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**COMMITTEE OF EXPERTS ON THE TRANSPORT  
OF DANGEROUS GOODS AND ON THE GLOBALLY  
HARMONIZED SYSTEM OF CLASSIFICATION  
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the  
Transport of Dangerous Goods

**REPORT OF THE SUB-COMMITTEE OF EXPERTS  
ON ITS TWENTY-FIFTH SESSION  
(Geneva, 5-14 July 2004)**

Addendum 1

- Annex 1: Draft amendments to the UN Recommendations on the Transport of Dangerous Goods, Model Regulations (13th revised edition)
- Annex 2: Draft amendments to the UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)

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**NOTE:** *A consolidated list of draft amendments to the Model Regulations and to the Manual of Tests and Criteria adopted by the Sub-Committee on its twenty-third, twenty-fourth and twenty-fifth sessions will be issued as document ST/SG/AC.10/C.3/2004/80.*

## Annex 1

### **DRAFT AMENDMENTS TO THE UN RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS, MODEL REGULATIONS (13<sup>th</sup> revised edition)**

#### **Recommendations on the Transport of Dangerous Goods**

Add a new paragraph 19 to read as follows:

#### **"REPORTING OF ACCIDENTS AND INCIDENTS**

19. The relevant national and international organizations should establish provisions for the reporting of accidents and incidents involving dangerous goods in transport. Basic provisions in this connection are recommended in 7.1.8 of the Model Regulations. Reports or summaries of reports that the States or international organizations deem relevant to the work of the Sub-Committee of Experts on the Transport of Dangerous Goods (e.g., reports involving packaging and tank failures, major release) should be submitted to the Sub-Committee for its consideration and action, as appropriate."

#### **Chapters 1.1, 2.7, 3.2, 3.3, 4.1, 5.1, 5.2, 5.3, 5.4, 6.4 and 7.1**

Amend these chapters in accordance with ST/SG/AC.10/C.3/2004/11 (amendments are placed between square brackets).

#### **PART 2**

##### **Chapter 2.0**

[2.0.1.2 In the first sentence, delete ", without additional labelling,". Place the end of the paragraph, from "Wastes shall be transported..." to "under Class 9.", in a separate new paragraph to be numbered 2.0.1.2.1.].

##### **Chapter 2.1**

2.1.3.5 Insert new paragraphs 2.1.3.5 to 2.1.3.5.7 in accordance with document INF.97 and renumber current 2.1.3.5 to 2.1.3.5.3 accordingly.

##### **Chapter 2.4**

**Document:** ST/SG/AC.10/C.3/2004/48 adopted, with some modifications, as follows:

[2.4.2.3.1.1 (b) Amend to read as follows:

"(b) They are oxidizing substances according to the assignment procedure of Division 5.1 (see 2.5.2.1.1) but not mixtures of oxidizing substances and combustible organic substances to be classified as self-reactive substances according to the procedure defined in Note 3;"

Add a new NOTE 3 to read as follows:

**"NOTE 3:** *Mixtures of oxidizing substances meeting the criteria of Division 5.1 and combustible organic substances, which do not meet the criteria mentioned in (a), (c), (d) or (e) above, shall be subjected to the self-reactive substance classification procedure.*

*A mixture showing the properties of a self-reactive substance type B, C, D or E shall be classified as a self-reactive substance of Division 4.1;*

*A mixture showing the properties of a self-reactive substance type F shall be considered for classification as a substance of Division 5.1 (see 2.5.2.1.1). If the criteria for oxidizing substances are not met, the substance shall be classified as a self-reactive substance of type F;*

*A mixture showing the properties of a self-reactive substance type G shall be considered for classification as a substance of Division 5.1 (see 2.5.2.1.1). ".].*

## **Chapter 2.6**

2.6.2.2.4.1 Amend the table to read as follows:

Packing group	Oral toxicity LD <sub>50</sub> (mg/kg)	Dermal toxicity LD <sub>50</sub> (mg/kg)	Inhalation toxicity by dusts and mists LC <sub>50</sub> (mg/l)
I	≤ 5.0	≤ 50	≤ 0.2
II	> 5.0 and ≤ 50	> 50 and ≤ 200	> 0.2 and ≤ 2.0
III <sup>a</sup>	> 50 and ≤ 300	> 200 and ≤ 1000	> 2.0 and ≤ 4.0

2.6.3.1.3 Amend to read as follows:

*"Cultures* are the result of a process by which pathogens are intentionally propagated. This definition does not include human or animal patient specimens as defined in 2.6.3.1.4."

2.6.3.1.4 Add a new 2.6.3.1.4 to read as follows and renumber subsequent paragraphs accordingly:  
"2.6.3.1.4 *Patient specimens* are human or animal materials, collected directly from humans or animals, including, but not limited to, excreta, secretions, blood and its components, tissue and tissue fluid swabs, and body parts being transported for purposes such as research, diagnosis, investigational activities, disease treatment and prevention."

2.6.3.2.1 Insert ", UN 3291" after "UN 2900".

2.6.3.2.2.1 In the first sentence, replace "disease to humans or animals" with "disease in otherwise healthy humans or animals".

In the Table with the indicative examples:

Under UN 2814:

- Replace "Hantaviruses causing hantavirus pulmonary syndrome" with "Hantavirus causing hemorrhagic fever with renal syndrome".
- Add "(cultures only)" after "Rabies virus", "Rift Valley fever virus" and "Venezuelan equine encephalitis virus".

Under UN 2900:

- Delete "African horse sickness virus" and "Bluetongue virus".
- Insert "Velogenic" before "Newcastle disease virus".
- Add "(cultures only)" after each microorganism in the list.

2.6.3.2.2.2 Delete "except that cultures, as defined in 2.6.3.1.3, shall be assigned to UN 2814 or UN 2900 as appropriate."

2.6.3.2.3 Renummer current 2.6.3.2.3 as 2.6.3.2.3.1 and add a new 2.6.3.2.3 to read as follows:  
"2.6.3.2.3 *Exemptions*"

Insert the following new sub-paragraphs:

"2.6.3.2.3.2 Substances containing microorganisms which are non-pathogenic to humans or animals are not subject to these Regulations unless they meet the criteria for inclusion in another class.

2.6.3.2.3.3 Substances in a form that any present pathogens have been neutralized or inactivated such that they no longer pose a health risk are not subject to these Regulations unless they meet the criteria for inclusion in another class.

2.6.3.2.3.4 Environmental samples (including food and water samples) which are not considered to pose a significant risk of infection are not subject to these Regulations unless they meet the criteria for inclusion in another class."

2.6.3.2.4 Current 2.6.3.2.4 becomes new 2.6.3.2.3.5. Insert the following text at the beginning of the paragraph: "Dried blood spots, collected by applying a drop of blood onto absorbent material, or faecal occult blood screening tests and".

Current 2.6.3.2.5 Delete

2.6.3.2.6 Current 2.6.3.2.6 becomes new 2.6.3.2.3.6. In new 2.6.3.2.3.6 add the following new first sentence: "Unless an infectious substance cannot be consigned by any other means, live animals shall not be used to consign such a substance."

2.6.3.5.1 Delete "or containing Category B infectious substances in cultures" in the first sentence and ", other than in cultures, " in the last sentence.

## **Chapter 2.9**

[2.9.2.1 a) Add "which are not covered by other classes" at the end.]

## **PART 3**

## **Chapter 3.2**

3.2.1 In the explanations for column (10), add the following text at the end: "The gases authorized for transport in MEGCs are indicated in the column "MEGC" in Tables 1 and 2 of packing instruction P200 in 4.1.4.1."

**Dangerous Goods List**

**Document:** ST/SG/AC.10/C.3/2004/33 adopted, with some modifications, as follows:

UN No. 1143 Amend the name in column (2) to read as follows: "CROTONALDEHYDE or CROTONALDEHYDE, STABILIZED" and add "324" in column (6).

**Document:** ST/SG/AC.10/C.3/2004/20 adopted without modifications, as follows:

UN No. 1463 Add "6.1" before "8" in column (4).

**Document:** ST/SG/AC.10/C.3/2004/12 adopted, with some modifications, as follows:

UN No. 1779 Amend the name in column (2), to read as follows: "FORMIC ACID with more than 85% acid by mass" and add "3" in column (4).

UN No. 1848 Amend the name in column (2) to read as follows: "PROPIONIC ACID with not less than 10% and less than 90% acid by mass".

Add the following new entries:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
3412	FORMIC ACID with not less than 10% but not more than 85% acid by mass	8		II		1 L	P001 IBC02		T7	TP2
	FORMIC ACID with not less than 5% but less than 10% acid by mass	8		III		5 L	P001 IBC03 LP01		T4	TP1
3463	PROPIONIC ACID with not less than 90% acid by mass	8	3	II		1 L	P001 IBC02		T7	TP2

UN 1950 Add "LP02" in column (8) and "PP87" and "L2" in column (9).

**Document:** ST/SG/AC.10/C.3/2004/31 adopted, with some modifications, as follows:

Add the following new entries:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
3469	PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning or reducing compound)	3	8	I	163	NONE	P001		T11	TP2 TP27
		3	8	II	163	1 L	P001 IBC02		T7	TP2 TP8 TP28
		3	8	III	163 223	5 L	P001 IBC03		T4	TP1 TP29

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
3470	PAINT, CORROSIVE, FLAMMABLE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL CORROSIVE, FLAMMABLE (including paint thinning or reducing compound)	8	3	II	163	1 L	P001 IBC02		T7	TP2 TP8 TP28

**Consequential amendment:** For UN Nos. 1263 and 3066, add "TP27", "TP28" and "TP29" in column (11) for packing groups I, II and III, respectively.

**Document:** ST/SG/AC.10/C.3/2004/34 adopted without modifications, as follows:

UN No. 1733 Replace "1 L" with "1 kg" in column (7) and "P001 IBC02" with "P002 IBC08" in column (8) and add "B2, B4" in column (9), "T3" in column (10) and "TP33" in column (11).

UN No. 1740 Amend the name in column (2) to read: " HYDROGENDIFLUORIDES, SOLID, N.O.S."

UN No. 2823 Amend the name in column (2) to read: "CROTONIC ACID, SOLID".

Add the following new entries:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
3471	HYDROGENDIFLUORIDES SOLUTION, N.O.S.	8	6.1	II		1 L	P001 IBC02		T7	TP2
		8	6.1	III	223	5L	P001 IBC03		T4	TP1
3472	CROTONIC ACID, LIQUID	8		III		5L	P001 IBC03 LP01		T4	TP1

UN No. 3373 Amend the proper shipping name in column (2) to read: "BIOLOGICAL SUBSTANCE, CATEGORY B" and add "T1" and "TP1" in columns (10) and (11), respectively.

**Consequential amendments:** In the Note under 2.6.3.2.2, amend the proper shipping name to read: "BIOLOGICAL SUBSTANCE, CATEGORY B".

UN No. 1956 Insert "292" in column (6).

Delete the entries for the following UN Nos.: 1014, 1015, 1979, 1980, 1981 and 2600.

UN No. 2030 Replace current instructions and special provisions in columns (10) and (11), with the following:

UN 2030	(10)	(11)
Packing group I	T10	TP2 TP13
Packing group II	T7	TP2 TP13
Packing group III	T4	TP1

### **Chapter 3.3**

- 3.3.1 **SP191** Delete "may be considered as similar to aerosols except that they" in the first sentence.
- SP216** In the last sentence, insert "and articles" before "containing" and amend the end to read: "... free liquid in the packet or article.".
- SP251** In the first sentence, add "for example" before "for medical," add "or repair" before "purposes".
- SP292** Amend to read as follows:  
"Mixtures containing not more than 23.5% oxygen by volume may be transported under this entry when no other oxidizing gases are present. A Division 5.1 subsidiary risk label is not required for any concentrations within this limit.".
- SP303** Amend to read as follows:  
"Receptacles shall be assigned to the division and, if any, subsidiary hazard of the gas or mixture of gases contained therein determined in accordance with the provisions of Chapter 2.2.".
- SP309** Amend to read as follows:  
"This entry applies to non sensitized emulsions, suspensions and gels consisting primarily of a mixture of ammonium nitrate and fuel, intended to produce a Type E blasting explosive only after further processing prior to use.
- The mixture for emulsions typically has the following composition: 60-85% ammonium nitrate, 5-30% water, 2-8% fuel, 0.5-4% emulsifier agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate.
- The mixture for suspensions and gels typically has the following composition: 60-85% ammonium nitrate, 0-5% sodium or potassium perchlorate, 0-17% hexamine nitrate or monomethylamine nitrate, 5-30% water, 2-15% fuel, 0.5-4% thickening agent, 0-10% soluble flame suppressants, and trace additives. Other inorganic nitrate salts may replace part of the ammonium nitrate.
- Substances shall satisfactorily pass Test Series 8 of the Manual of Tests and Criteria, Part I, Section 18 and be approved by the competent authority.".
- SP319** Delete.

Add the following new special provisions:

- "[**323** The label conforming to the model prescribed in the 13th revised edition of the UN Recommendations on the Transport of Dangerous Goods, Model Regulations, may be used until 1 January 2011."].
- 324** This substance needs to be stabilized when in concentrations of not more than 99%".

### **Chapter 3.4**

- 3.4.10 Add a new 3.4.10 to read as follows:  
["3.4.10 The environmentally hazardous mark is not required when single packagings or inner packagings of combination packagings contain less than 5 l for liquids or 5 kg for solids."].

### **ALPHABETICAL INDEX OF SUBSTANCES AND ARTICLES**

Amend the alphabetical index in accordance with the amendments to the Dangerous Goods List in Chapter 3.2.

### **PART 4**

#### **Chapter 4.1**

Renumber all references to renumbered paragraphs of Chapters 6.1, 6.5 and 6.6, as appropriate.

Insert a new paragraph 4.1.1.5.1 with the same text as in existing 6.1.5.1.6 with the insertion of the words "or a large packaging" after "combination packaging" and the words "or large packaging" after "outer packaging" in the first sentence.

- 4.1.4.1 **P002** In special packing provision **PP37**, amend the second sentence to read as follows:  
"All bags of any type shall be transported in closed cargo transport units or be placed in closed rigid overpacks.".

**Document:** ST/SG/AC.10/C.3/2004/53 adopted, with some modifications, as follows:

- P003** Add a new special packing provision PP87 to read as follows:  
**"PP87** [For UN 1950 only, aerosols transported for the purpose of reprocessing or of disposal are permitted]. The packagings shall have a means of retaining any free liquid that might escape during transport e.g. absorbent material. The packaging shall be adequately ventilated to prevent the creation of flammable atmosphere and the build-up of pressure. [Toxic aerosols shall not be transported under this special packing provision.]".

- P200** In paragraph (4), replace "total quantity" with "maximum net mass" in the last sentence of special packing provision *l*.

In Tables 1 and 2, delete the entries for the following UN Nos.: 1014, 1015, 1979, 1980, 1981 and 2600.

In Table 1, in the heading of column 13, replace "Working pressure, bar" with "Maximum working pressure, bar"

In Table 2, for UN 2451, delete "300" and "0.75" in the columns for "Test pressure" and "Filling ratio", respectively.

**Document:** ST/SG/AC.10/C.3/2004/73 adopted, with some modifications, as follows:

- P650** In paragraph (2) (c), replace "an outer" with "a rigid outer".



In paragraph (4):

Amend the second sentence to read as follows: "The mark shall be in the form of a square set at an angle of 45° (diamond-shaped) with each side have a length of at least 50 mm, the width of the line shall be at least 2 mm and the letters and numbers shall be at least 6 mm high."

Add the following new third sentence: "The proper shipping name "BIOLOGICAL SUBSTANCE, CATEGORY B" in letters at least 6 mm high shall be marked on the outer package adjacent to the diamond-shaped mark."

Insert a new paragraph (5) to read as follows and renumber subsequent paragraphs accordingly:

"(5) At least one surface of the outer packaging shall have a minimum dimension of 100 mm × 100 mm."

Amend current paragraph (5) (renumbered (6)) to read as follows:

"(6) The completed package shall be capable of successfully passing the drop test in 6.3.2.5 as specified in 6.3.2.2 to 6.3.2.4 of these Regulations at a height of 1.2 m. Following the appropriate drop sequence, there shall be no leakage from the primary receptacle(s) which shall remain protected by absorbent material, when required, in the secondary packaging;"

In (7) (renumbered (8)), add a new sub-paragraph (d) to read as follows:

"(d) If there is any doubt as to whether or not residual liquid may be present in the primary receptacle during transport then a packaging suitable for liquids, including absorbent materials, shall be used."

Add a new paragraph (10) to read as follows and renumber subsequent paragraphs accordingly:

"(10) When packages are placed in an overpack, the package markings required by this packing instruction shall either be clearly visible or be reproduced on the outside of the overpack."

Add a new paragraph (13) to read as follows and renumber subsequent paragraphs accordingly:

"(13) Other dangerous goods shall not be packed in the same packaging as Division 6.2 infectious substances unless they are necessary for maintaining the viability, stabilizing or preventing degradation or neutralizing the hazards of the infectious substances. A quantity of 30 ml or less of dangerous goods included in Classes 3, 8 or 9 may be packed in each primary receptacle containing infectious substances. When these small quantities of dangerous goods are packed with infectious substances in accordance with this packing instruction no other requirements in these Regulations need be met."

**Document:** ST/SG/AC.10/C.3/2004/28 adopted, as amended, as follows:

**P802** In paragraph (4), delete "Austenitic".

**Document:** ST/SG/AC.10/C.3/2004/53 adopted, with some modifications, as follows:

4.1.4.3 **LP02** Add a new special packing provision "L2" to read as follows:

**"L2** For UN 1950, only aerosols transported for the purpose of reprocessing or of disposal are permitted. Inner packagings are not required. The large packaging shall meet the Packing Group III performance level. Large packagings shall have a means of retaining any free liquid that might escape during transport e.g. absorbent material. The large packaging shall be adequately ventilated to prevent the creation of flammable atmosphere and the build up of pressure. Toxic aerosols shall not be transported under this packing instruction."

## **Chapter 4.2**

4.2.1.15 Add a new 4.2.1.15 to read as follows:

"4.2.1.15 *Additional provisions applicable to the transport of Division 6.2 substances in portable tanks*  
(Reserved)."

Renumber subsequent paragraphs accordingly.

4.2.5.1.1 Add a note to read as follows:

**"NOTE:** *The gases authorized for transport in MEGCs are indicated in the column "MEGC" in Tables 1 and 2 of packing instruction P200 in 4.1.4.1."*

## **PART 5**

### **Chapter 5.2**

5.2.1.4 and 5.2.2.1.7 Add "and large packagings" after "capacity".

[5.2.1.7 Add a new 5.2.1.7 to read as follows:

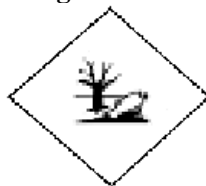
"5.2.1.7 *Special marking provisions for environmentally hazardous substances*

5.2.1.7.1 Packages containing environmentally hazardous substances shall be durably marked with the environmentally hazardous substance mark.

5.2.1.7.2 The environmentally hazardous substance mark shall be located adjacent to the markings required by 5.2.1.1. The requirements of 5.2.1.2 and 5.2.1.4 shall be met.

5.2.1.7.3 The environmentally hazardous substance mark shall be as shown in Figure 5.2.2. For packagings, the dimensions shall be 100 mm × 100 mm. For transport units (see 5.3.2.3.1), the minimum dimensions shall be 250 mm × 250 mm.

**Figure 5.2.2**



Symbol (fish and tree): black on white or suitable contrasting background"]

5.2.2.2.1 Add the following note at the end of the existing text:

*"NOTE: Where appropriate, labels in 5.2.2.2 are shown with a dotted outer boundary as provided for in 5.2.2.1.1. This is not required when the label is applied on a background of contrasting colour."*

5.2.2.2.1.1 Add the following sentence at the end: "Labels shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line."

**Document:** ST/SG/AC.10/C.3/2004/21 adopted as follows:

[5.2.2.2.2 In the labels for class 5:

Replace the text under label No. 5.1 with the following:

(No. 5.1)  
Division 5.1  
Oxidizing substances  
Symbol (flame over circle): black; Background: yellow  
Figure "5.1" in bottom corner"

Replace label No. 5.2 and the text under the label with the following:



(No. 5.2)  
Division 5.2  
Organic peroxides  
Symbol (flame over circle): black; Background: upper half red; lower half yellow;  
Figure "5.2" in bottom corner".]

### **Chapter 5.3**

5.3.1.1.2 Amend to read as follows: "Placards shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line."

[5.3.2.3 Add a new 5.3.2.3 to read as follows:

"5.3.2.3 *Environmentally hazardous substance mark*

5.3.2.3.1 A transport unit containing environmentally hazardous substances shall be marked on at least two opposing sides of the unit and in any case in such a position as may be seen by all those involved in the loading or unloading processes, with the environmentally hazardous substance mark to be affixed in accordance with the provisions of 5.3.1.1.4 for placards."]

### **Chapter 5.4**

[5.4.1.4.3 (e) Add a new sub-paragraph (e) to read as follows:

"(e) Substances meeting the criteria in 2.9.3.3 shall be identified as such by adding the words "AQUATIC POLLUTANT" immediately following the dangerous goods description. An example is: "UN 2218 ACRYLIC ACID, STABILIZED 8 (3) II, AQUATIC POLLUTANT"."]

5.4.1.5.1 In the current last but one sentence, replace "packagings" with "packages" and insert the following sentence before the last sentence: "UN packaging codes may only be used to supplement the description of the kind of package (e.g. one box (4G))."

## **PART 6**

### **Chapter 6.1**

6.1.5.1.6 Replace current text with the following:  
"6.1.5.1.6 (Reserved)

*NOTE: For the conditions for assembling different inner packagings in an outer packaging and permissible variations in inner packagings, see 4.1.1.5.1."*

### **Chapter 6.2**

6.2.1.3.6.5.4 Amend footnote 1 to read as follows:

"<sup>1</sup> See for example CGA Publications S-1.2-2003 "Pressure Relief Device Standards-Part 2-Cargo and Portable Tanks for Compressed Gases" and S-1.1-2003 "Pressure Relief Device Standards-Part 1-Cylinders for Compressed Gases"."

6.2.2.5.3.1 In (a), insert "of personnel" after "responsibilities" and delete ", and power of the management".

In (b), replace "systematic actions" with "procedures".

Delete the commas before "and" in (c) and (d).

6.2.2.5.4.10 Amend to read as follows:

"6.2.2.5.4.10 Modifications to approved design types

The manufacturer shall either:

- (a) inform the issuing competent authority of modifications to the approved design type, where such modifications do not constitute a new design, as specified in the pressure receptacle standard; or
- (b) request a subsequent design type approval where such modifications constitute a new design according to the relevant pressure receptacle standard. This additional approval shall be given in the form of an amendment to the original design type approval certificate."

6.2.2.7.2 In (g), replace "porous mass" with "porous material" in the second sentence and add the following new last sentence at the end of the existing text:

"In the case of pressure receptacles for UN 1001 acetylene, dissolved and UN 3374 acetylene, solvent free, at least one decimal shall be shown after the decimal point and two digits for pressure receptacles of less than 1 kg;"

In (k) and (l): Insert ", any coating," after "during filling" and replace "two" with "three" in the first sentence, new last sentence at the end of the existing text:

"At least one decimal shall be shown after the decimal point. For pressure receptacles of less than 1 kg, the mass shall be expressed to two significant figures rounded down to the last digit;"

## **Chapter 6.2**

Renumber current paragraphs 6.2.4.1 and 6.2.4.2 as 6.2.4.1.1 and 6.2.4.1.2 respectively and insert a new 6.2.4.1 to read as follows:

**"6.2.4.1                    *Small receptacles containing gas (gas cartridges)*"**

Add the following new paragraphs:

**"6.2.4.2                    *Aerosol dispensers***

Each filled aerosol dispenser shall be subjected to a test performed in a hot water bath or an approved water bath alternative.

6.2.4.2.1                    *Hot water bath test*

6.2.4.2.1.1 The temperature of the water bath and the duration of the test shall be such that the internal pressure reaches that which would be reached at 55 °C (50 °C if the liquid phase does not exceed 95% of the capacity of the aerosol dispenser at 50 °C). If the contents are sensitive to heat or if the aerosol dispensers are made of plastics material which softens at this test temperature, the temperature of the bath shall be set at between 20 °C and 30 °C but, in addition, one aerosol dispenser in 2000 shall be tested at the higher temperature.

6.2.4.2.1.2 No leakage or permanent deformation of an aerosol dispenser may occur, except that a plastic aerosol dispenser may be deformed through softening provided that it does not leak.

#### 6.2.4.2.2 *Alternative methods*

With the approval of the Competent Authority alternative methods that provide an equivalent level of safety may be used provided that the requirements of 6.2.4.2.2.1, 6.2.4.2.2.2 and 6.2.4.2.2.3 are met.

##### 6.2.4.2.2.1 Quality systems

Aerosol dispenser fillers and component manufacturers shall have a quality system. The quality system shall implement procedures to ensure that all aerosol dispensers that leak or that are deformed are rejected and not offered for transport.

The quality system shall include:

- (a) a description of the organizational structure and responsibilities;
- (b) the relevant inspection and test, quality control, quality assurance, and process operation instructions that will be used;
- (c) quality records, such as inspection reports, test data, calibration data and certificates;
- (d) management reviews to ensure the effective operation of the quality system;
- (e) a process for control of documents and their revision;
- (f) a means for control of non-conforming aerosol dispensers;
- (g) training programmes and qualification procedures for relevant personnel; and
- (h) procedures to ensure that there is no damage to the final product.

An initial audit and periodic audits shall be conducted to the satisfaction of the competent authority. These audits shall ensure the approved system is and remains adequate and efficient. Any proposed changes to the approved system shall be notified to the competent authority in advance.

##### 6.2.4.2.2.2 Pressure and leak testing of aerosol dispensers before filling

Every empty aerosol dispenser shall be subjected to a pressure equal to or in excess of the maximum expected in the filled aerosol dispensers at 55 °C (50 °C if the liquid phase does not exceed 95% of the capacity of the receptacle at 50 °C). This shall be at least two-thirds of the design pressure of the aerosol dispenser. If any aerosol dispenser shows evidence of leakage at a rate equal to or greater than  $3.3 \times 10^{-2}$  mbar.l.s<sup>-1</sup> at the test pressure, distortion or other defect, it shall be rejected.

#### 6.2.4.2.2.3 Testing of the aerosol dispensers after filling

Prior to filling the filler shall ensure that the crimping equipment is set appropriately and the specified propellant is used.

Each filled aerosol dispenser shall be weighed and leak tested, The leak detection equipment shall be sufficiently sensitive to detect at least a leak rate of  $2.0 \times 10^{-3}$  mbar.l.s<sup>-1</sup> at 20°C.

Any filled aerosol dispenser that shows evidence of leakage, deformation or excessive weight shall be rejected."

### **Chapter 6.5**

6.5.1 Amend the title to read "General requirements".

6.5.1.5 and 6.5.1.6: Delete.

Insert new sections 6.5.3 and 6.5.4 as follows:

#### **"6.5.3 Construction requirements**

##### **6.5.3.1 General requirements"**

6.5.3.1.1 to 6.5.3.1.8: Text of existing 6.5.1.5.1 to 6.5.1.5.8

6.5.4 Text of existing 6.5.1.6 with appropriate renumbering of paragraphs, sub-paragraphs and references to paragraphs numbers.

Renumber accordingly subsequent paragraphs of existing 6.5.3 and 6.5.4 and references thereto.

6.5.4.5.5 (b) (renumbered 6.5.6.5.5 (b)): Add at the end: "and no loss of contents."

**Document:** ST/SG/AC.10/C.3/2004/8 adopted, as amended, as follows:

6.5.4.5.2 Replace the last sentence of this paragraph with the following text:  
"Flexible IBCs shall be filled with a representative material and then shall be loaded to six times their maximum permissible gross mass, the load being evenly distributed."

### **Chapter 6.6**

6.6.5.1.6 Amend to read as follows:

"6.6.5.1.6 (Reserved)

***NOTE:** For the conditions for assembling different inner packagings in a large packaging and permissible variations in inner packagings, see 4.1.1.5.2."*

Insert a new 6.6.5.2.2 with the same text as existing 6.5.4.1.3, replacing the reference to 6.5.4.9.4 by a reference to 6.6.5.3.4.4 in sub-paragraph (a).

Renumber accordingly existing 6.6.5.2.3 and 6.6.5.2.4 and references thereto.

6.6.5.3.2.4 and 6.6.5.3.3.5: Amend by replacing the existing text with that of 6.5.4.5.5 and 6.5.4.6.5 respectively, but replacing the word "IBCs" by "large packagings".

## **Chapter 6.7**

6.7.3.8.1.1 and

6.7.4.7.4 In footnotes 4 and 6, replace "CGA S-1.2-1995" with "CGA S-1.2-2003 "Pressure Relief Device Standards-Part 2-Cargo and Portable Tanks for Compressed Gases".".

6.7.5.4.1 Replace the first sentence with the following two sentences:  
"The elements of MEGCs used for the transport of UN 1013 carbon dioxide and UN 1070 nitrous oxide shall be isolated by a valve into assemblies of not more than 3000 litres. Each assembly shall be fitted with one or more pressure relief devices."  
(Current final sentence remains unchanged).

6.7.5.5.1 and

6.7.5.5.2 Replace "CGA S-1.2-1995" with "CGA S-1.2-2003 "Pressure Relief Device Standards, Part 2, Cargo and Portable Tanks for Compressed Gases".".

Replace "CGA S-1.1-1994" with "CGA S-1.1-2003 "Pressure Relief Device Standards,, Part 1, Cylinders for Compressed Gases".

6.7.5.6.1

Amend to read as follows:

"6.7.5.6.1 Pressure relief devices shall be clearly and permanently marked with the following:

- (a) the manufacturer's name and relevant catalogue number;
- (b) the set pressure and/or the set temperature;
- (c) the date of the last test;".

6.7.5.6.2

Delete this paragraph and renumber subsequent paragraph accordingly.

6.7.5.8.1

In the third sentence, replace "and oxidising" with ", pyrophoric and oxidizing".

## **PART 7**

### **Chapter 7.1**

Amend section 7.1.1 in accordance with document ST/SG/AC.10/C.3/2004/54 but with the following modifications:

7.1.1.2

Amend to read as follows:

"7.1.1.2 Dangerous goods shall not be offered for transport unless:

- (a) the goods have been properly classified, packaged, marked, labelled and described and certified on a dangerous goods transport document;  
and



- (b) are in a fit condition for transport as required by these Regulations, and no dangerous residue of the dangerous goods adheres to the outside of the package."

7.1.1.3 Insert a new paragraph 7.1.1.3 to read as follows:

"7.1.1.3 Dangerous goods shall not be transported unless:

- (a) transport units have been appropriately marked, labelled and placarded; and
- (b) transport units are otherwise in a condition for transport as required by these Regulations."

Renumber subsequent paragraphs accordingly.

7.1.1.3 (renumbered 7.1.1.4) Delete the end of the second sentence after "the loss of content" and, in the last sentence, insert "transport" before "unit" and amend the end to read as follows: "...securing and handling of the dangerous goods".

7.1.1.4 (renumbered 7.1.1.5) Replace "transport units" with "a transport unit" and "their integrity" with "its integrity". Add "in it" at the end of the last sentence.

7.1.1.5 (renumbered 7.1.1.6) Amend to read as follows:

"7.1.1.6 Transport units shall be loaded so that incompatible dangerous or other goods are segregated in accordance with this Chapter. Specific loading instructions such as orientation arrows, not to be double stacked, keep dry or temperature control requirements shall be met. Liquid dangerous goods should be loaded below dry dangerous goods whenever possible."

7.1.1.6 (renumbered 7.1.1.7) In the first sentence insert "and unpackaged articles of dangerous goods" after "dangerous goods" and replace "load" with "goods" and "the journey" with "transport". Delete "etc" in the brackets.

Insert the following new sentence after "to be damaged": "When dangerous goods are transported with other goods (e.g. heavy machinery or crates), all goods shall be securely fixed or packed in the transport units so as to prevent the release of dangerous goods."

In the sentence starting with "Movement of packages...", replace "or blocking, Where" with "or by blocking and bracing. Where".

Place the end of the paragraph, from "Package shall not be stacked..." to "load-bearing devices", in a separate new paragraph to be numbered 7.1.1.8.

7.1.1.7 (renumbered 7.1.1.9) Replace "shall paid" with "shall be paid". Delete the third sentence and amend the end of the last sentence to read as follows: "given by a competent authority, enforcement personnel or a designated responsible person who is familiar with the dangerous goods, the risks involved and the measures that should be taken in an emergency."

In NOTE 2, replace "(RIV 200)" with "(RIV 2000)".

7.1.1.8 to 7.1.1.10 Delete.

7.1.4 Insert a new section 7.1.4 as follows and renumber subsequent sections accordingly:

**"7.1.4 Special provisions applicable to the transport of gases**

7.1.4.1 Aerosols transported under the provisions of special packing provision PP87 of packing instruction P003 or special packing provision L2 of packing instruction LP02 shall be transported in well-ventilated transport units."

7.1.8 Add a new section to read as follows:

**"7.1.8 Reporting of accidents or incidents involving dangerous goods in transport**

7.1.8.1 Accidents and incidents involving the transport of dangerous goods shall be reported to the competent authority of the State in which they occurred in accordance with the reporting requirements of that State and applicable regional/modal agreements.

7.1.8.2 Information reported shall include at least the description of the goods as provided in 5.4.1.4, description of the accident/incident, date and location, estimated loss of dangerous goods, containment information (e.g., packaging or tank type, identification markings, capacity and quantity) and cause and type of any packaging or tank failure that resulted in a release of dangerous goods.

7.1.8.3 Certain types of dangerous goods, as determined by the competent authority or established under applicable regional/modal agreements, may be excepted from these requirements for reporting of accidents or incidents."

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**Annex 2**

**DRAFT AMENDMENTS TO THE UN RECOMMENDATIONS ON THE TRANSPORT OF  
DANGEROUS GOODS, MANUAL OF TESTS AND CRITERIA  
(4<sup>th</sup> revised edition)**

Replace Appendix 5 by the text in document ST/SG/AC.10/C.3/2004/29.

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