



**Economic and Social
Council**

Distr.
GENERAL

TRANS/WP.15/AC.1/1999/21
12 March 1999

Original: ENGLISH

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

**Working Party on the Transport
of Dangerous Goods**

**Joint Meeting of the RID Safety Committee
and the Working Party on the Transport of
Dangerous Goods**
(Bern, 25-28 May 1999)

RESTRUCTURING OF ADR AND RID

Section 3.1.2 - Proper shipping name

Part 5 - Consignment procedures

Chapter 5.1: General requirements

Chapter 5.2: Marking and labelling of packages

Proposal by the Secretariat */

In this document, the Secretariat proposes provisions for Part 5 (Consignment procedures) of the restructured RID/ADR.

The Secretariat proposes that the existing provisions of RID/ADR should be redrafted on the basis of the provisions of Part 5 of the Model Regulations annexed to the UN Recommendations on the Transport of Dangerous Goods as revised by the UN Committee of Experts on the Transport of Dangerous goods at its 20th session (Geneva, 7-16 December 1998) (see ST/SG/AC.10/25/Add.1 and ST/SG/AC.10/C.3/30/Add.3).

The Secretariat also proposes to harmonize certain existing provisions of RID/ADR with those of the UN Recommendations.

*/ Distributed by the Central Office for International Carriage by Rail (OCTI) under the symbol OCTI/RID/GT-III/1998/21.

GE.99-20939

The texts proposed are reproduced in the annex to this document. The texts, as drafted, do not correspond word for word with the existing provisions of RID/ADR. When they do not differ substantially from the existing RID/ADR, no explanation for the editorial changes has been given.

The provisions for Class 7 are based on the IAEA Regulations for the safe transport of radioactive material (1996 Edition) (No. ST-1) as reflected in document ST/SG/AC.10/C.3/30/Add.3.

Texts which differ substantially in RID/ADR and the UN Recommendations (apart from those corresponding to proposals explained below), i.e. provisions included in the UN Recommendations but not in RID/ADR, or provisions included in RID/ADR and not in the UN Recommendations, have been placed between square brackets.

The substantial amendments proposed are explained hereunder.

1. Proper shipping name

This term is not used in the existing RID/ADR, but is used in the UN Recommendations, the IMDG Code and the ICAO Technical Instructions. Therefore the Secretariat proposed to introduce this term in the restructured RID/ADR, in a new sub-section 3.1.2 as in the UN Model Regulations, and to use that term where appropriate in Part 5. The use of that term would greatly facilitate the harmonization of provisions concerning marking of packages and transport documentation. The RID/ADR/ADN Joint Meeting accepted this principle at its session held in Bern from 23-27 March 1998 (see document TRANS/WP.15/AC.1/72, para. 38).

2. Marking

The UN Recommendations require marking of the proper shipping name and the UN numbers. In RID/ADR, marking of the proper shipping name is required for Classes 1 and 2 only. In the light of the Joint Meeting's decision that only the UN number should be marked on packages other than those for Classes 1 and 2 (see para. 160 of TRANS/WP.15/AC.1/74), paragraph 5.2.1.1 has been amended accordingly.

3. Labelling

At its twentieth session held from 7-16 December 1998, the UN Committee of Experts adopted a proposal (see ST/SG/AC.10/1998/34) to remove the distinction between primary and subsidiary risk labels. That decision has been taken into account.

In the Secretariat proposal, the following changes have been made vis-à-vis the UN Model Regulations.

Paragraph 5.2.2.1.2, in the UN Model Regulations, has been numbered 5.2.2.1.1 and vice-versa, as it seems more appropriate to start with the general labelling requirement.

Paragraphs 5.2.2.1.3, 5.2.2.1.3.1, 5.2.2.1.4, 5.2.2.1.5 have not been included because they reflect labelling principles to be applied by regulatory bodies when assigning labelling requirements to individual substances. Therefore it does not seem necessary to reflect these paragraphs in the regulation itself.

The note to 5.2.2.1 in the UN Model Regulations have been transformed into a provision 5.2.2 to take account of label No.11 in RID/ADR.

* * * * *

ANNEX

Part 3

Insert a new section 3.1.2 as follows:

"3.1.2 Proper shipping name

3.1.2.1 The proper shipping name is that portion of the entry most accurately describing the goods in the Dangerous Goods List, which is shown in upper case characters (plus any numbers, Greek letters, 'sec', 'tert', and the letters m, n, o, p, which form an integral part of the name). An alternative proper shipping name may be shown in brackets following the main proper shipping name (e.g., ETHANOL (ETHYL ALCOHOL)). Portions of an entry appearing in lower case need not be considered as part of the proper shipping name.

3.1.2.2 When conjunctions such as "and" or "or" are in lower case or when segments of the name are punctuated by commas, the entire name of the entry need not necessarily be shown in the transport document or package markings. This is the case particularly when a combination of several distinct entries are listed under a single UN Number. Examples illustrating the selection of the proper shipping name for such entries are:

- (a) UN 1057 LIGHTERS or LIGHTER REFILLS - The proper shipping name is the most appropriate of the following possible combinations:

LIGHTERS
LIGHTER REFILLS;

- (b) UN 3207 ORGANOMETALLIC COMPOUND or COMPOUND SOLUTION or COMPOUND DISPERSION, WATER-REACTIVE, FLAMMABLE, N.O.S. The proper shipping name is the most appropriate of the following possible combinations:

ORGANOMETALLIC COMPOUND, WATER-REACTIVE, FLAMMABLE, N.O.S.
ORGANOMETALLIC COMPOUND SOLUTION, WATER-REACTIVE,
FLAMMABLE, N.O.S.
ORGANOMETALLIC COMPOUND DISPERSION, WATER-REACTIVE,
FLAMMABLE, N.O.S.

each supplemented with the technical name of the goods (see 3.1.2.6.1).

3.1.2.3 Proper shipping names may be used in the singular or plural as appropriate. In addition, when qualifying words are used as part of the proper shipping name, their sequence on documentation or package markings is optional. For instance, 'Dimethylamine solution' may alternatively be shown 'Solution of dimethylamine'. Commercial or military names for goods of Class 1 which contain the proper shipping name supplemented by additional descriptive text may be used.

3.1.2.4 Unless it is already included in capital letters in the name indicated in the Dangerous Goods List, the qualifying word "LIQUID" or "SOLID", as appropriate, shall be added as part of the proper shipping name when a substance specifically listed by name may, due to the differing physical states of the various isomers of the substance, be either a liquid or a solid (e.g. DINITROTOLUENES, LIQUID; DINITROTOLUENES, SOLID).

3.1.2.5 Unless it is already included in capital letters in the name indicated in the Dangerous Goods List, the qualifying word "MOLTEN" shall be added as part of the proper shipping name when a substance, which is a solid in accordance with the definition in 1.2.1, is offered for transport in the molten state (e.g. ALKYLPHENOL, SOLID, N.O.S., MOLTEN).

3.1.2.6 *Generic or "not otherwise specified" (N.O.S.) names*

3.1.2.6.1 For the purposes of documentation and marking of packages, when an "N.O.S." or "generic" proper shipping name is used, the proper shipping name shall be supplemented with the technical name of the goods, unless a national law or international convention prohibits its disclosure if it is a controlled substance. The particular 'N.O.S.' or 'generic' entries for which this supplementary information is considered necessary have been allocated Special Provision 274 in Column 6 of the Dangerous Goods List.

3.1.2.6.1.1 The technical name shall be shown in parentheses immediately following the proper shipping name. It shall be a recognized chemical or other name currently used in scientific and technical handbooks, journals and texts. Trade names shall not be used for this purpose. In the case of pesticides, only ISO common name(s), other name(s) in the WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification, or the name(s) of the active substance(s) may be used.

3.1.2.6.1.2 When a mixture of dangerous goods is described by one of the "N.O.S." or "generic" entries to which Special Provision 274 has been allocated in the Dangerous Goods List, not more than the two constituents which most predominantly contribute to the hazard or hazards of a mixture need to be shown, excluding controlled substances when their disclosure is prohibited by national law or international convention. If a package containing a mixture is labelled with any subsidiary risk label, one of the two technical names shown in parentheses shall be the name of the constituent which compels the use of the subsidiary risk label.

3.1.2.6.1.3 Examples illustrating the selection of the proper shipping name supplemented with the technical name of goods for such N.O.S. entries are:

UN 2003 METAL ALKYL, N.O.S. (trimethylgallium)
UN 2902 PESTICIDE, LIQUID, TOXIC, N.O.S. (drazoxolon).

3.1.2.7 *Mixtures and solutions containing one dangerous substance*

When mixtures and solutions have to be regarded as the dangerous substance listed by name in accordance with the classification requirements of 2.1.3.3, the qualifying word "SOLUTION" or "MIXTURE", as appropriate, shall be added as part of the proper shipping name, e.g. "ACETONE SOLUTION". In addition, the concentration of the solution or mixture may also be indicated, e.g. "ACETONE 75% SOLUTION".

[Reference: UN, para. 3.1.3.2, as amended]

PART 5

CONSIGNMENT PROCEDURES

CHAPTER 5.1

GENERAL PROVISIONS

5.1.1 Application and general provisions

[UN: **5.1.1.1** This Part sets forth the provisions for dangerous goods consignments relative to authorization of consignments and advance notifications, marking, labelling, documentation (by manual, electronic data processing (EDP) or electronic data interchange (EDI) techniques) [and placarding].]

[UN: **5.1.1.2** Except as otherwise provided in these Regulations, no person may offer dangerous goods for transport unless those goods are properly marked, labelled, [placarded], described and certified on a transport document, and otherwise in a condition for transport as required by this Part.]

5.1.2 Use of overpacks

2002 (5)(a)

5.1.2.1 An overpack shall be marked with [the proper shipping name and] the identification number of the goods, preceded by the letters "UN", and labelled, as required for packages by Chapter 5.2, for each item of dangerous goods contained in the overpack, unless markings and labels representative of all dangerous goods contained in the overpack are visible.

2002 (5)(a)

5.1.2.2 Each package of dangerous goods contained in an overpack shall comply with all applicable provisions of RID/ADR. The intended function of each package shall not be impaired by the overpack.

2002 (5)(a)

[5.1.2.3 The prohibitions on mixed loading in the various classes also apply to these overpacks.]

5.1.3 Empty packagings (including IBCs and large packagings), tanks, vehicles/wagons for carriage in bulk, bulk containers

5.1.3.1 Empty packagings (including IBCs and large packagings), tanks (including tank-vehicles/tank-wagons, battery-vehicles/battery-wagons, demountable tanks, tank-containers, multiple-element tank-containers), vehicles/wagons for carriage in bulk, bulk containers (including small bulk containers), uncleaned, having contained dangerous goods of the different classes other than Class 7, shall be marked and labelled [and placarded] as if they were full.

Note: For documentation, see chapter 5.4.

2xx1

[5.1.3.2 Uncleaned empty packagings (including empty IBCs and large packagings) which have contained substances of Classes 2, 3, 4.1, 5.1, 6.1, 8, 9 are not subject to the conditions of RID/ADR if adequate measures have been taken to nullify any hazard. Hazards are nullified if adequate measures have been taken to nullify all hazards of Classes 1 to 9.]

2431

[5.1.3.3 Uncleaned empty packagings (including empty IBCs and large packagings), empty tank-vehicles, empty demountable tanks, empty tank-containers and empty small containers which have contained substances of UN 2002, UN 1932, UN 2009, UN 2793, UN 1376 of Class 4.2 are not subject to the requirements of RID/ADR.]

5.1.3.4 Tanks and intermediate bulk containers used for the transport of radioactive material shall not be used for the storage or transport of other goods unless decontaminated below the level of 0.4 Bq/cm² for beta and gamma emitters and low toxicity alpha emitters and 0.04 Bq/cm² for all other alpha emitters [Reference: ST/SG/AC.10/C.3/30/Add.3]

5.1.4 Mixed packing

When two or more dangerous goods are packed within the same outer packaging, the package shall be labelled and marked as required for each substance. Secondary risk labels need not be applied if the hazard is already represented by a primary risk label.

5.1.5 General provisions for Class 7

5.1.5.1 Requirements before shipments

5.1.5.1.1 First shipment of a package

Before the first shipment of any package, the following requirements shall be fulfilled:

- (a) If the design pressure of the containment system exceeds 35 kPa (gauge), it shall be ensured that the containment system of each package conforms to the approved design requirements relating to the capability of that system to maintain its integrity under that pressure;
- (b) For each Type B(U), Type B(M) and Type C package and for each package containing fissile material, it shall be ensured that the effectiveness of its shielding and containment and, where necessary, the heat transfer characteristics and the effectiveness of the confinement system, are within the limits applicable to or specified for the approved design;
- (c) For packages containing fissile material, where, in order to comply with the requirements of 6.4.11.1, neutron poisons are specifically included as components of the package, checks shall be performed to confirm the presence and distribution of those neutron poisons.

5.1.5.1.2 Each shipment

Before each shipment of any package, the following requirements shall be fulfilled:

- (a) For any package it shall be ensured that all the requirements specified in the relevant provisions of RID/ADR have been satisfied;

- (b) It shall be ensured that lifting attachments which do not meet the requirements of 6.4.2.2 have been removed or otherwise rendered incapable of being used for lifting the package, in accordance with 6.4.2.3;
- (c) For each Type B(U), Type B(M) and Type C package and for each package containing fissile material, it shall be ensured that all the requirements specified in the approval certificates have been satisfied;
- (d) Each Type B(U), Type B(M) and Type C package shall be held until equilibrium conditions have been approached closely enough to demonstrate compliance with the requirements for temperature and pressure unless an exemption from these requirements has received unilateral approval;
- (e) For each Type B(U), Type B(M) and Type C package, it shall be ensured by inspection 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 compliance with the requirements of 6.4.8.7 and 6.4.10.3 were made;
- (f) For each special form radioactive material, it shall be ensured that all the requirements specified in the special form approval certificate and the relevant provisions of RID/ADR have been satisfied;
- (g) For packages containing fissile material the measurement specified in 6.4.11.4(b) and the tests to demonstrate closure of each package as specified in 6.4.11.7 shall be performed where applicable;
- (h) For each low dispersible radioactive material, it shall be ensured that all the requirements specified in the approval certificate and the relevant provisions of RID/ADR have been satisfied.

5.1.5.2 *Approval of shipments and notification*

5.1.5.2.1 General

In addition to the approval for package designs described in Chapter 6.4, multilateral shipment approval is also required in certain circumstances (5.1.5.2.2 and 5.1.5.2.3). In some circumstances it is also necessary to notify competent authorities of a shipment (5.1.5.2.4).

5.1.5.2.2 Shipment approvals

Multilateral approval shall be required for:

- (a) The shipment of Type B(M) packages not conforming with the requirements of 6.4.7.5 or designed to allow controlled intermittent venting;
- (b) The shipment of Type B(M) packages containing radioactive material with an activity greater than 3000 A₁ or 3000 A₂, as appropriate, or 1000 TBq, whichever is the lower;
- (c) The shipment of packages containing fissile materials if the sum of the criticality safety indexes of the packages exceeds 50; and
- (d) Radiation protection programmes for shipments by special use vessels according to 7.2.3.2.2;

except that a competent authority may authorize transport into or through its country without shipment approval, by a specific provision in its design approval (see 5.1.5.3.1).

5.1.5.2.3 Shipment approval by special arrangement

Provisions may be approved by a competent authority under which a consignment, which does not satisfy all of the applicable requirements of these Regulations may be transported under special arrangement (see 1.1.2.4).

5.1.5.2.4 Notifications

Notification to competent authorities is required as follows:

- (a) Before the first shipment of any package requiring competent authority approval, 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 through or into which 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;
- (b) For each of the following types of shipments:
 - (i) Type C packages containing radioactive material with an activity greater than 3000 A₁ or 3000 A₂, as appropriate, or 1000 TBq, whichever is the lower;
 - (ii) Type B(U) packages containing radioactive material with an activity greater than 3000 A₁ or 3000 A₂, as appropriate, or 1000 TBq, whichever is the lower;
 - (iii) Type B(M) packages;
 - (iv) Shipment under special arrangement,

the consignor shall notify the competent authority of each country through or into which 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 7 days in advance;

- (c) The consignor is not required to send a separate notification if the required information has been included in the application for shipment approval;
- (d) The consignment notification shall include:
 - (i) sufficient information to enable the identification of the package or packages including all applicable certificate numbers and identification marks;
 - (ii) information on the date of shipment, the expected date of arrival and proposed routing;
 - (iii) the names of the radioactive material or nuclides;
 - (iv) descriptions of the physical and chemical forms of the radioactive material, or whether it is special form radioactive material or low dispersible radioactive material; and

- (v) the maximum activity of the radioactive contents during transport expressed in units of becquerels (Bq) with an appropriate SI prefix (see 1.2.2.1). For fissile material, the mass of fissile material in units of grams (g), or multiples thereof, may be used in place of activity.

5.1.5.3 *Certificates issued by the competent authority*

5.1.5.3.1 Certificates issued by the competent authority are required for the following:

- (a) Designs for
 - (i) special form radioactive material;
 - (ii) low dispersible radioactive material;
 - (iii) packages containing 0.1 kg or more of uranium hexafluoride;
 - (iv) all packages containing fissile material unless excepted by 6.4.11.2;
 - (v) type B(U) packages and Type B(M) packages;
 - (vi) type C packages;
- (b) Special arrangements;
- (c) Certain shipments (see 5.1.5.2.2).

The certificates shall confirm that the applicable requirements are met, and for design approvals shall attribute to the design an identification mark.

The package design and shipment approval certificates may be combined into a single certificate.

Certificates and applications for these certificates shall be in accordance with the requirements in 6.4.23.

5.1.5.3.2 The consignor shall be in possession of a copy of each applicable certificate. The consignor shall also have a copy of any instructions with regard to the proper closing of the package and any preparation for shipment before making any shipment under the terms of the certificates.

5.1.5.3.3 For package designs where a competent authority issued certificate is not required, the consignor shall, on request, make available for inspection by the relevant competent authority, documentary evidence of the compliance of the package design with all the applicable requirements.

CHAPTER 5.2

MARKING AND LABELLING

5.2.1 Marking of packages

Note: For markings related to the construction, testing and approval of packagings, gas receptacles and IBCs, see Part 6.

5.2.1.1 Unless provided otherwise in RID, in this annex, the UN number corresponding to the dangerous goods contained, preceded by the letter "UN" shall be clearly and durably marked on each package. In the case of unpackaged articles the marking shall be displayed on the article, on its cradle or on its handling, storage or launching device. For goods of Division 1.4, Compatibility Group S, the division and compatibility group letter shall also be shown unless the label for 1.4S is displayed.

[5.2.1.2 All package markings required by 5.2.1.1 or elsewhere in this chapter:

- (a) shall be readily visible and legible;
- (b) shall be able to withstand open weather exposure without a substantial reduction in effectiveness;
- (c) shall be displayed on a background of contrasting color on the external surface of the package; and
- (d) shall not be located with other package markings that could substantially reduce their effectiveness.]

5.2.1.3 Salvage packagings shall additionally be marked with the word "SALVAGE".

5.2.1.4 Intermediate bulk containers of more than 450 litres capacity shall be marked on two opposite sides.

5.2.1.5 Additional provisions for goods of Class 1

For goods of Class 1, packages shall, in addition, bear the proper shipping name as determined in accordance with 3.1.2. The marking, which shall be clearly legible and indelible, shall be in an official language of the country of origin 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 [marg. 2105 (1)].

5.2.1.6 Additional provisions for goods of Class 2

5.2.1.6.1 Packages containing receptacles holding gases (except UN 1950, UN 1044, UN 2857, UN 3164) shall in addition bear the mark "CLASS 2". This requirement need not be complied with if the receptacles and their markings are clearly visible [Ref: marg. 2223 (5)].

Note by the Secretariat: *The Secretariat proposes to align, in Chapter 5.2, the labelling system required by the existing RID/ADR to that recommended in the UN Model Regulations.*

If this proposal is accepted, the figure "2" will be marked on the label and therefore marking the words "CLASS 2" on the package might not be necessary. Paragraph 5.2.1.6.1 could then be deleted.

5.2.1.6.2 Refillable receptacles according to [...] shall bear the following particulars in clearly legible and durable characters:

- (a) the proper shipping name of the gas or mixture of gases in full, as determined in accordance with 3.1.2.

In the case of gases classified under an N.O.S. entry, only the technical name */ of the gas have to be indicated in addition to the UN number;

In the case of mixtures, not more than the two constituents which most predominantly contribute to the hazards have to be indicated;

- (b) For gases [of 1 °] filled by mass and for liquefied gases, either the maximum filling mass and the tare of the receptacle with fittings and accessories as fitted at the time of filling, or the gross mass;
- (c) The date (year) of the next periodic inspection.

[Ref: marg. 2223 (2)]

5.2.1.5 Special marking provisions for Class 7

5.2.1.5.1 Each package shall be legibly and durably marked on the outside of the packaging with an identification of either the consignor or consignee, or both.

5.2.1.5.2 For each package, other than excepted packages, the United Nations number preceded by the letters "UN" and the proper shipping name shall be legibly and durably marked on the outside of the packaging. In the case of excepted packages only the United Nations number, preceded by the letters "UN", is required.

5.2.1.5.3 Each package of gross mass exceeding 50 kg shall have its permissible gross mass legibly and durably marked on the outside of the packaging.

*/ *The technical name shall be a name currently used in scientific and technical handbooks, journals and texts. Trade names shall not be used for this purpose. Instead of the technical name the use of one of the following names is permitted:*

- *For 1078 refrigerant gas, N.O.S.: mixture F1, mixture F2, mixture F3;*
- *For 1060 methylacetylene and propadiene mixtures, stabilized: mixture P1, mixture P2;*
- *For 1965 hydrocarbon gas mixture, liquefied, N.O.S.: mixture A or butane, mixture A0 or butane, mixture A1, mixture B, mixture C or propane.*

5.2.1.5.4 Each package which conforms to:

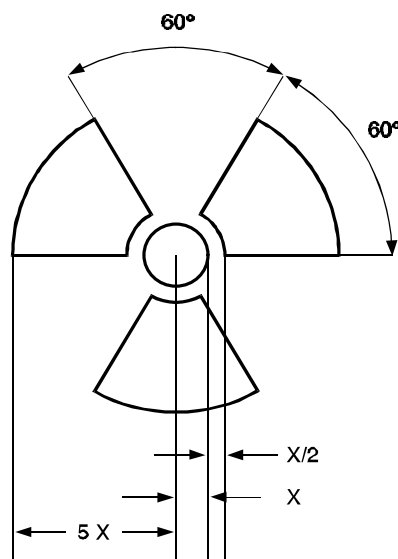
- (a) An Industrial package Type 1, an Industrial package Type 2 or an Industrial package Type 3 design shall be legibly and durably marked on the outside of the packaging with "TYPE IP-1", "TYPE IP-2" or "TYPE IP-3" as appropriate;
- (b) A Type A package design shall be legibly and durably marked on the outside of the packaging with "TYPE A";
- (c) An Industrial package Type 2, an Industrial package Type 3 or a Type A package design shall be legibly and durably marked on the outside of the packaging with the international vehicle registration code (VRI Code) of the country of origin of design and the name of the manufacturers, or other identification of the packaging specified by the competent authority.

5.2.1.5.5 Each package which conforms to a design approved by the competent authority shall be legibly and durably marked on the outside of the packaging with:

- (a) The identification mark allocated to that design by the competent authority;
- (b) A serial number to uniquely identify each packaging which conforms to that design;
- (c) In the case of a Type B(U) or Type B(M) package design, with "TYPE B(U)" or "TYPE B(M)"; and
- (d) In the case of a Type C package design, with "TYPE C".

5.2.1.5.6 Each package which conforms to a Type B(U), Type B(M) or Type C 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 figure below:

Figure 5.1 Basic trefoil symbol with proportions based on a central circle of radius X . The minimum allowable size of X shall be 4 mm.



5.2.1.5.7 Where LSA-I or SCO-I material is contained in receptacles or wrapping materials and is transported under exclusive use as permitted by 4.1.7.2.3, the outer surface of these receptacles or wrapping materials may bear the marking 'RADIOACTIVE LSA-I' or 'RADIOACTIVE SCO-I', as appropriate.

5.2.2 Labelling of packages

5.2.2.1 Labelling provisions

5.2.2.1.1 Where articles or substances are specifically listed in the Dangerous Goods List of Chapter 3.2, [a danger class label for the hazard shown in Column 3 of the List and a subsidiary risk label for any hazard indicated by a class number in the Column 4 of the List], shall be affixed unless otherwise provided for by a special provision in column (6).

5.2.2.1.2 - 5.2.2.1.5 [reserved]

[5.2.2.1.6 Each label shall:

- (a) be located on the same surface of the package near the proper shipping name marking, if the package dimensions are adequate;
- (b) be so placed on the packaging that they are not covered or obscured by any part or attachment to the packaging or any other label or marking; and
- (c) when primary and subsidiary risk labels are required, be displayed next to each other].

[Where a package is of such an irregular shape or small size that a label cannot be satisfactorily affixed, the label may be attached to the package by a securely affixed tag or other suitable means.]

[3901 (1)]

[5.2.2.1.7 Intermediate bulk containers of more than 450 litres capacity shall be labelled on two opposite sides.]

[5.2.2.1.8 Labels shall be affixed on a surface of contrasting colour.]

5.2.2.1.9 Special provisions for the labelling of organic peroxides

The Division 5.2 label (model No. 5.2) shall be affixed to packages containing organic peroxides classified as types B, C, D, E or F. This label also implies that the product may be flammable and hence no "FLAMMABLE LIQUID" subsidiary risk label is required. In addition, the following subsidiary risk labels shall be applied:

- (a) An "EXPLOSIVE" subsidiary risk label (model No. 1) for organic peroxides type B, unless the competent authority has permitted this label to be dispensed with for a specific packaging because test data have proved that the organic peroxide in such a packaging does not exhibit explosive behaviour;

- (b) A "CORROSIVE" subsidiary risk label (model No. 8) is required when Packing Group I or II criteria of Class 8 are met.

For existing organic peroxides, the subsidiary risk labels to be affixed are indicated in the list of organic peroxides in 2.2.52.4

5.2.2.1.10 *Special provisions for the labelling of infectious substances packages*

In addition to the primary risk label (model No. 6.2), infectious substances packages shall bear any other label required by the nature of the contents.

5.2.2.1.11 *Special provisions for the labelling of radioactive material*

5.2.2.1.11.1 Except as provided for large freight containers and tanks in accordance with [5.3.1.3.1], each package, overpack and freight container containing radioactive material shall bear at least two labels which conform to the models Nos. 7A, 7B, and 7C as appropriate according to the category (see 2.7.8.4) of that package, overpack or freight container. Labels shall be affixed to two opposite sides on the outside of the package or on the outside of all four sides of the freight container. Each overpack containing radioactive material shall bear at least two labels on opposite sides of the outside of the overpack. In addition, each package, overpack and freight container containing fissile material, other than fissile material excepted under 6.1.11.2 shall bear labels which conform to model No. 7E; such labels, where applicable shall be affixed adjacent to the labels for radioactive material. Labels shall not cover the markings specified in 5.2. Any labels which do not relate to the contents shall be removed or covered.

5.2.2.1.11.2 Each label conforming to models numbers 7A, 7B, and 7C shall be completed with the following information:

- (a) Contents:
- (i) except for LSA-I material, the name(s) of the radionuclide(s) as taken from Table 2.7.7.2.1, using the symbols prescribed therein. For mixtures of radionuclides, the most restrictive nuclides shall be listed to the extent the space on the line permits. The group of LSA or SCO shall be shown following the name(s) of the radionuclide(s). The terms "LSA-II", "LSA-III", "SCO-I" and "SCO-II" shall be used for this purpose.
 - (ii) for LSA-I material, the term "LSA-I" is all that is necessary; the name of the radionuclide is not necessary;
- (b) Activity: The maximum activity of the radioactive contents during transport expressed in units of becquerels (Bq) with the appropriate SI prefix (see 1.2.2.1). For fissile material, the mass of fissile material in units of grams (g), or multiples thereof, may be used in place of activity;
- (c) For overpacks and freight containers the "contents" and "activity" entries on the label shall bear the information required in 5.2.2.1.11.2(a) and 5.2.2.1.11.2(b), respectively, totalled together for the entire contents of the overpack or freight container except that on labels for overpacks or freight containers containing mixed loads of packages containing different radionuclides, such entries may read "See Transport Documents";

- (d) Transport index: See 2.7.6.1.1 and 2.7.6.1.2. (No transport index entry is required for category I-WHITE.).

5.2.2.1.11.3 Each label conforming to the model number 7E shall be completed with the criticality safety index (CSI) as stated in the certificate of approval for special arrangement or the certificate of approval for the package design issued by the competent authority.

5.2.2.1.11.4 For overpacks and freight containers, the criticality safety index (CSI) on the label shall bear the information required in 5.2.2.1.11.3 totalled together for the fissile contents of the overpack or freight container.

5.2.2.1.12 *Additional markings, symbols or labels*

5.2.2.1.12.1 Additional markings or symbols indicating precautions to be taken in handling or storing a package (e.g. a symbol representing an umbrella indicating that a package shall be kept dry) may be displayed on a package if appropriate. [Ref: Note to 5.2.2.1 in the UN Model Regulations]

5.2.2.1.12.2 Label No. 11 illustrated in 5.2.2.2.2.1 shall be displayed on two opposite sides of a package on the following packages:

- packages containing liquids in receptacles, the closures of which are not visible from the outside;
- packages containing vented receptacles or vented receptacles without outer packaging; and
- packages containing refrigerated liquefied gases.

[Ref: marg. 2212, 2312, 2412, 2442, 2482, 2512, 2552, 2612, 2662, 2812, 2912, transformed into a general requirement; should Classes 1 and 7 be excluded ?]

5.2.2.2 *Provisions for labels*

5.2.2.2.1 Labels shall satisfy the provisions of this section and conform, in terms of colour, symbols and general format, to the specimen labels shown in 5.2.2.2.2. [Indelible danger markings corresponding exactly to the prescribed models may be used instead of labels] [marg. 3901 (1)].

5.2.2.2.1.1 Labels shall be in the form of a square set at an angle of 45° (diamond-shaped) with minimum dimensions of 100 mm by 100 mm, except in the case of packages of such dimensions that they can only bear smaller labels and as provided in 5.2.2.2.1.2. They have a line of the same colour as the symbol, 5 mm inside the edge and running parallel with it [marg. 3900 (1)].

5.2.2.2.1.2 Gas cylinders for Class 2 may, on account of their shape, orientation and securing mechanisms for transport, bear labels representative of those specified in this section, which have been reduced in size, as appropriate, for display on the non-cylindrical part (shoulder) of such cylinders [marg. 2224(3)]. If the size of the package so requires, the dimensions of the labels may be reduced, provided that they remain clearly visible. [marg. 3900 (2)]

5.2.2.2.1.3 Labels are divided into halves. With the exception of Divisions 1.4, 1.5 and 1.6, the upper half of the label is reserved for the pictorial symbol and the lower half for texts and the class number and the compatibility group letter as appropriate.

Note: For Classes 1, 2, 3, 5.1, 5.2, 7, 8 and 9 primary or subsidiary risk labels, the class number shall be shown in the bottom corner. For Classes 4.1, 4.2 and 4.3 and for Classes 6.1 and 6.2 only figures 4 and 6 respectively shall be shown in the bottom corner.

5.2.2.2.1.4 Except for Divisions 1.4, 1.5 and 1.6, labels for Class 1 show in the lower half the division number and compatibility group letter for the substance or article. Labels for Divisions 1.4, 1.5 and 1.6 show in the upper half the division number and in the lower half the compatibility group letter. For Division 1.4, Compatibility Group S, no label is generally required. However, in cases where a label is considered necessary for such goods the label shall be based on model No. 1.4.

5.2.2.2.1.5 On labels other than those for material of Class 7, the insertion [(optional)] of any text (other than the class number) in the space below the symbol shall be confined to particulars indicating the nature of the risk and precautions to be taken in handling [marg. 3900 (3)].

5.2.2.2.1.6 The symbols, text and numbers shall be shown in black on all labels except for:

- (a) the Class 8 label, where the text (if any) and class number shall appear in white; and
- (b) labels with entirely green, red or blue backgrounds where they may be shown in white.

[Wording on [danger] labels shall be clearly legible and indelible] [marg. 3900(4)]

5.2.2.2.1.7 All labels shall be able to withstand open weather exposure without a substantial reduction in effectiveness.

5.2.2.2.2 Specimen labels

CLASS 1

Explosive substances or articles



(No.1)

Divisions 1.1, 1.2, 1.3 and EXPLOSIVE subsidiary risk label

Symbol (exploding bomb): black; Background: orange; Figure '1' in bottom corner



(No.1.4)

Division 1.4



(No.1.5)

Division 1.5



(No.1.6)

Division 1.6

Background: orange; Figures: black; Numerals shall be about 30 mm in height and be about 5 mm thick (for a label measuring 100 mm x 100 mm); Figure '1' in bottom corner

** Place for division - to be left blank if explosive is the subsidiary risk

* Place for compatibility group - to be left blank if explosive is the subsidiary risk

CLASS 2

Gases



(No.2.1)

Division 2.1

Flammable gases

Symbol (flame): black or white;

Background: red; Figure '2' in bottom corner



(No.2.2)

Division 2.2

Non flammable, non-toxic gases

Symbol (gas cylinder): black or white;

Background: green; Figure '2' in bottom corner



CLASS 3

Flammable liquids



(No.2.3)

Division 2.3

Toxic gases

Symbol (skull and crossbones): black;

Background: white; Figure '2' in bottom corner



(No.3)

Symbol (flame): black or white;

Background: red; Figure '3' in bottom corner



CLASS 4

(No.4.1)
Division 4.1
Flammable solids
Symbol (flame): black;
Background: white with
seven vertical red stripes;
Figure '4' in bottom corner



(No.4.2)
Division 4.2
Substances liable to
spontaneous combustion
Symbol (flame): black;
Background: upper half white,
lower half red;
Figure '4' in bottom corner



(No.4.3)
Division 4.3
Substances which in contact
with water emit flammable gases
Symbol (flame): black or white;
Background: blue;
Figure '4' in bottom corner

**CLASS 5**

(No. 5.1)
Division 5.1
Oxidizing substances
Symbol (flame over circle): black;
Figures '5.1' in bottom corner



(No. 5.2)
Division 5.2
Organic peroxides
Symbol (flame over circle): black;
Figures '5.2' in bottom corner

CLASS 6

(No. 6.1)
Division 6.1
Toxic substances
Symbol (skull and crossbones): black;
Background: white; Figure '6' in bottom corner



(No.6.2)
Division 6.2
Infectious substances
The lower half of the label may bear the inscriptions: 'INFECTIOUS SUBSTANCE'
and 'In the case of damage or leakage immediately notify Public Health Authority';
Symbol (three crescents superimposed on a circle) and inscriptions: black;
Background: white; Figure '6' in bottom corner

CLASS 7

Radioactive material



(No. 7A)

Category I - White

Symbol (trefoil): black;

Background: white;

Text (mandatory): black in lower half of label:

'RADIOACTIVE'

'Contents

'Activity

One red bar shall

follow the word 'Radioactive';

Figure '7' in bottom corner.



(No. 7B)

Category II - Yellow

Symbol (trefoil): black;

Background: upper half yellow with white border, lower half white;

Text (mandatory): black in lower half of label:

'RADIOACTIVE'

'Contents

'Activity

In a black outlined box: 'Transport Index';

Two red vertical bars shall

follow the word 'Radioactive';

Three red vertical bars shall

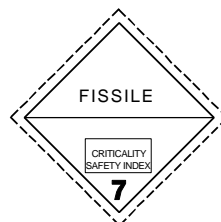
follow the word 'Radioactive';

Figure '7' in bottom corner.



(No. 7C)

Category III - Yellow



(No. 7E)

Class 7 fissile material

Background: white;

Text (mandatory): black in upper half of label: 'FISSILE';

In a black outlined box in the lower half of the label:

'CRITICALITY SAFETY INDEX'

Figure '7' in bottom corner.

CLASS 8

Corrosive substances



(No. 8)

Symbol (liquids, spilling from two glass vessels and attacking a hand and a metal): black;

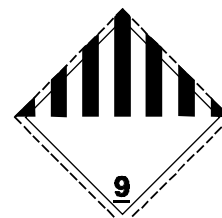
Background: upper half white;

lower half black with white border;

Figure '8' in bottom corner

CLASS 9

Miscellaneous dangerous substances and articles



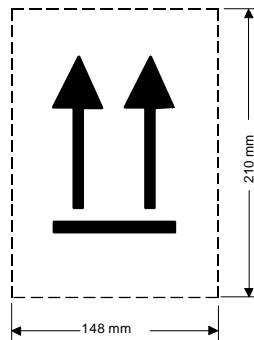
(No. 9)

Symbol (seven vertical stripes in upper half): black;

Background: white;

Figure '9' underlined in bottom corner

No.11



(No. 11)

Two black arrows on white or suitable
contrasting background

5.2.2.2.3 Description of labels

The danger labels prescribed for substances and articles of Classes 1 to 9 have the following meanings:

No. 1	(black on orange background: bomb blast in upper half; appropriate division number and compatibility group letter in lower half; small figure 1 in bottom corner): when no indication of division number and compatibility group letter: EXPLOSIVE subsidiary risk	liable to explosion, divisions 1.1, 1.2 and 1.3;
No. 1.4	(black on orange background: division number '1.4' filling most of the upper half; appropriate compatibility group letter in the lower half; small figure 1 in bottom corner):	liable to explosion, division 1.4;
No. 1.5	(black on orange background: division number '1.5' filling most of the upper half; compatibility group letter 'D' in the lower half; small figure 1 in bottom corner):	liable to explosion, division 1.5;
No. 1.6	(black on orange background: division number '1.6' filling most of the upper half; compatibility group letter 'N' in the lower half; small figure '1' in bottom corner):	liable to explosion, division 1.6;
No. 2.1	(black or white flame on red background; small figure "2" in bottom corner):	danger of fire (flammable gas)

No. 2.2	(gas cylinder, black or white, on green background, small figure "2" in bottom corner):	non-flammable non-toxic gas;
No. 2.3	(death's head on cross-bones, black on white ground, small figure "2" in bottom corner):	toxic gas: to be kept apart from foodstuffs and other articles of consumption in vehicles and at loading, unloading or transloading points;
No. 3	(black or white flame on red background; small figure "3" in bottom corner):	danger of fire (flammable liquid);
No. 4.1	(black flame on back ground of equidistant alternate red and white vertical stripes; small figure "4" in bottom corner):	danger of fire (flammable solid);
No. 4.2	(black flame on white background, lower triangle of label red; small figure "4" in bottom corner):	substance liable to spontaneous ignition;
No. 4.3	(black or white flame on blue background; small figure "4" in bottom corner):	danger of emission of flammable gases on contact with water;
No. 5.1	(flame over a circle, black on yellow background, small figure "5.1" in bottom corner):	oxidizing substance
No. 5.2	(flame over a circle, black on yellow background, small figure "5.2" in bottom corner):	organic peroxide, risk of fire;
No. 6.1	(death's head on cross-bones, black on white background; small figure "6" in bottom corner):	toxic substance: to be kept apart from foodstuffs and other articles of consumption in vehicles and at loading, unloading or transloading points;
No. 6.2	(symbol of three crescents superimposed on a circle; small figure "6" in bottom corner):	infectious: to be kept apart in vehicles and at loading, unloading or transloading points, from foodstuffs, other articles of consumption and animal feedstuffs;
No. 7A	(stylized trefoil, inscription RADIOACTIVE followed by a vertical stripe in the lower half, with the following text: Contents Activity small figure 7 in bottom corner; black symbol and inscriptions on white background; red vertical stripe):	radioactive material 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;

No. 7B	(as above, but with two red vertical stripes in the lower half and the following text: Contents Activity Transport index (in the rectangular black bordered box); small figure 7 in bottom corner; black symbol and inscriptions; upper half of background: yellow; lower half of background: white; red vertical stripes):	radioactive material in packages of Category II - YELLOW; packages to be kept away from packages bearing the inscription "FOTO" [see marginal 2711]; in the event of damage to packages, danger to health by ingestion or inhalation of, or contact with spilled contents, and risk of external radiation at a distance;
No. 7C	(as above, but with three red vertical stripes in the lower half):	radioactive material in packages of Category III - YELLOW; packages to be kept away from packages bearing the inscription "FOTO" [see marginal 2711]; in the event of damage to packages, danger to health by ingestion or inhalation of, or contact with, spilled contents, and risk of external radiation at a distance;
No. 7E	(inscription FISSILE in the upper half; rectangular black bordered box with the words "Criticality safety index" in the lower half; figure "7" in bottom corner; inscription and figure 7 in black on white background)]	fissile material
No.8	(liquid dripping from a test-tube on to a plate and from another test-tube on to a hand; black on white background, lower triangle of label black with a white border; small figure "8" in bottom corner):	corrosive substance;
No. 9	(white background with 7 black vertical stripes in the upper half and small figure 9, underlined, in the bottom corner):	miscellaneous substances and articles which, during transport, present dangers other than those covered by the other classes;
No. 10	Reserved	
No. 11	(two black arrows on white or suitable contrasting ground):	this side up: label to be affixed with arrows pointing upwards;
