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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 THIRTY-FIRST SESSION
(Geneva, 2-6 July 2007)**

Addendum

Annexes

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Annex 1

DRAFT AMENDMENTS TO THE UN RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS, MODEL REGULATIONS (15th revised edition)

PART 1

1.2.1 Add the following new definitions:

"Cargo transport unit means a road transport tank or freight vehicle, a railway transport tank or freight wagon, or a multimodal freight container, a portable tank or a MEGC;

Closed cargo transport unit means a cargo transport unit which totally encloses the contents by permanent structures. Cargo transport units with fabric sides or tops are not considered closed cargo transport units;"

Consequential amendments: Replace "transport unit"/"transport units" with "cargo transport unit"/"cargo transport units" where appropriate (applies to recommendations 11 and 12, 2.4.2.3.2.4 (b)(ii), 2.5.3.2.5.1 (b), 3.3 special provisions 172, 216 (twice), 217 (twice), 218 (twice), 232, 297, 299 and 335 (twice), 4.1.1.1 (twice), 4.1.2.3, 4.1.3.8.1 (a) (twice), 4.1.4.1 P002 special packing provisions PP7 and PP12, P410 Note d, P650 (twice), P900, 4.1.4.2 special packing provisions B1 and B2 in IBC04, IBC05, IBC06, IBC07 and IBC08, 5.2.1.6.3, 5.3.1.1.2 (4 times), 5.3.1.1.3, 5.3.1.1.4 (twice), 5.3.2.1.1 (3 times), 5.3.2.2, 5.3.2.3.1, 6.7.5.2.1, 7.1.1.3 (twice), 7.1.1.4 (3 times), 7.1.1.5, 7.1.1.6, 7.1.1.7 (twice), 7.1.1.9 and Note 2, 7.1.3.1.3, 7.1.4.1, 7.1.5.3.2.1, 7.1.5.3.2.2 (twice), 7.1.7.1.1m 7.1.7.1.2 (3 times), 7.1.7.2.3 (3 times) and 7.2.4.4).

1.3.1, 1.3.2 (4 times), 1.5.2.7 Replace "shall receive" with "shall have received".

PART 2

2.1.2.1.1 Add the following new notes after the table:

NOTE 1: Articles of compatibility groups D and E may be fitted or packed together with their own means of initiation provided that such means have at least two effective protective features designed to prevent an explosion in the event of accidental functioning of the means of initiation. Such articles and packages shall be assigned to compatibility groups D or E.

NOTE 2: Articles of compatibility groups D and E may be packed together with their own means of initiation, which do not have two effective protective features when, in the opinion of the competent authority of the country of origin, the accidental functioning of the means of initiation does not cause the explosion of an article under normal conditions of transport. Such packages shall be assigned to compatibility groups D or E."

PART 3**Dangerous goods list**

For UN Nos. 1194, 1222, 1261, 1865, 3094 and 3301, replace "P099" with "P001" in Column (8).

For UN Nos. 3095, 3096 and 3124, replace "P099" with "P002" in Column (8).

For UN Nos. 3385, 3386, 3389 and 3390, add "329" in Column (6).

For UN Nos. 3383 and 3384, add "313" in Column (6).

UN 1266 For packing groups II and III, add "163" in column (6).

UN 1999 In column (2), amend the name to read "TARS, LIQUID, including road oils, and cutback bitumens".

Add the following new entry:

(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9)	(10)	(11)
0509	POWDER, SMOKELESS†	1.4C				0	E0	P114 (b)	PP48		

3.3 **SP198** Insert ", perfumery products" after "paints" and ", 1266" after "1263" respectively.

SP313 Amend to read as follows:

"Where substances meet the criteria for Class 8, the package(s) shall bear a "CORROSIVE" subsidiary risk label (Model No. 8, see 5.2.2.2.2) in addition to the hazard label(s) required by these Regulations.".

3.4.2 Add a new second sentence to read as follows:

"Intermediate packagings may be used.".

3.4.3 Amend the end of the first sentence after "with this Chapter" to read as follows:

"Inner packagings that are liable to break or be easily punctured, such as those made of glass, porcelain, stoneware or certain plastics, shall be placed in suitable intermediate packagings meeting the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8, and be so designed that they meet the construction requirements of 6.1.4.".

3.4.10 Add a new 3.4.10 to read as follows:

"3.4.10 When packages are placed in an overpack, the overpack shall be marked with the word "OVERPACK" and the marking required by 3.4.8 for each item of dangerous goods contained in the overpack unless the markings representative of all dangerous goods in the overpack are visible. The overpack need not be marked with the proper shipping name nor labelled.".

PART 4

4.1.1.3 Amend the second sentence to read as follows:

"However, IBCs manufactured before 1 January 2011 and conforming to a design type which has not passed the vibration test of 6.5.6.13 or which was not required to meet the criteria of 6.5.6.9.5 (d) at the time it was subjected to the drop test, may still be used.".

4.1.4.1 **P114** (b) Amend special packing provision PP48 to read as follows:

"PP48 For UN 0508 and UN 0509, metal packagings shall not be used.".

4.1.4.1 **P200** (4) *Gas specific provisions*

Add the following new special packing provision "ra":

"ra: This gas may also be packed in capsules under the following conditions:

- (a) The mass of gas shall not exceed 150 g per capsule;
- (b) The capsules shall be free from faults liable to impair the strength;
- (c) The leakproofness of the closure shall be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any leakage of the closure during transport;
- (d) The capsules shall be placed in an outer packaging of sufficient strength. A package shall not weigh more than 75 kg.".

4.1.4.1 **P200** Table 2, against UN 1037

Add "ra" in column "Special packing provisions".

4.1.4.1 **P620** Add the following new additional requirement:

"4. 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. These small quantities of dangerous goods of Classes 3, 8 or 9 are not subject to any additional requirements of these Regulations when packed in accordance with this packing instruction.".

Renumber 4. as 5.

4.1.4.1 **P804** In (1), replace "metal receptacles" with "metal or rigid plastics receptacle".

4.2.5.2.6 In the table for portable tank instructions T1-T22, add a reference to a new footnote b after "Bottom opening requirements" in the heading of the last column. The footnote shall read as follows:

^{"b} *When this column indicates "not allowed", bottom openings are not permitted when the substance to be transported is a liquid (see 6.7.2.6.1). When the substance to be transported is a solid at all temperatures encountered under normal conditions of transport, bottom openings conforming to the requirements of 6.7.2.6.2 are authorized."*

PART 5

5.3.1.1.1 Delete.

PART 6

6.1.5.3.6.3 Amend to read as follows:

"6.1.5.3.6.3 The packaging or outer packaging of a composite or combination packaging shall not exhibit any damage liable to affect safety during transport. Inner receptacles, inner packagings, or articles shall remain completely within the outer packaging and there shall be no leakage of the filling substance from the inner receptacle(s) or inner packaging(s).".

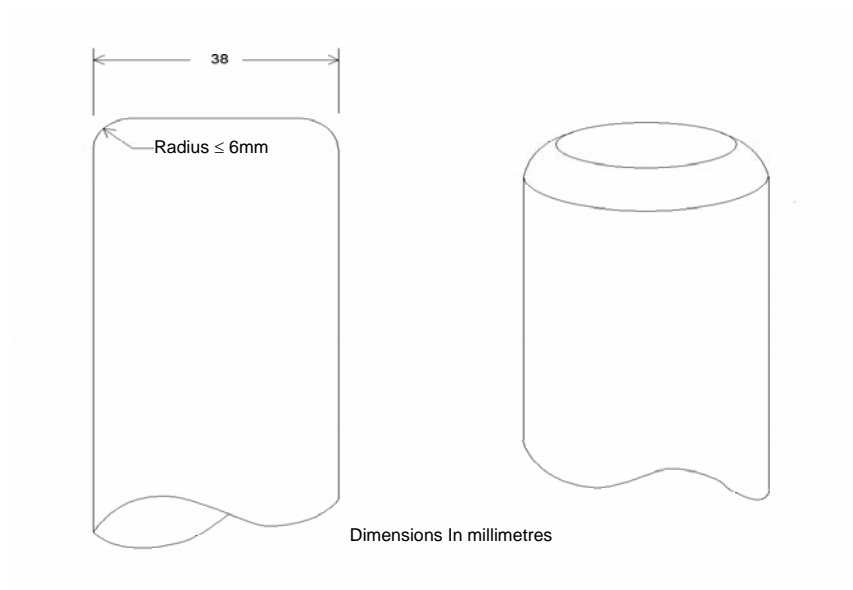
6.2.1.6.1 Add a new Note after 6.2.1.6.1 to read as follows:

"NOTE: For the periodic inspection and test frequencies, see packing instruction P200 of 4.1.4.1."

6.3.5.4.1 In the second sentence, insert "(see Figure 6.3.1)" after "not exceeding 6 mm".

6.3.5.4.2 In the third sentence, insert "(see Figure 6.3.1)" after "not exceeding 6 mm".

Insert the following Figure as new Figure 6.3.1 after 6.3.5.4.2:



6.5.6.9.5 (d) Add a new Note after (d) to read as follows:

NOTE: *The criteria in (d) apply to design types for IBCs manufactured as from 1 January 2011."*

6.6.5.2.2 Replace current text with the same text as in 6.1.5.2.2 except that "6.1.5.3.5" should be replaced with "6.6.5.3.4.4".

6.6.5.3.4.4 Amend to read as follows:

"6.6.5.3.4.4 Drop height

NOTE: *Packagings for substances and articles of Class 1, self-reactive substances of Division 4.1 and organic peroxides of Division 5.2 shall be tested at the packing group II performance level.*

6.6.5.3.4.4.1 For inner packagings containing solid or liquid substances or articles, if the test is performed with the solid, liquid or articles to be transported, or with another substance or article having essentially the same characteristics:

Packing group I	Packing group II	Packing group III
1.8 m	1.2 m	0.8 m

6.6.5.3.4.4.2 For inner packagings containing liquids if the test is performed with water:

- (a) ... (Same text as in 6.1.5.3.5 (a));
- (b) ... (Same text as in 6.1.5.3.5 (b)).".

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Annex 2

**DRAFT AMENDMENTS TO TEST SERIES 6 (SECTION 16 OF THE
RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS,
MANUAL OF TESTS AND CRITERIA,
4th revised edition as amended)**

[16.1.1 In the first paragraph, replace "three" with "four" (twice). Add the following new paragraph, at the end:

"Type 6 (d): a test on a single package of an explosive substance or explosive articles, to determine if there are hazardous effects outside the package following accidental ignition or initiation of the contents."

Table 16.1 Add the following new row:

Test code	Name of Test	Section
6 (d)	Unconfined single package test ^a	16.7.1

16.2.2 In the first sentence, replace "and 6 (c)" with ", 6 (c) and 6 (d)". Add the following new text at the end:

"Test type 6 (d) is a test used to determine whether a 1.4S classification is appropriate and is only used if:

- (a) The results of test series 6 (a), 6 (b) or 6 (c) indicate that a 1.4S classification may be applicable; and
- (b) The functioning of the product as intended would be expected to produce effects more severe than those obtained in the 6 (c) test (e.g., where detonating explosives are present)."]

[16.7 Add a new section 16.7 to read as follows:

"16.7 Series 6 type (d) test prescription

16.7.1 Test 6 (d): Unconfined single package test

16.7.1.1 *Introduction*

This is a test on a single package to determine whether hazardous effects arising from accidental initiation or ignition are confined within the package.

16.7.1.2 *Apparatus and materials*

The following items are required:

- (a) A detonator to initiate the substance or article;
- (b) An igniter just sufficient to ensure ignition of the substance or article; and
- (c) A sheet of 3.0 mm thick mild steel to act as a witness plate.

Video equipment may be used.

16.7.1.3 *Procedure*

16.7.1.3.1 The test is applied to packages of explosive substances and articles in the condition and form in which they are offered for transport. The decision to use either an initiating stimulus or an igniting stimulus is based on the following considerations.

16.7.1.3.2 For packaged substances:

- (a) If the substance is intended to function by detonation, it should be tested with a standard detonator (Appendix 1);
- (b) If the substance is intended to function by deflagration, it should be tested with an igniter just sufficient (but not more than 30 g of black powder) to ensure ignition of the substance within the package. The igniter should be located in the centre of the substance in the package;

16.7.1.3.3 For packaged articles:

- (a) Articles provided with their own means of initiation or ignition:

The functioning of an article near the centre of the package is stimulated by the article's own means of initiation or ignition. Where this is impracticable, the article's own means of initiation or ignition is replaced by another form of stimulus having the required effect;

- (b) Articles not provided with their own means of initiation or ignition:

- (i) An article near the centre of the package is caused to function in the designed mode; or
- (ii) An article near the centre of the package is replaced by another article which can be caused to function with the same effect.

16.7.1.3.4 The package is placed on a steel witness plate on the ground without confinement.

16.7.1.3.5 The substance or article should be initiated and observations made on the following: evidence of thermal effects, projection effects, detonation, deflagration, explosion, fire or disruption of the package. ***A safe waiting period, prescribed by the test agency, should be observed after initiation.*** The test should be performed three times unless a decisive result is observed earlier (e.g. visible flames outside the package). If the results of the recommended

number of tests do not enable unambiguous interpretation of the results, the number of tests should be increased.

16.7.1.4 *Test criteria and method of assessing the results*

Inclusion in Compatibility Group S requires that any hazardous effects arising from functioning of the substances or articles in this test are confined within the package. Evidence of a hazardous effect outside the package includes:

- (a) Damage to the witness plate beneath the package;
- (b) A fireball or jet of flame which extends more than 1 m from the package;
- (c) Disruption and scattering of the package and its contents; and
- (d) A metallic projection with a kinetic energy exceeding 8 J as assessed by the distance-mass relation given in Figure 16.6.1.1;

The competent authority may wish to take into account the expected effect of the initiator when assessing the results of the test, if these are expected to be significant when compared to the substance or articles being tested. If there are hazardous effects outside the package, then the product is excluded from Compatibility Group S.

16.7.1.5 *Examples of results*

Substance or article	Packaging	Initiation System	Events	Result
Shaped charges (open-face, 19 g RDX)	Fibreboard box 50 charge in two layers	Detonator + 6 cm of detonating cord	Witness plate perforated, package destroyed, charges scattered	Not 1.4.S

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