξύ των ραδιενεργών υλών και των χώρων των οχημάτων
των φυλασσομένων για τον οδηγό και το συνοδευόν αυτόν προ-
σωπικό είναι σύμφωνα με τις διατάξεις του περιθωρίου
3659(8)

Ολικόν ποσόν
δείκτου μεταφοράς

Κατώτατες αποστάσεις σε μέτρα, προστατευ-
τικό υλικό δεν παρεμβάλλεται, από τα εν-
δικοιτήματα ή τον κανονικώς καταλαμβανόμε-
νον χώρο εργασίας

Ισχύοντα στοιχεία στη περίπτωση χρόνου εκ-
θέσεως μη υπερβαίνοντος τις 250 ώρες ετη-
σίως

| | | |
|-----------|---|-----|
| Κάτω των | 2 | 1.0 |
| 2 έως 4 | | 1.5 |
| 4 έως 8 | | 2.5 |
| 8 έως 12 | | 3.0 |
| 12 έως 20 | | 4.0 |
| 20 έως 30 | | 5.0 |
| 30 έως 40 | | 5.5 |
| 40 έως 50 | | 6.5 |

Οι κατώτατες αποστάσεις ασφαλείας οι αναφερόμενες στο 240.001 περιθώριο 3657 για τη φόρτωση και αποθήκευση κδλων τα οποία φέρουν ετικέττα "FOTO" ομού μετά των κδλων της Κατηγορίας II - ΚΙΤΡΙΝΟΝ ή Κατηγορίας III - ΚΙΤΡΙΝΟΝ δίδονται στον παρακάτω πίνακα.

Αποστάσεις χωρισμού για τη φόρτωση και την αποθήκευση κδλων τα οποία φέρουν ετικέττα με την λέξη FOTO ομού μετά των κδλων των Κατηγοριών II - ΚΙΤΡΙΝΟΝ ή III ΚΙΤΡΙΝΟΝ

| Ολικόν ποσόν/ποσότης (SUM) των κδλων της κατηγορίας | | Ολικόν Ποσόν του δελτίου μεταφοράς | Διάρκεια ταξειδίου ή αποθηκεύσεως σε ώρες | | | | | | | |
|---|-------------|------------------------------------|---|---|---|----|----|----|-----|-----|
| ΚΙΤΡΙΝΟΝ III | ΚΙΤΡΙΝΟΝ II | | I | 2 | 4 | 10 | 24 | 48 | 120 | 240 |

Κατώταται αποστάσεις σε μέτρα

| | | | | | | | | | | |
|---|----|-----|-----|-----|-----|-----|----|----|----|----|
| | | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 | I | I | 2 | 3 |
| | | 0.5 | 0.5 | 0.5 | 0.5 | I | I | 2 | 3 | 5 |
| I | | I | 0.5 | 0.5 | I | I | 2 | 3 | 5 | 7 |
| 2 | | 2 | 0.5 | I | I | I.5 | 3 | 4 | 7 | 9 |
| 4 | | 4 | I | I | I.5 | 3 | 4 | 6 | 9 | 13 |
| 8 | | 8 | I | I.5 | 2 | 4 | 6 | 8 | 13 | 18 |
| I | 10 | 10 | I | 2 | 3 | 4 | 7 | 9 | 14 | 20 |
| 2 | 20 | 20 | I.5 | 3 | 4 | 6 | 9 | 13 | 20 | 30 |
| 3 | 30 | 30 | 2 | 3 | 5 | 7 | 11 | 16 | 25 | 35 |
| 4 | 40 | 40 | 3 | 4 | 5 | 8 | 13 | 18 | 30 | 40 |
| 5 | 50 | 50 | 3 | 4 | 6 | 9 | 14 | 20 | 32 | 45 |

240.002-

240.009

Η ετικέττα η οποία θα τοποθετείται εις τα τοι- 240.010

χώματα των οχημάτων συμφώνως προς τις διατάξεις του περιθωρίου 3659(6) θα συμμορφούνται προς το παρακάτω μοντέλο:-

RADIOACTIVE : ΡΑΔΙΕΝΕΡΓΟΝ

(Κατώτατο μήκος πλευράς: 15 CM (εκ.))

Σύμβολο και επιγραφή μαύρα σε λευκό φόντο (βλ. βλ. 3310)

240.011

249.999

Προσθήκη Β.5

ΚΑΤΑΣΤΑΣΙΣ ΥΛΩΝ ΑΝΑΦΕΡΟΜΕΝΩΝ ΕΙΣ ΠΕΡΙΘΩΡΙΟΝ 10.500 (2)

ΠΑΡΑΤΗΡΗΣΙΣ·

- Το πρώτο νούμερο του αριθμού προσδιορισμού του κινδύνου ορίζει τον βασικόν (αρχικόν) κίνδυνον ως έπεται:-

2.-Αέριον

5.- Οξειδωτική ύλη ή οργανικόν

3.-Ευφλεκτον Υγρόν

υπεροξειδίου

4.-Ευφλεκτον Στερεόν

6.- Τοξικές Ύλες.

8.- Διαβρωτικές

- Το δεύτερο και τρίτο νούμερο προσδιορίζουν δευτερεύοντα κινδύνους:-

0.-ουδεμία σημασία

6.- τοξικός κίνδυνος

1.-κίνδυνος εκρήξεως

8.- κίνδυνος διαβρώσεως

2.-ενδέχεται να ανα-
δίδει αέριον9.- κίνδυνος βίαιας αντιδράσεως από
στιγματιαν αποσύνθεσιν ή αυτο-
πολυμερισμόν3.-κίνδυνος ευφλέκτου
ύλης

5.-κίνδυνος οξειδώσεως

- Οσάκις το πρώτο και δεύτερο νούμερο είναι το ίδιο, μία έντασις του βασικού κινδύνου σημειούται, ήτοι:

33 σημαίνει υψηλώς (λίαν) εύφλεκτον υγρόν (σημείον αναφλέξεως κάτω των 21°C). 66 σημαίνει λίαν επικίνδυνος τοξική ύλη. 88 σημαίνει λίαν επικίνδυνος διαβρωτική ύλη.

Οσάκις τα δύο πρώτα νούμερα είναι 22, καθορίζεται φυγμένον αέριον. Ο συνδυασμός 42 καθορίζει στερεόν το οποίον αναδίδει αέριο σε επαφή με το νερό.

- Οσάκις του αριθμού προσδιορισμού του κινδύνου προηγείται το γράμμα "X", τούτο σημαίνει απόλυτον απαγόρευσιν εφαρμογής νερού επί του προϊόντος.

Οι ύλες οι αναφερόμενές στο περιθώριο I0.500(2)

απαριθμούνται κατωτέρω:-

250.000

| Ονομασία Ύλης | Κλάσις και αριθμός Είδους | Αριθμός Προσδιορισμού Κινδύνου (άνω μέρος) (γ) | Αριθμός Προσδιορισμού Ύλης (κάτω μέρος) (δ) |
|---------------|---------------------------|--|---|
| (α) | (β) | | |

A

| | | | |
|--|------------------------|----|------|
| Ακετάλη (L, L-διεθοξυαιθάνιο) | 3, I ⁰ (α) | 33 | I088 |
| Ακεταλδεΰδη | 3, 5 ⁰ | 33 | I089 |
| Οξικό οξύ, παχόμορφο (και τα υδάτινα διαλύματά του περιέχοντα άνω του 80 ⁰ /ο καθαρό οξύ) | 8, 2I ⁰ (γ) | 83 | I842 |
| Οξικός Ανυδρίτης | 8, 2I ⁰ (ε) | 83 | I7I5 |
| Ακετόνη | 3, 5 ⁰ | 33 | I090 |
| Ακετόνη κυανιδρίνη (βλέπε 2-κυανοπροπάνιο-2-OL) | | | |

| (α) | (β) | (γ) | (δ) |
|--|--------------------------|-----|------|
| Ακετονιτρίλιο | 6.Ι, 2 ⁰ (β) | 633 | Ι648 |
| Ακετυλοχλωρίδιο | 8, 22 ⁰ | 83 | Ι7Ι7 |
| Ακρυλαδεϋδη | 3, Ι ⁰ (α) | 336 | Ι092 |
| Ακρυλονιτρίλιο | 6.Ι, 2 ⁰ (α) | 633 | Ι093 |
| Αήρ | 2, 8 ⁰ (α) | 22 | Ι003 |
| Οινόπνευμα (βλέπε αιθανόλη) | | | |
| Αλλυλική αλκοόλη | 6.Ι, Ι3 ⁰ (α) | 63 | Ι098 |
| Αμμωνία | 2, 3 ⁰ (α T)) | 268 | Ι005 |
| Αμμωνία, διαλυομένη στο ύδωρ, με άνω του 35 ⁰ /ο αλλά όχι άνω του 40 ⁰ /ο αμμωνία κατά βάρος | 2, | 268 | 2073 |
| Αμμωνία, διαλυομένη στο ύδωρ, με άνω του 40 ⁰ /ο αλλά όχι άνω του 50 ⁰ /ο αμμωνία κατά βάρος | 2, 9 ⁰ (α T) | 268 | 2073 |
| Οξικός αμυλεστέρας (βλέπε οξι- κό πεντόλιο) | | | |
| Αλκοόλαι αμυλίου (πλην της τρι- τοταγούς αλκοόλης) | 3, 3 ⁰ | 30 | ΙΙ05 |
| Τριτοταγής αλκοόλη | 3, Ι ⁰ (α) | 33 | ΙΙ05 |
| Ανιλίνη | 6.Ι, ΙΙ ⁰ (β) | 60 | Ι547 |
| Πενταχλωριούχο αντιμόνιο | 8, ΙΙ ⁰ (α) | 80 | Ι730 |
| Αργό (ψυγμένο) | 2, 7 ⁰ (α) | 22 | Ι95Ι |
| <u>B</u> | | | |
| Βένζαλδεϋδη | 3, 4 ⁰ | 30 | Ι990 |
| Βενζόλιο | 3, Ι ⁰ (α) | 33 | ΙΙΙ4 |
| Βενζυλοχλωρίδιο | 8, 22 ⁰ | 83 | Ι736 |
| Βρώμιο | 8, Ι4 ⁰ | 886 | Ι744 |

| (α) | (β) | (γ) | (δ) |
|---|-------------------------|-----|-------|
| Ι,3 Βουταδιένιο | 2,3 ⁰ (γ) | 239 | ΙΟΙΟ |
| Βουτάνιο | 2,3 ⁰ (β) | 23 | ΙΟΙΙ |
| Βουταν-Ι-οL-(βουτυλική αλκοόλη, κανονική) | 3, 3 ⁰ | 30 | ΙΙ 20 |
| Βουταν-2-οL (σεκ, βουτυλική αλ- κοόλη) | 3, 3 ⁰ | 30 | ΙΙ 2Ι |
| Τρίτοταγής βουτανόλη | 3, 5 ⁰ | 33 | ΙΙ 22 |
| N-οξικό βουτύλιο | 3, 3 ⁰ | 30 | ΙΙ 23 |
| σεκ-οξικό βουτύλιο | 3, Ι ⁰ (α) | 33 | ΙΙ 24 |
| N-βουτυλική αλκοόλη (βλέπε βου- ταν-Ι-οL) | | | |
| σεκ-βουτυλική αλκοόλη (βλέπε βου- ταν-2-οL) | | | |
| Βουτυλαμίνη | 3, 5 ⁰ | 338 | ΙΙ 25 |
| N-βουτυλοχλωρίδιο (βλέπε ΙΙ-χλω- ροβουτάνιο) | | | |
| Ι-βουτελένιο | 2, 3 ⁰ (β) | 23 | ΙΟΙ2 |
| Βουτυραλδεΰδη | 3, Ι ⁰ (α) | 33 | ΙΙ 29 |
| Γ | | | |
| Διάλυμα χλωρικού ασβεστίου | 5.Ι,4 ⁰ (α) | 50 | 2429 |
| Διοξείδιο του άνθρακος | 2, 5 ⁰ (α) | 20 | ΙΟΙ3 |
| Διοξείδιο του άνθρακος, υγρό (ψυγμένο) | 2, 7 ⁰ (α) | 22 | 2Ι87 |
| Διθειάνθραξ | 3, Ι ⁰ (α) | 336 | ΙΙ 3Ι |
| Φωσγένιο (βλέπε φωσγένιο) | | | |
| Χλώριο | 2, 3 ⁰ (α T) | 266 | ΙΟΙ7 |
| Μονοχλωροβενζόλιο | 3, 3 ⁰ | 30 | ΙΙ 34 |

| (α) | (β) | (γ) | (δ) |
|---|---------------------------|-----|-------|
| I-Χλωροβουτάνιο (βουτυλιοχλωρίδιο) | 3, I ⁰ (α) | 33 | II 27 |
| Χλωροδιφθορομεθάνιο (R22) | 2, 3 ⁰ (α) | 20 | IOI8 |
| I-Χλωρο-2, 3-εποξίπροπάνιο (επιχλωρυδρίνη) | 6, I, I2 ⁰ (α) | 663 | 2023 |
| 2-χλωροαιθανόλη (βλέπε γλυκολική χλωρυδρίνη) | | | |
| Χλωροπρένιο | 3, I ⁰ (α) | 336 | I99I |
| Χλωροσουλφονικό οξύ | 8, II ⁰ (α) | 88 | I754 |
| Χλωροτριφθορομεθάνιο (RI3) | 2, 5 ⁰ (α) | 20 | IO22 |
| Κρεζόλη | 6, I, 22 ⁰ (α) | 60 | 2076 |
| Κυμένιον | 3, 3 ⁰ | 30 | I9I8 |
| Διαλύματα, ανοργάνων, κυανιδίων | 6, I, 3I ⁰ (β) | 66 | I935 |
| 2-Κυανοπροπάνιο-2-οL (ακετόνη κυανυδρίνη) | 6, I, II ⁰ (α) | 66 | I54I |
| Κυκλοεξάνιο | 3, I ⁰ (α) | 33 | II45 |
| Κυκλοεξανόλη | 3, 3 ⁰ | 30 | I9I5 |
| Κυκλοεξάνιο | 3, I ⁰ (α) | 33 | 2256 |
| Κυκλοπεντάνιο | 3, I ⁰ (α) | 33 | II46 |
| Κυκλοπροπάνιο | 2, 3 ⁰ (β) | 23 | IO27 |
| <u>Δ</u> | | | |
| Δεκαϋδροναφθαλινη | 3, 3 ⁰ | 30 | II47 |
| Διακετοναλκοόλη, τεχνική | 3, 5 ⁰ | 33 | II48 |
| I, 2-Διαμινοαιθάνιο (αιθυλενοδια- μίνη) | 8, 35 ⁰ | 83 | I604 |
| I, 6-Διαμινοεξάνιο (εξαμεθυλενοδια- μίνη) | 8, 35 ⁰ | 80 | I783 |

| (α) | (β) | (γ) | (δ) |
|--|--------------------------|-----|------|
| I,2-Διχλωροδιφθορομεθάνιο (RI 2) | 2, 3 ⁰ (α) | 20 | I028 |
| I,2-Διχλωροαιθάνιο | 3, I ⁰ (α) | 336 | II84 |
| Διχλωροφθορομεθάνιο (R2I) | 2, 3 ⁰ (α) | 20 | I029 |
| Διχλωρομονοφθορομεθάνιο (βλέπε διχλωροφθορομεθάνιο) | | | |
| Διχλωροπροπένιο | 3, 3 ⁰ | 36 | 2047 |
| I,2-Διχλωρο-I, I,2 2-τετραφθοροαιθάνιο (R.II 4) | 2, 3 ⁰ (α) | 20 | I958 |
| I,I-Διεθοξυαιθάνιο (βλέπε ακετάλη) | | | |
| Διαιθυλαμίνη | 3, 5 ⁰ | 338 | II54 |
| Διεθυλοβενζόλιο | 3, 4 ⁰ | 30 | 2049 |
| Διεθυλαιθέρας (θειϊκός αιθέρας) | 3, I ⁰ (α) | 33 | II55 |
| Δι-ισοπροπυλαιθέρας | 3, I ⁰ (α) | 33 | II59 |
| 2,2-Διμεθυλοβενζυλιοϋπεροξειδίο | 5.2, IO ⁰ | 539 | 2II6 |
| Ανθρακικό αιθάνιο | 3, I ⁰ (α) | 33 | II6I |
| Διμεθυλαιθέρας | 2, 3 ⁰ (β.T) | 23 | I033 |
| Διμεθυλοθειϊκό άλας (DIMETHYL SULPHATE) | 6.I, I3 ⁰ (β) | 663 | I595 |
| Διοξάνη (DIOXANE) | 3, 5 ⁰ | 336 | II65 |
| Διχλωριούχον δισθειον (DISULPHUR DICHLORIDE) | 8, II ⁰ (α) | 886 | I828 |

E

Επιχλωρυδρίνη (βλέπε
I-χλωρο-2,3-εποξυπροπάνιο)

| | | | |
|---|-----------------------|-----|------|
| Αιθανεθιδόλη (αιθυλομερκαπτάνη) | 3, I ⁰ (α) | 336 | 2363 |
| Αιθανόλη (αιθυλική αλκοόλη, αλκοόλη) | 3, 5 ⁰ | 33 | II70 |

| (α) | (β) | (γ) | (δ) |
|--|--------------------------|-----|------|
| Οξικόν εθοξυαιθύλιον | 3, 3 ⁰ | 30 | II72 |
| Οξικόν Αιθύλιον (οξικός εστέρας) | 3, 1 ⁰ (α) | 33 | II73 |
| Ακρυλικό Αιθύλιον (ETHYL ACRYLATE) | 3, 1 ⁰ (α) | 339 | I9I7 |
| Αιθυλική Αλκοόλη (βλέπε αιθανόλη) | | | |
| Αιθυλικό βενζόλιο | 3, 1 ⁰ (α) | 33 | II75 |
| Αιθυλοχλωρίδιο | 2, 3 ⁰ (β T) | 23 | IO37 |
| Αιθυλένιον | 2, 5 ⁰ (β) | 23 | I962 |
| Αιθυλένιον (ψυγμένο) | 2, 7 ⁰ (β) | 223 | IO38 |
| Αιθυλενοδιαμίνη (βλέπε I, 2-διαμινοαιθάνιο) | | | |
| Μυρμηκικό Αιθυλεστέρας | 3, 1 ⁰ (α) | 33 | II90 |
| Αιθυλομερκαπτάνη (βλέπε αιθενεθιόλη) | | | |
| Πυριτικό Αιθύλιον (βλέπε πυριτικόν τετρααιθύλιον) | | | |
| <u>Φ</u> (F) | | | |
| Φθοριοβορικό οξύ (υδάτινα διαλύματα περιέχοντα όχι άνω του 78 ⁰ /ο καθαρού οξέος) | 8, 7 ⁰ | 88 | I775 |
| Μυρμηκικό οξύ (περιέχον όχι κάτω του 70 ⁰ /ο καθαρού οξέος) | 8, 21 ⁰ (β) | 80 | I779 |
| Φουρφουραλδεΐδη | 3, 4 ⁰ | 36 | II99 |
| <u>Γ</u> (Z) | | | |
| Γλυκολική χλωροϋδρίνη (2-χλωροαιθανόλη) | 6.I, 12 ⁰ (β) | 66 | II35 |
| <u>Η</u> | | | |
| Εξαμεθυλενοδιαμίνη (βλέπε I, 6-διαμινοεξάνιο) | | | |

| (α) | (β) | (γ) | (δ) |
|---|-------------------------|-----|------|
| Υδραζίνη σε υδάτινα διαλύματα περιέχοντα όχι άνω του 72 ^ο /ο υδραζίνη:- | | | |
| - διαλύματα περιέχοντα άνω του 64 ^ο /ο | 8, 34 ^ο | 86 | 2029 |
| - διαλύματα περιέχοντα όχι άνω του 64 ^ο /ο | 8, 34 ^ο | 86 | 2030 |
| Υδροβρωμικό οξύ, άνυδρο (βλέπε υδροβρώμιο) | | | |
| Διαλύματα υδροβρωμικού οξέος | 8, 5 ^ο | 88 | 1788 |
| Υδρογονάνθρακες, υγροί, καθα- ροί ή σε μίγματα, μη άλλως οριζόμενοι στη Προσθήκη αυτή:- | | | |
| - με σημείο αναφλέξεως κάτω των 21 ^ο C | 3, 1 ^ο (α) | 33 | 1203 |
| - με σημείο αναφλέξεως μεταξύ 21 ^ο C και 55 ^ο C | 3, 3 ^ο | 30 | 1223 |
| - με σημείο αναφλέξεως άνω των 55 ^ο C | 3, 4 ^ο | 30 | 1202 |
| Μίγματα αερίων υδρογονανθράκων, Α, ΑΟ, ΑΛ, Β και Γ (υγροποιη- μένα) | 2, 4 ^ο (β) | 23 | 1965 |
| Υδροχλωρικό οξύ, άνυδρο (βλέπε υδροχλώριο, υγροποιημένο) | | | |
| Διαλύματα υδροχλωρικού οξέος | 8, 5 ^ο | 88 | 1789 |
| Υδροκυάνιο, διαλύματα (περιέχοντα όχι άνω του 20 ^ο /ο υδροκυαν- ίου) | | | |
| | 6.1, 1 ^ο (β) | 66 | 1613 |
| Υδροφθορικό οξύ, υδάτινα διαλύ- ματα περιέχοντα άνω του | | | |

| (α) | (β) | (γ) | (δ) |
|--|------------|-----|------|
| 85°/ο καθαρό οξύ — | 8, 6°(β) | | |
| Υδροφθορικό οξύ, υδάτινα διαλύμα- τα περιέχοντα άνω του 60°/ο αλλά όχι/του 85°/ο καθαρό οξύ | 8, 6°(γ) | 886 | 1790 |
| Υδροφθορικό οξύ, υδάτινα διαλύμα- τα περιέχοντα όχι άνω του 60°/ο καθαρό οξύ | 8, 6°(δ) | | |
| Υδροφθορικό οξύ, άνυδρο (βλέπε υδροφθόριο) | | | |
| Υδροβρώμιο | 2, 3°(α T) | 286 | 1048 |
| Υδροχλώριο | 2, 5°(α T) | 286 | 1050 |
| Υδροφθόριο (άνυδρο υδροφθορικό οξύ) | 8, 6°(α) | 886 | 1052 |
| Διαλύματα υπεροξειδίου του υδρο- γόνου: | | | |
| - περιέχοντα άνω του 40°/ο αλλά όχι άνω του 60°/ο υπερο- ξειδίου του υδρογόνου | 8, 41°(α) | 85 | 2014 |
| - περιέχοντα άνω του 6°/ο αλλά όχι άνω του 40°/ο υπεροξει- δίου του υδρογόνου | 8, 41°(β) | 85 | 2014 |
| Υπεροξειδιο του υδρογόνου και δια- λύματα υπεροξειδίου του υδρο- γόνου περιέχοντα άνω του 60°/ο υπεροξειδίου του υδρο- γόνου | 5.1, 1° | 559 | 2015 |
| Υποχλωριώδη διαλύματα | | | |
| - περιέχοντα άνω των 50 GM δια- θεσίμου χλωρίου ανά λίτρο | 8, 37°(α) | 85 | 1791 |

| (α) | (β) | (γ) | (δ) |
|---|-----------|-----|------|
| - περιέχοντά όχι άνω των 50GM διαθεσίμου χλωρίου ανά λίτρο | 8, 37°(β) | 85 | I79I |
| <u>I</u> | | | |
| Ισοβουτάνιο | 2, 3°(β) | 23 | I969 |
| Οξιικόν ισοβουτύλιον | 3, I°(α) | 33 | I2I3 |
| Ισοβουτυλένιον | 2, 3°(β) | 23 | I055 |
| Ισοπρένιον (μεθυλοβουταδιένιον) | 3, I°(α) | 339 | I2I8 |
| Ισοπροπανόλη (βλέπε προπάνιον-2-OL) | | | |
| Ακετικόν ισοπροπύλιον | 3, I°(α) | 33 | I220 |
| Ισοπροπυλική αλκοόλη (βλέπε προ- πάνιο-2-OL) | | | |
| Ισοπροπυλαμίνη | 3, 5° | 338 | I22I |
| <u>Λ</u> | | | |
| Ιλαρυντικό (γελαστικό) αέριο (βλέπε υδροξείδιον του αζώ- του) | | | |
| Αλικύλια μολύβδου, μίγματα με αλο- γόναυς οργανικές συνθέσεις π.χ. αιθυλικό υγρό (ETHYL FLUID) | 6.1, I4° | 663 | I649 |
| <u>M</u> | | | |
| P-υδροπεροξείδιο μεθανυλίου (με περιεχόμενο υπεροξειδίου μη υπερβαλόν το 95°/ο) | 5.2, I4° | 539 | 2I25 |
| Μεθάνιο (ψυγμένο) | 2, 7°(β) | 223 | I972 |
| Μεθανόλη (μεθυλική αλκοόλη, ξυλό- πνευμα) | 3, 5° | 336 | I230 |
| Μεθοξυμεθάνιο (βλέπε διμεθυλαι- θέρα) | | | |

| (α) | (β) | (γ) | (δ) |
|--|-------------------------|-----|------|
| Οξικός μεθυλεστέρας | 3, 1 ^ο (α) | 33 | 1231 |
| Ακρυλικό μεθύλιο | 3, 1 ^ο (α) | 339 | 1919 |
| Μεθυάλη (METHYLAL) | 3, 1 ^ο (α) | 33 | 1234 |
| Μεθυλική αλκοόλη (βλέπε μεθανόλη) | | | |
| Μεθυλαμίνη | 2, 3 ^ο (β T) | 263 | 1061 |
| Μεθυλαμινική αλκοόλη | 3, 3 ^ο | 30 | 2053 |
| Μεθυλοβρωμίδιο (βρωμομεθάνιο) | 2, 3 ^ο (α T) | 263 | 1062 |
| Μεθυλοβουταδιένιο (βλέπε ισοπρένιο) | | | |
| Μεθυλοχλωρίδιο (χλώρομεθάνιο) | 2, 3 ^ο (β T) | 236 | 1063 |
| Μεθυλαιθυλική κετόνη | 3, 1 ^ο (α) | 33 | 1193 |
| Μυρμηκικός μεθυλεστέρας | 3, 1 ^ο (α) | 33 | 1243 |
| Μεθυλοϊσοβουτυλική κετόνη | 3, 1 ^ο (α) | 33 | 1245 |
| Μεθακρυλικόν μεθύλιον | 3, 1 ^ο (α) | 339 | 1247 |
| Μεθυλοπροπιονικός εστέρας | 3, 1 ^ο (α) | 33 | 1248 |
| Μεθυλοβινυλικός αιθέρας | 2, 3 ^ο (γ T) | 239 | 1087 |
| Μικτά οξέα νιτρώσεως (θειϊκόν και νιτρικόν οξύ) | | | |
| - περιέχοντα άνω του 30 ^ο /ο καθαρού νιτρικού οξέος | 8, 3 ^ο (α) | 856 | 1796 |
| - περιέχοντα όχι άνω του 30 ^ο /ο καθαρού νιτρικού οξέος | 8, 3 ^ο (β) | 886 | 1796 |
| Μίγματα Α, ΑΟ, ΑΠ, Β και Γ (βλέπε μίγματα αερίων υδρογονανθράκων, υγροποιημένα) | | | |
| Μονοχλωροδιφθορομεθάνιον (βλέπε χλωροδιφθοριομεθάνιο) | | | |

| (α) | (β) | (γ) | (δ) |
|---|---------------------------|-----|------|
| Μονομεθυλαμίνη (βλέπε μεθυλαμίνη) | | | |
| Υδάτινα διαλύματα μονομεθυλαμίνης) | 3, 5 ^ο | 336 | 1235 |
| <u>N</u> | | | |
| Ναφθαλίνη εις λιωμένη κατάσταση | 4. I, II ^ο (γ) | 44 | 2304 |
| Φυσικόν αέριον (ψυγμένον) | 2, 8 ^ο (β) | 223 | 2043 |
| Νιτρικό οξύ | | | |
| - περιέχον άνω του 70 ^ο /ο καθαροῦ οξέος | 8, 2 ^ο (α) | 856 | 2032 |
| - περιέχον άνω του 55 ^ο /ο αλλά όχι άνω του 70 ^ο /ο καθαροῦ οξέος | 8, 2 ^ο (β) | 886 | 2031 |
| Νιτροβενζόλιο | 3, 4 ^ο | 36 | 1662 |
| Άζωτον (ψυγμένον) | 2, 7 ^ο (α) | 22 | 1977 |
| Διοξειδίου του αζώτου NO ₂ (υπεροξειδίου του αζώτου, τετροξειδίου του αζώτου N ₂ O ₄) | 2, 3 ^ο (α T) | 265 | 1067 |
| Υπεροξειδίου του αζώτου (βλέπε διοξειδίου του αζώτου) | | | |
| Τετροξειδίου του αζώτου (βλέπε διοξειδίου του αζώτου) | | | |
| Υποξειδίου του αζώτου N ₂ O | 2, 5 ^ο (α) | 25 | 1070 |
| <u>O</u> | | | |
| Ατμίζον θειϊκό οξύ (OLEUM) | 8, I ^ο (α) | 886 | 1831 |
| Οξυγόνον (ψυγμένον) | 2, 7 ^ο (α) | 225 | 1073 |
| <u>Π</u> | | | |
| Παραδεσδα | 3, I ^ο (α) | 33 | 1264 |

| (α) | (β) | (γ) | (δ) |
|--|---------------------------|-----|------|
| Οξικόν πεντύλιον (οξικόν αμύλιον) 3, 3 ^ο | | 30 | 1104 |
| Υπερχλωρικό οξύ, σε υδάτινα δια- λύματα:- | | | |
| - περιέχοντα άνω του 50 ^ο /ο αλλά όχι άνω του 72.5 ^ο /ο υπερχλωρι- κού οξέος | 5, I, 3 ^ο | 588 | 1873 |
| - περιέχοντα όχι άνω του 50 ^ο /ο καθαρού οξέος | 8, 4 ^ο | 85 | 1802 |
| Φαινόλη | 6, I, 13 ^ο (γ) | 68 | 1671 |
| Φωσγένιο | 2, 3 ^ο (α T) | 266 | 1076 |
| Οξυχλωριούχος φωσφόρος (βλέπε φωσφορυλοχλωρίδιο) | | | |
| Τριχλωριούχος φωσφόρος | 8, II ^ο (α) | 88 | 1809 |
| Φωσφόρος, λευκός ή κίτρινος | 4.2, I ^ο | 436 | 1381 |
| Φωσφορυλοχλωρίδιο (οξυχλωριού- χος φωσφόρος) | 8, II ^ο (α) | 88 | 1810 |
| Καυστική ποτάσσα | 8, 32 ^ο | 88 | 1814 |
| Κάλιον | 4.3, I ^ο (α) X | 423 | 2257 |
| Διάλυμα χλωρικού καλίου | 5, I, 4 ^ο (α) | 50 | 2427 |
| Προπάνιο | 2, 3 ^ο (β) | 23 | 1978 |
| N-Προπανόλη (προπυλική αλκοόλη) | 3, 5 ^ο | 33 | 1274 |
| Προπιοναλδεΐδη | 3, I ^ο (α) | 33 | 1275 |
| Προπαν-2-οL (ισοπροπυλική αλκοόλη) | 3, 5 ^ο | 33 | 1219 |
| Οξικόν προπύλιον | 3, I ^ο (α) | 33 | 1276 |
| Προπυλική αλκοόλη (βλέπε N-προπανόλη) | | | |
| Προπυλένιον | 2, 3 ^ο (β) | 23 | 1077 |
| Προπυλενοδιαμίνη | 8, 35 ^ο | 83 | 2258 |

| (α) | (β) | (γ) | (δ) |
|---|-------------------------|------|------|
| Προπυλενιοξείδιο | 3, I ⁰ (α) | 336 | I280 |
| Πυριδίνη | 3, 5 ⁰ | 36 | I282 |
| <u>R</u> | | | |
| RI2 (βλέπε διχλωροδιφθοριομεθάνιο) | | | |
| RI3 (βλέπε χλωροτριφθοριομεθάνιο) | | | |
| R2I (βλέπε διχλωροφθοριομεθάνιο) | | | |
| R22 (βλέπε χλωροδιφθοριομεθάνιο) | | | |
| RII4 (βλέπε διχλωροτετραφθοριομεθάνιο) | | | |
| <u>Σ</u> | | | |
| Τετραχλωριούχο πυρίτιο | 8, II ⁰ (α) | 88 | I818 |
| Καυστικό νάτριο | 8, 32 ⁰ | 88 | I824 |
| Νάτριον | 4.3, I ⁰ (α) | X423 | I428 |
| Διάλυμα χλωρικού νατρίου | 5.I, 4 ⁰ (α) | 50 | 2428 |
| Διάλυμα χλωριώδους νατρίου | 5.I, 4 ⁰ (φ) | 50 | I908 |
| Στυρένιον | 3, 3 ⁰ | 30 | 2055 |
| Διοξείδιον του θείου | 2, 3 ⁰ (α T) | 26 | I079 |
| Θειϊκό οξύ | | | |
| - περιέχον άνω του 85 ⁰ /ο καθαρού οξέος | 8, I ⁰ (α) | 88 | I830 |
| - περιέχον άνω του 75 ⁰ /ο αλλά όχι άνω του 85 ⁰ /ο καθαρού οξέος | 8, I ⁰ (β) | 88 | I830 |
| - περιέχον όχι άνω του 75 ⁰ /ο καθαρού οξέος | 8, I ⁰ (γ) | 88 | I830 |
| - άχρηστο, τελείως απονιτρωμένο | 8, I ⁰ (δ) | 88 | I832 |

| (α) | (β) | (γ) | (δ) |
|--|-------------------------|-----|------|
| Θειϊκό και νιτρικό οξύ (βλέπε μικτά οξέα νιτρώσεως) | | | |
| Θειϊκός αιθέρας (βλέπε διεθυλαιθέρας) | | | |
| Θείον εις λιωμένη κατάσταση | 4.1, 2 ^ο (β) | 44 | 2448 |
| Θειώδες οξύ, άνυδρον (βλέπε διο- ξειδίο του θείου) | | | |
| Τριοξειδίο του θείου | 8, 9 ^ο | 885 | 1829 |
| Θειοχλωρίδιο (SULPHURYL CHLORIDE) | 8, 11 ^ο (α) | 88 | 1834 |
| <u>T</u> | | | |
| Τετρααιθυλικός μόλυβδος | 6.1, 14 ^ο | 663 | 1649 |
| Πυριτικόν τετρααιθύλιον (πυριτικό αιθύλιο) | 3, 3 ^ο | 30 | 1292 |
| TETRAHYDROFURAN | 3, 5 ^ο | 33 | 2056 |
| Τετραμεθυλικός μόλυβδος | 6.1, 14 ^ο | 663 | 1649 |
| Θειονυλοχλωρίδιο (THIONYL CHLORIDE) | 8, 11 ^ο (α) | 88 | 1836 |
| Τετραχλωριούχο τιτάνιον | 8, 11 ^ο (α) | 88 | 1838 |
| Τολουόλιο | 3, 1 ^ο (α) | 33 | 1294 |
| Τριαιθυλαμίνη | 3, 5 ^ο | 336 | 1296 |
| Τριαιθυλενική τετραμίνη | 8, 35 ^ο | 80 | 2259 |
| Τριαιθυλαμίνη | 2, 3 ^ο (β T) | 236 | 1083 |
| Διαλύματα τριαιθυλαμίνης | 3, 5 ^ο | 336 | 1297 |
| 266-υδροϋπεροξειδίο τριμεθυλο- νορπινανύλιο, με περιεχόμενον υπεροξειδίου μη υπερβαίνον το 95 ^ο /ο | | | |
| | 5.2, 15 ^ο | 539 | 2162 |
| Τριπροπυλαμίνη | 8, 35 ^ο | 83 | 2260 |
| Τουρπεντίνης | 3, 3 ^ο | 30 | 1299 |

| (α) | (β) | (γ) | (δ) |
|----------------------------------|--------------------------|-----|------|
| <u>V</u> (B) | | | |
| Οξικό βινύλιο | 3, 1 ^ο (α) | 33 | I30I |
| Χλωριούχο βινύλιο (βινυχλωρίδιο) | 2, 3 ^ο (γ) | 239 | I086 |
| <u>W</u> | | | |
| Ευλόπνευμα (βλέπε μεθανόλη) | | | |
| <u>X</u> (E) | | | |
| Ευλόλιο | 3, 3 ^ο | 30 | I307 |
| Ευλενόλη | 6.I, 22 ^ο (β) | 60 | 226I |

250.00I

Αριθμοί προσδιορισμού θα εικονίζονται επί της πινακίδας (ελάσματος) ως σημειούνται κατωτέρω:

33 Αριθμός προσδιορισμού κινδύνου
(2 ή τρία νούμερα)

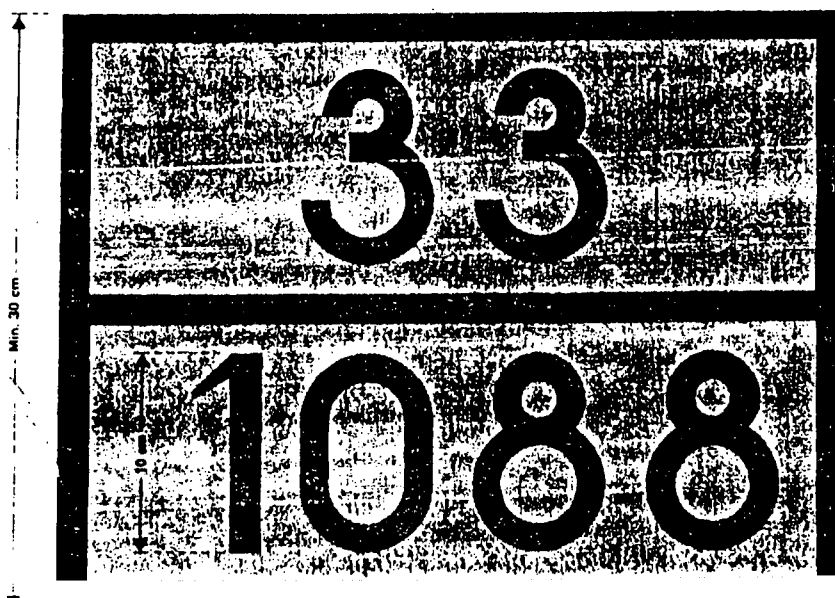
I088 Αριθμός προσδιορισμού ύλης
(4 νούμερα)

Φόντο πορτοκαλί.

Πλαίσιον, οριζόντιος γραμμή και αριθμοί μαύρα,
πάχους 15 mm (χιλ.)

250.002-

250.999



Άρθρο δεύτερο

Η αποδοχή κάθε νεότερης αναθεώρησης των διατάξεων της Συμφωνίας που κυρώνεται με το νόμο αυτό, καθώς και η ρύθμιση τεχνικών και λεπτομερειακών ζητημάτων εφαρμογής της, γίνεται με απόφαση του αρμόδιου, κατά περίπτωση Υπουργού ή με κοινή απόφαση των συναρμοδίων, κατά περίπτωση, Υπουργών, δημοσιευόμενη στην Εφημερίδα της Κυβερνήσεως.

Άρθρο τρίτο

Η ισχύς του παρόντος αρχίζει από τη δημοσίευσή του στην Εφημερίδα της Κυβερνήσεως, της δε Συμφωνίας κατά τα προβλεπόμενα από το άρθρο 6 αυτής.

Παραγγέλλουμε τη δημοσίευσή του παρόντος στην Εφημερίδα της Κυβερνήσεως και την εκτέλεσή του ως νόμου του Κράτους.

Αθήνα, 18 Δεκεμβρίου 1987

Ο ΠΡΟΕΔΡΟΣ ΤΗΣ ΔΗΜΟΚΡΑΤΙΑΣ
ΧΡΗΣΤΟΣ ΑΝΤ. ΣΑΡΤΖΕΤΑΚΗΣ

ΟΙ ΥΠΟΥΡΓΟΙ

ΕΣΩΤΕΡΙΚΩΝ
ΚΑΡΘΑΓΩΣ ΠΑΠΟΥΔΙΑΣ

ΜΕΤΑΦΟΡΩΝ & ΕΠΙΚΟΙΝΩΝΙΩΝ
ΚΩΣΤΑΣ ΜΠΑΝΤΟΥΒΑΣ

Θεωρήθηκε και τέθηκε η Μεγάλη Σφραγίδα του Κράτους.

Αθήνα, 21 Δεκεμβρίου 1987

Ο ΕΠΙ ΤΗΣ ΔΙΚΑΙΟΣΥΝΗΣ ΥΠΟΥΡΓΟΣ
ΑΓΑΠΕΜΝΩΝ ΚΟΥΤΣΟΓΙΩΡΓΑΣ