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(Acts whose publication is obligatory)

COMMISSION DIRECTIVE 1999/47/EC

of 21 May 1999

adapting for the second time to technical progress Council Directive 94/55/EC on the approximation of the laws of the Member States with regard to the transport of dangerous goods by road

(Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

HAS ADOPTED THIS DIRECTIVE:

Having regard to the Treaty establishing the European Community,

Article 1

Having regard to Council Directive 94/55/EC of 21 November 1994 on the approximation of the laws of the Member States with regard to the transport of dangerous goods by road⁽¹⁾, as last amended by Commission Directive 96/86/EC⁽²⁾, and in particular Article 8 thereof,

Annexes to Directive 94/55/EC are modified as follows:

- (1) Whereas the Annexes to Directive 94/55/EC contain the ADR as applicable from 1 January 1997, which has since been published in all languages⁽³⁾;
- (2) Whereas the ADR is updated every two years and therefore an amended version is in force as from 1 January 1999 with a transitory period until 30 June 1999;
- (3) Whereas in accordance with Article 8, all the necessary modifications for adapting to technical and scientific progress in the field covered by the Directive and aiming at aligning it to the new rules have to be adopted in accordance with the procedure set out in Article 9;
- (4) Whereas it is necessary to adapt the sector to the new ADR rules and therefore to amend the Annexes to Directive 94/55/EC;
- (5) Whereas the measures provided for in the Directive are in accordance with the opinion of the Committee provided by Article 9 of Directive 94/55/EC;
- (6) Whereas the Annexes A and B to the European Agreement concerning the international carriage of dangerous goods by road, usually known as the ADR, as amended, should be attached to Directive 94/55/EC as the Annexes A and B and be applicable not only to cross-frontier transport, but also to transport within the individual Member States,

- 1) In Annex A: the following text⁽⁴⁾ is deleted:

'Annex A comprises the provisions of Marginals 2 000 to 3 999 of Annex A to the European Agreement on the international carriage of dangerous goods by road (ADR), as effective on 1 January 1997, 'Member State' being substituted for 'Contracting Party'.

NB: Versions in all the official languages of the Community of the amending text of 1997 to the consolidated text of 1995 of Annex A to the ADR will be published as soon as a text is available in all languages.'

Annex A is modified according to Annex A to this Directive.

- 2) In Annex B: the following text⁽⁴⁾ is deleted:

'Annex B comprises the provisions of Marginals 10 000 to 270 000 of Annex B to the European agreement on the international carriage of dangerous goods by road (ADR), as effective on 1 January 1997, 'Member State' being substituted for 'Contracting Party'.

NB: Versions in all the official languages of the Community of the amending text of 1997 to the consolidated text of 1995 of Annex B to the ADR will be published as soon as a text is available in all languages.'

Annex B is modified according to Annex B to this Directive.

⁽¹⁾ OJ L 319, 12.12.1994, p. 7.

⁽²⁾ OJ L 335, 24.12.1996, p. 43.

⁽³⁾ OJ L 275, 28.10.1996, p. 1, OJ L 251, 17.9.1997, p. 1.

⁽⁴⁾ Text which appears in Article 1 of Commission Directive 96/86/EC.

Article 2

1) The Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive before 1 July 1999. They shall forthwith inform the Commission thereof.

When the Member States adopt these measures they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.

2) Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field governed by this Directive.

Article 3

This Directive shall enter into force on the day following its publication in the *Official Journal of the European Communities*.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, 21 May 1999.

For the Commission

Neil KINNOCK

Member of the Commission

ANNEX A

PART I

DEFINITIONS AND GENERAL PROVISIONS

- 2000** (1) Insert (as the second indent) the following definition:
- ‘— the term ‘package’ means the complete product of the packing operation, consisting of the packaging or IBC and its contents prepared for dispatch. The term includes receptacles for gases as defined in marginal 2211 as well as articles which, because of their size, weight or configuration may be carried unpackaged or carried in cradles, crates or handling devices. The term does not apply to unpackaged articles or substances which are carried in bulk in containers or vehicles, nor to substances carried in tanks.’
- In the sixth indent for ‘ninth’ read ‘tenth’ and for ‘Rev.9’ read ‘Rev.10’.
- Add in the end:
- ‘— the term ‘IMDG Code’ means the International Maritime Dangerous Goods Code, published by the International Maritime Organization (IMO) in London.’
- ‘— the term ‘ICAO Technical Instructions’ means the Technical Instructions for the Safe Transport of Dangerous Goods by Air, published by the International Civil Air Organisation (ICAO) in Montreal.’
- 2002** (3) (a) *Note*: 2, amend to read:
- ‘In the case of the application of marginal 10011, the total quantity of dangerous goods carried per transport unit shall be expressed as a value calculated in accordance with the provisions of that marginal applicable to the calculation of the maximum total quantity per transport unit.’
- (8) (a) Add a new final subparagraph as follows:
- ‘A mixture or a solution containing one or more substances identified by name or classified under an ‘n.o.s.’ entry and one or more non-dangerous substances is not subject to the provisions of this Directive if the hazard characteristics of the mixture or solution are such that they do not meet the criteria (including human experience criteria) for any class.’
- (15) Add a new paragraph (15) as follows:
- ‘(15) Consignors of dangerous goods governed by this Annex shall ensure that personnel employed in duties related to transport operations receive training in those areas appropriate to their responsibilities (see Annex B, marginal 10 316).’
- 2003** (4) Amend the first subparagraph to read:
- ‘Appendix A.1: Stability and safety conditions relating to explosive substances and articles and nitrated mixtures of nitrocellulose; and glossary of names in marginal 2101;’
- 2007** (c) Add at the end:
- ‘In such case, only paragraph (1) of marginal 10 500 is applicable to the marking and labelling of the vehicle itself;’.
- 2011** For ‘1997’ read ‘1999’ (twice). For ‘1996’ read ‘1998’.

PART II

LIST OF SUBSTANCES AND SPECIAL PROVISIONS FOR THE VARIOUS CLASSES

CLASS 1

EXPLOSIVE SUBSTANCES AND ARTICLES

- 2101** 4° Insert a new *Note*: 3. to identification number 0143 to read as follows:
- Note*: 3. The competent authority may authorise these mixtures to be classified under Class 3 on the basis of a Series 2 test and a Series 6(c) test on at least three packages as prepared for carriage (see marginal 2300 (9)).
- Renumber existing Notes 3 to 5 as 4 to 6 respectively.
- Renumber the Note to identification No 0150 as Note 1. and add a Note 2. to read as follows:
- Note*: 2. The competent authority may authorise these mixtures to be classified in Class 4.1 on the basis of a Series 6(c) test on at least three packages as prepared for carriage.
- Delete the word 'commercial' from the name in:
- 5° Identification number 0059
- 17° Identification number 0439
- 39° Identification number 0440
- 47° Identification number 0441
- 2102** Amend the last sentence of paragraph (14), to read as follows:
- 'Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling, storage or launching devices in such a way that they will not become loose during normal conditions of carriage.'
- Insert a new paragraph (15), to read as follows:
- '(15) Where such large explosive articles are, as part of their operational safety and suitability tests, subjected to test regimes that meet the intentions of this Directive and such tests have been successfully undertaken, the competent authority may approve such articles to be carried under this Directive.'
- Renumber existing paragraphs (15) and (16) as (16) and (17) respectively.
- 2105** (1) Before the last sentence, insert a new sentence as follows:
- '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.'
- (3) Delete the text 'containing one or several corrosive substances according to criteria for Class 8.'
- Delete the footnote reference '(1)' after '0018' and '0019' and add it after '0015' and '0016'.
- 2115** (2) Insert 'inscriptions and' before 'danger labels'.

CLASS 2

GASES

- 2201** 1° A Delete *Note* 3.
- 1° O Delete *Note* to identification No 1014.
- 1° TO Move '2451 NITROGEN TRIFLUORIDE, COMPRESSED' from 1° TO to 1° O.

- 2201**
(cont.)
- 2° A Insert before No 1078:
- '3337 REFRIGERANT GAS R 404A (Pentafluoroethane, 1,1,1-trifluoroethane and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 44% pentafluoroethane and 52% 1,1,1-trifluoroethane)
- 3338 REFRIGERANT GAS R 407A (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 20% difluoromethane and 40% pentafluoroethane)
- 3339 REFRIGERANT GAS R 407B (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 10% difluoromethane and 70% pentafluoroethane)
- 3340 REFRIGERANT GAS R 407C (Difluoromethane, pentafluoroethane, and 1,1,1,2-tetrafluoroethane zeotropic mixture with approximately 23% difluoromethane and 25% pentafluoroethane)'
- 2° F No 1965:
- Insert after MIXTURE A:
- 'MIXTURE A01 have a vapour pressure at 70°C not exceeding 1,6 MPa (16 bar) and a density at 50°C not lower than 0,516 kg/l;
- MIXTURE A02 have a vapour pressure at 70°C not exceeding 1,6 MPa (16 bar) and a density at 50°C not lower than 0,505 kg/l.'
- Insert before MIXTURE B:
- 'MIXTURE B1 have a vapour pressure at 70°C not exceeding 2,3 MPa (23 bar) and a density at 50°C not lower than 0,474 kg/l;
- MIXTURE B2 have a vapour pressure at 70°C not exceeding 2,6 MPa (26 bar) and a density at 50°C not lower than 0,463 kg/l.'
- Amend Note 1. to read:
- 'In the case of the foregoing mixtures, the use of the following names customary in the trade is permitted for describing these substances: for mixtures A, A01, A02 and A0: BUTANE, for mixture C: PROPANE.'
- Insert after No 1965:
- '3354 INSECTICIDE GAS, FLAMMABLE, N.O.S.'
- 2° TF Insert before No 3160:
- '3355 INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.'
- 6° A After No 3164, add a new Note to read as follows:
- 'Note: Articles intended to function as shock absorbers are not subject to the provisions of this Directive provided each article:
- (a) has a gas space capacity not exceeding 1 litre and a charge pressure not exceeding 50 bar;
 - (b) has a minimum burst pressure of four times the charge pressure at 20°C;
 - (c) is manufactured from material which will not fragment upon rupture;
 - (d) when subjected to fire, is protected from rupture by means of a fire-degradable seal or a pressure relief device to relieve internal pressure; and
 - (e) is manufactured in accordance with a quality assurance standard acceptable to the competent authority.'

- 2201** (cont.) Insert at the end:
- '3353 AIR BAG INFLATORS, COMPRESSED GAS or 3353 AIR BAG MODULES, COMPRESSED GAS or 3353 SEAT-BELT PRETENSIONERS, COMPRESSED GAS
- Note:* 1. This entry applies to articles which are used as life-saving vehicle air bag inflators or air bag modules or seat-belt pretensioners, containing a compressed gas or a mixture of compressed gases classified under Class 2 and with or without small quantities of pyrotechnic material. For units with pyrotechnic material, initiated explosive effects shall be contained within the pressure vessel such that the unit may be excluded from Class 1 in accordance with the *Note* to marginal 2100 (2) (b), in conjunction with 16.6.1.4.7 (a) (ii) of the Manual of Tests and Criteria, Part I. In addition, units shall be designed or packaged for carriage so that when engulfed in fire there will be no fragmentation of the pressure vessel or projection hazard. This shall be determined by analysis. The pressure vessel shall be in compliance with the requirements for the gas(es) contained in the pressure vessel.
2. Air bags or seat-belts installed in vehicles or in completed vehicle components (such as steering columns, door panels, seats etc.) are not subject to the provisions of this Directive.'
- 2201a** (3) Amend the last two subparagraphs to read:
- 'Each package shall be clearly and durably marked with:
- (a) the identification number of the goods contained therein, preceded by the letters 'UN';
- (b) in the case of different goods with different identification numbers within a single package:
- the identification numbers of the goods contained therein, preceded by the letters 'UN', or
 - the letters 'LQ' ⁽¹⁾.
- These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. If the size of the package so requires, the dimensions may be reduced provided that the markings remain clearly visible.'
- 2207** (3) Amend to read as follows:
- The following gases shall be accepted as propellants, as constituents of propellants, or as filler gases, for aerosol dispensers (1950 aerosols): gases of 1°A, 1°O and 1°F, other than 2203 silane; gases of 2°A and 2°F, other than methylsilane assigned to identification No 3161; and 1070 nitrous oxide of 2°O.'
- (4) Amend to read as follows:
- 'All gases of 1° and 2°, except the pyrophoric gases and very toxic gases (gases with an LC50 lower than 200 ppm), shall be accepted as filling gases for 2037 gas cartridges.'
- 2210** (1) (a) Add at the end:
- 'Nevertheless, if these packagings have a maximum gross mass of not more than 2 kg, compliance with the 'General conditions of packing' of marginal 3500 (1), (2) and (5) to (7) shall be sufficient'.
- 2212** (1) Insert 'directives and' before 'standards'.
- Add at the end a new indent as follows:
- '— for the openings: EN 849:1996 Transportable gas cylinders — Cylinder valves — Specification and type testing'.
- 2213** (2) Amend 'standards' to read 'standard'.
- For '[reserved]' read 'EN 962:1996 Transportable gas cylinders — Valve protection caps and valve guards for industrial and medical gas cylinder — Design, construction and tests'.
- 2215** (1) to (3)
- Replace 'country of origin' by 'country of approval'.

⁽¹⁾ The letters 'LQ' are an abbreviation for the English words 'Limited Quantities'.

2223 (2) Amend the third indent of the footnote as follows:

'For 1965 hydrocarbon gas mixtures, liquefied N.O.S. of 2° F: mixture A or butane, mixture A01 or butane, mixture A02 or butane, mixture A0 or butane, mixture A1, mixture B1, mixture B2, mixture B, mixture C or propane.'

2223 (3) Amend to read as follows:

'The requirements of paragraph (1) with the exception of (b) are considered to be complied with if the relevant parts of the following standard are applied:

EN 1089 — 1:1996 Transportable gas cylinders — Gas cylinder identification (excluding LPG) — Part 1: Stampmarking.'

(6) For 'UN 1950 AEROSOL', read 'UN 1950 AEROSOLS'.

2226 (1) Amend the third indent to read:

'— For 1965 hydrocarbon gas mixtures, liquefied n.o.s. of 2° F:

mixture A or butane, mixture A01 or butane, mixture A02 or butane, mixture A0 or butane, mixture A1, mixture B1, mixture B2, mixture B, mixture C or propane.

For transport in tanks the trade names butane and propane may be used only as a complement.'

2237 (2) Insert 'inscriptions and' before 'danger labels'.

2250 In the table amend entries as follows:

1° TO Move '2451 NITROGEN TRIFLUORIDE, COMPRESSED' from 1° TO to 1° O and replace '5' with '10' for the test period.

2° A '3220 PENTAFLUOROETHANE (REFRIGERANT GAS R 125)', in the column 'MPa test pressure', for '4,9' read '3,4'.

Insert a second line for identification number 3220 reading:

'(1),(2),(3),(5) | — | 3,6 | 10 | 0,72 | g'.

2° TC '1005 AMMONIA ANHYDROUS', in the column 'Period (years)', for '10' read '5'.

Identification number 2194: Replace '20,0' with '3,6' in the column for test pressure (MPa) and '1,3' with '1,46' in the column for maximum filling degree (kg/l).

4° A '2073 AMMONIA SOLUTION' in the column 'Period (years)' for '10' read '5'.

4° TC '3318 AMMONIA SOLUTION', in the column 'Period (years)' for '10' read '5'.

2250
(cont.)

Item No and Group	Identification No	Name of the substance of article	Packaging	Test			Filling	Special requirements
			Type of receptacle (Marginal 2211)	Pressure		Period (years) ⁽¹⁾	Max. fill degree kg/l or MPa or Vol%.	
				x Fill press	MPa			

— Insert the following entries:

2° A	'3337	REFRIGERANT GAS R 404A	(1)(2)(3)(5)		3,6	10	0,82	
	3338	REFRIGERANT GAS R 407A	(1)(2)(3)(5)		3,6	10	0,94	
	3339	REFRIGERANT GAS R 407B	(1)(2)(3)(5)		3,8	10	0,93	
	3340	REFRIGERANT GAS R 407C	(1)(2)(3)(5)		3,5	10	0,95'	

— Amend to read as follows:

2° F	'1965	HYDROCARBON GAS MIXTURE, LIQUEFIED N.O.S.	(1)(2)(3)(5)			10	(²)	m, n
		MIXTURE A	(1)(2)(3)(5)		1,0	10	0,50	
		MIXTURE A01	(1)(2)(3)(5)		1,5	10	0,49	
		MIXTURE A02	(1)(2)(3)(5)		1,5	10	0,48	
		MIXTURE A0	(1)(2)(3)(5)		1,5	10	0,47	
		MIXTURE A1	(1)(2)(3)(5)		2,0	10	0,46	
		MIXTURE B1	(1)(2)(3)(5)		2,5	10	0,45	
		MIXTURE B2	(1)(2)(3)(5)		2,5	10	0,44	
		MIXTURE B	(1)(2)(3)(5)		2,5	10	0,43	
		MIXTURE C	(1)(2)(3)(5)		3,0	10	0,42'	

— Insert the following entry:

2° F	'3354	INSECTICIDE GAS, FLAMMABLE, N.O.S.	(1)(2)(3)(5)			10		n'
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— Insert the following entry:

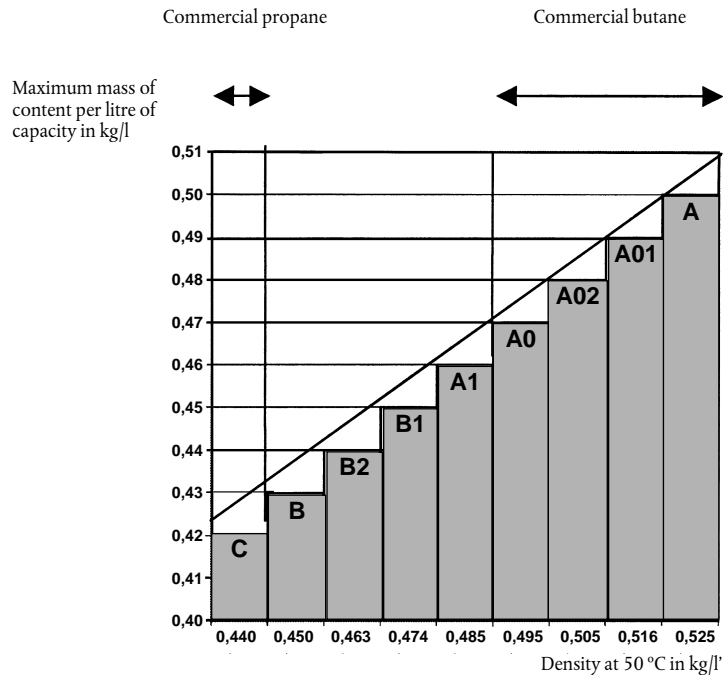
2° TF	'3355	INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.	(1)(2)(3)(5)			5		n'
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Add the following footnote:

'(²) See Note at the end of this table.'

2250 Add the following *Note* after the table:
(cont.)

'Note: For mixtures of gases of 2° F, 1965, the maximum filling mass per litre of capacity is as follow:



CLASS 3

FLAMMABLE LIQUIDS

2300 (2) Note: 1.: Insert 'but not above 100 °C' after 'above 60 °C'.

(9) Add a new paragraph (9) to read as follows:

'(9) Nitroglycerin mixture desensitised, liquid, flammable, with not more than 30% nitroglycerin, by mass which has been assigned to identification No 3343 of the United Nations Recommendations on the Transport of Dangerous Goods shall be classified or accepted for carriage as a substance of Class 3 unless authorised by the competent authority on the basis of results from a Series 2 test and a Series 6(c) test of the Manual of Tests and Criteria, Part I, on packages as prepared for carriage. The competent authority shall assign the item and group on the basis of the actual degree of danger and the package type used for the Series 6(c) test (see also marginal 2101, 4°, identification No 0143)'.

2301 2° (a) and (b) Insert the following before 1993:

'3336 mercaptans, liquid, flammable, n.o.s. or 3336 mercaptan mixture, liquid, flammable, n.o.s.'

3° (b) Under 'Hydrocarbons' amend 1307 to read as follows '1307 xylenes'.

Under 'Alcohols' amend '1105 amyl alcohols' to read '1105 pentanols'.

Under 'Substances containing sulphur' add the following at the end:

'3336 mercaptans, liquid, flammable, n.o.s. or 3336 mercaptan mixture, liquid, flammable, n.o.s.'

5° Note: 1, last sentence: for 'or 22°' read 'or 26°'.

23° Delete '2401 piperidine'.

31° (c) Note: Amend to read:

'By derogation from marginal 2300 (2), diesel fuel, gasoil and heating oil (light) having a flashpoint above 61 °C, but not above 100 °C, shall be deemed to be substances of 31 °C (c), substance identification number 1202'.

Under 'Hydrocarbons' amend 1307 to read as follows: '1307 xylenes'.

Under 'Halogenated substances' insert the following before 2392: '2344 bromopropanes'.

2301

(cont.)

Under 'Alcohols', amend '1105 *amyl alcohols*' to read '1105 *pentanols*'.

Under 'Substances containing sulphur', add the following at the end:

'3336 *mercaptans, liquid, flammable, n.o.s. or 3336 mercaptan mixture, liquid, flammable, n.o.s.*'.

Note: 2. under F: Amend to read as follows:

'2: The classification of a pesticide under an entry of 41° shall be effected on the basis of the active ingredient, of the physical state of the pesticide and any subsidiary risks it may exhibit'.

41° Delete 2766, 2768, 2770 and 2774.

Amend 2772, to read as follows:

'2772 *thiocarbamate pesticide, liquid, flammable, toxic, flash-point less than 23°C*'.

Insert after 3024:

'3346 *phenoxyacetic acid derivative pesticide, liquid, flammable, toxic, flash-point less than 23°C*,

3350 *pyrethroid pesticide, liquid, flammable, toxic, flash-point less than 23°C*'.

71° The existing Note is numbered Note 1.

Add a new Note: 2. to read:

'2. Empty tank-vehicles, empty demountable tanks and empty tank-containers, uncleaned which have contained substances of 61° (c) are not subject to the requirements of this Directive if adequate measures have been taken to nullify any hazard.'

2301a

(2) In the first sentence, after 'plastics inner packagings' insert 'which are not liable to break or be easily punctured'.

Amend (a), (b) and (c) to read as follows:

'(a) Substances classified under (b) of each item, except 5° (b) and alcoholic beverages of 3° (b): not more than 1 litre per inner packaging, and not more than 12 litres per package;

(b) Alcoholic beverages of 3° (b): not more than 1 litre per inner packaging;

(c) Substances classified under 5° (b): not more than 1 litre per inner packaging and not more than 20 litres per package.'

(4) Add, 'subject to the conditions mentioned in paragraph (6) below'.

(6) In the first sentence, delete 'and (5)'.

(7) Amend to read:

'For carriage in accordance with paragraphs (1) and (2) above each package shall be clearly and durably marked with:

(a) the identification number of the goods contained therein, preceded by the letters 'UN';

(b) in the case of different goods with different identification numbers within a single package:

— the identification numbers of the goods contained therein, preceded by the letters 'UN', or

— the letters 'LQ'⁽¹⁾.

These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. If the size of the package so requires, the dimensions may be reduced provided that the markings remain clearly visible.'

⁽¹⁾ The letters 'LQ' are an abbreviation for the English words 'Limited Quantities'.

- 2308** (3) Second sentence, delete the words: 'and for substances of item 5° (c)'.

Amend final sentence in parenthesis to read: '(see marginals 3512, 3552 to 3554 and 3561)'.

- 2314** (1) Amend the 4th subparagraph to read as follows:

'For the carriage of substances and preparations used as pesticides of 41°, the description of the goods shall include the technical name(s) (*) of the active ingredient(s), e.g. '2784 organophosphorus pesticide, liquid, flammable, toxic (Dimephos), 3, 41°(b), ADR.'

(*) The technical name(s) shall be the ISO common name(s) (see ISO 1750: 1981, as amended), other name(s) listed in the 'The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification' or the name(s) of the active substance(s).'

- 2322** (2) Insert 'inscriptions and 'before 'danger labels'.

CLASS 4.1

FLAMMABLE SOLIDS

- 2401** Note: 2. under C: Amend to read as follows:

'Nitroglycerin mixture, desensitised, solid, n.o.s., with more than 2% but not more than 10% nitroglycerin, by mass, and pentaerythrite tetranitrate mixture, desensitised, solid, n.o.s., with more than 10% but not more than 20% PETN, by mass, which have been assigned respectively to identification Nos 3319 and 3344 of the United Nations Recommendations on the Transport of Dangerous Goods, shall only be accepted for carriage as substances of Class 4.1 if they meet the requirements of the competent authority. The competent authority shall assign the item and group on the basis on the actual degree of danger and the package type used for the series 6(c) (see also marginal 2101, 4°, identifications Nos 0143 and 0150).'

11° (c) For entry 2687 in the name, for 'nitrate' read 'nitrite'.

21° (a) 3. In the second paragraph delete ', see under 1. above'.

In the Note for 'see under 2.' read 'see under 1.'

25° Amend the Note as follows:

'Barium azide with a water content lower than the stated limit is a substance of Class 1, identification No 0224 (see marginal 2101, 01°).'

26° (c) Note: 2.: Amend to read as follows:

'Formulations of isosorbide-5-mononitrate containing not less than 30% non-volatile, non-flammable phlegmatizer are not subject to the provisions of this Directive.'

32° For '3222 *self-reactive liquid type B*' read '3222 *self-reactive solid type B*'.

- 2401a** (2) After 'plastics inner packagings' insert 'which are not liable to break or be easily punctured'.

(3) Amend to read:

'For carriage in accordance with paragraphs (1) and (2) above each package shall be clearly and durably marked with:

- (a) the identification number of goods contained therein, preceded by the letters 'UN';
- (b) in the case of different goods with different identification numbers within a single package:
 - the identification numbers of goods contained therein, preceded by the letters 'UN', or
 - the letters 'LQ'⁽¹⁾.

These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. If the size of package so requires, the dimensions may be reduced provided that the markings remain clearly visible.'

⁽¹⁾ The letters 'LQ' are an abbreviation for the English words 'Limited Quantities'.

- 2403** After 'tank-vehicles' insert 'or demountable tanks'.
- 2405** (2) For '2412 (5)' read '2412 (4)'.
For '2102 (4) and (6)' and read '2102 (9) and (10)'.
(5) Amend the end of this paragraph to read as follows:
- 2414** (1) Fourth paragraph, for '[see marginal 2000(4)]' read '[see marginal 2000(5)]'.
'... vapours evolved during self-accelerating decomposition or during a period of not less than one hour of fire engulfment calculated by the methods given in marginals 211 536(3) and 212 536(3)'.
- 2422** (4) Insert 'inscriptions and' before 'danger labels'.
(5) For '41°, ADR' read '51°, ADR'.

CLASS 4.2

SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION

- 2431** 5° (b), (c) Insert before 3088:
'3341 thiourea dioxide, 3342 xanthates'.
12° Note: 3, insert after 'combustible form', the word 'non-toxic'.
31° Amend entry 2003, to read as follows:
'2003 metal alkyls, water-reactive, n.o.s. or 2003 metal aryls, water-reactive, n.o.s.'.
32° Amend entries 3049, to read as follows:
'3049 metal alkyl halides, water-reactive, n.o.s. or 3049 metal aryl halides, water-reactive, n.o.s.'.
Amend entry 3050, to read as follows:
'3050 metal alkyl hydrides, water-reactive, n.o.s. or 3050 metal aryl hydrides, water-reactive, n.o.s.'.
33° Amend entry 3203 to read as follows:
'3203 pyrophoric organometallic compound, water-reactive, n.o.s.'.
- 2436** Insert a new paragraph (3), to read as follows:
'(3) Substances of 1°(b) may also be packed in multiwall paper bags (5M1) and multiwall water resistant bags (5M2) conforming to marginal 3536'.
Re-number existing paragraphs (3) and (4) as (4) and (5) respectively.
- 2437** Insert a new paragraph (5), to read as follows:
'(5) Substances of 1°(c) may also be packed in multiwall paper bags (5M1) in accordance with marginal 3536. For 1362 carbon, activated, the multiwall paper bags shall be enclosed in hermetically sealed plastics bags or wrapping, shrink or stretch, wrapped onto pallets'.
Re-number existing paragraph (5) as (6).
- 2452** (2) Insert 'inscriptions and' before 'danger labels'.

CLASS 4.3

SUBSTANCES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES

2471 18° Note: 2, for 'flammable' read 'toxic flammable'.

2471a (1) After 'plastics inner packagings' insert 'which are not liable to break or be easily punctured'

(2) Amend to read:

'For carriage in accordance with paragraph (1) above each package shall be clearly and durably marked with:

(a) the identification number of the goods contained therein, preceded by the letters 'UN'

(b) in the case of different goods with different identification numbers within a single package:

- the identification numbers of the goods contained therein, preceded by the letters 'UN', or
- the letters 'LQ'⁽¹⁾.

These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. If the size of the package so requires, the dimensions may be reduced provided that the markings remain clearly visible'.

2472 (2) Amend as follows:

'Packagings including intermediate bulk containers (IBCs) shall be hermetically closed so as to prevent any infiltration of humidity or any loss of the contents. They shall not have vents in accordance with marginals 3500 (8) or 3601 (6)'.

(3) In the first indent insert after 'marked with the letter 'X,' the text 'or IBCs of packing group I marked with the letter 'X,'

In the second indent for 'or IBCs of packing group II, marked with the letter 'Y,' read 'or IBCs of packing group II or I, marked with the letter 'Y' or 'X,'

In the third indent for 'or IBCs of packing group III or II, marked with the letter 'Z' or 'Y,' read 'or IBCs of packing group III, II or I, marked with the letter 'Z', 'Y' or 'X,'

2474 (3) Add a new paragraph (3) to read:

'(3) Solid substances according to marginal 2470 (10), of 11°, 13°, 17° and 20° may also be packed in metal IBCs conforming to marginal 3622'.

2482 (4) Amend to read as follows:

'Packages containing substances of 3°, 1391 alkali metal dispersion or alkaline-earth metal dispersion of 11°(a) with a flash-point of not more than 61° and 1411 lithium aluminium hydride, ethereal, of 16°(a) shall, in addition, bear a label conforming to model No 3.'

2492 (2) 'Insert 'inscriptions and' before 'danger labels.'

CLASS 5.1

OXIDISING SUBSTANCES

2501 27° (b) Insert before 1479: '3356 oxygen generators, chemical'

Insert a Note to read as follows:

'Note: 3356 oxygen generators, chemical, containing oxidising substances and containing an explosive actuating device shall be accepted for carriage under this item only when excluded from Class 1 in accordance with the Note in marginal 2100 (2)(b).

⁽¹⁾ The letters 'LQ' are an abbreviation for the English words 'Limited Quantities'.

- 2501**
(cont.)
- The generator, without its packaging, shall be capable of withstanding a 1,8 m drop test onto a rigid, non-resilient, flat and horizontal surface, in the position most likely to cause damage, without loss of its contents and without actuation.
- When a generator is equipped with an actuating device, it shall have at least two positive means of preventing unintentional actuation.
- Special packing conditions are applicable to these articles (see marginal 2507 (3)).'
- 2501a**
- (1) After 'plastics inner packagings' insert 'wich are not liable to break or be easily punctured'.
- (2) Amend to read:
- 'For carriage in accordance with paragraph (1) above each package shall be clearly and durably marked with:
- (a) the identification number of the goods contained therein, preceded by the letters 'UN';
- (b) in the case of different goods with different identification numbers within a single package:
- the identification numbers of the goods contained therein, preceded by the letters 'UN', or
 - the letters 'LQ' ⁽¹⁾.
- These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. If the size of the package so requires, the dimensions may be reduced provided that the markings remains clearly visible.'
- 2502**
- (3) In the first indent insert after 'marked with the letter 'X,' the text 'or IBCs of packing group I marked with the letter 'X,'
- In the second indent for 'or IBCs of packing group II, marked with the letter 'Y,' read 'or IBCs of packing group II or I, marked with the letter 'Y' or 'X,'
- In the third indent for 'or IBCs of packing group III or II, marked with the letter 'Z' or 'Y,' read 'or IBCs of packing group III, II or I, marked with the letter 'Z', 'Y' or 'X,'
- 2506**
- (4) Add a new paragraph (4) to read:
- '(4) Solid substances according to marginal 2500 (10) of 25° and 27° may also be packed in:
- (a) metal IBCs conforming to marginal 3622, or
- (b) rigid plastics IBCs conforming to marginal 3624, or
- (c) composite IBCs with plastics inner receptacle conforming to marginal 3625 with the exception of types 11HZ2 and 21HZ2, provided they are carried in closed vehicles or in containers of the closed type with complete walls.'
- 2507**
- (3) Add a new paragraph (3), to read as follows:
- '(3) Oxygen generators of 27° (b) shall be carried in a package meeting the requirements for packing group II and which shall also meet the following requirements when one generator in the package is actuated:
- (a) other generators in the package shall not be actuated;
- (b) packaging material shall not ignite; and
- (c) the outside surface temperature of the completed package shall not exceed 100 °C.'
- 2512**
- (3) Amend first sentence of this paragraph to read as follows:
- 'Packages containing substances of 2°, 5°, 1500 sodium nitrite of 23°(c) or substances of 29° or 30° shall in addition bear a label conforming to model No 6.1.'
- 2522**
- (2) Insert 'inscriptions and' before 'danger labels'.

⁽¹⁾ The letters 'LQ' are an abbreviation for the English words 'Limited Quantities'.

CLASS 5.2

ORGANIC PEROXIDES

2550 (5) Insert a Note as follows:

'Note: Test methods for determining the flammability of organic peroxides are set out in the Manual of Tests and Criteria, Part III, sub-section 3.2.4. Because organic peroxides may react vigorously when heated, it is recommended to determine their flash-point using small sample sizes such as described in ISO 3679: 1983.'

(12) At the end, for 'Division' read 'Class'

2551 In the tables in the header of column 'Packing method', for '2554' read '2553'.

6° For '2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane-3' read '2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexyne-3'.

9° (b) 'Di-tert-butyl peroxide (2)'

In column 'concentration' for '≤ 32' read '≤ 52'.

In column 'Diluent type B' for '≥ 68' read '≥ 48'.

12° (b) For 'dicyclohexyl peroxydicarbonate (concentration > 91–100%)' change the packing method from 'OP 5' to 'OP 3'.

14° (b) For 'dicyclohexyl peroxydicarbonate (concentration ≤ 91%)' change the packing method from 'OP 3' to 'OP 5'.

15° (b) Insert the following new entry:

Isopropyl sec-butyl peroxydicarbonate + di-sec-butyl peroxydicarbonate + di-isopropyl peroxydicarbonate

Concentration ≤ 32 + ≤ 15–18 + ≤ 12–15

Diluent type A ≥ 38 (*)

Packing method OP7

Control temperature – 20 °C

Emergency temperature – 10 °C

(*) ...

2551a (1) After 'plastics inner packagings' insert, 'which are not liable to break or be easily punctured'.

2551a (2) Amend to read:

'For carriage in accordance with paragraph (1) above each package shall be clearly and durably marked with:

(a) the identification number of the goods contained therein, preceded by the letters 'UN',

(b) in the case of different goods with different identification numbers within a single package:

— the identification numbers of the goods contained therein, preceded by the letters 'UN', or

— the letters 'LQ'⁽¹⁾.

These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. If the size of the package so requires, the dimensions may be reduced provided that the markings remain clearly visible.'

2553 (3) For '2102 (4) and (6)' read '2102 (9) and (10)'.

⁽¹⁾ The letters 'LQ' are an abbreviation for the English words 'Limited Quantities'.

- 2555 (2) Insert the following introductory Note before the table:

'Note: When consigning an organic peroxide in an IBC in accordance with the following requirements/provisions, it is the responsibility of the consignor to ensure that:

- (a) the pressure and emergency relief devices installed on the IBC are designed to take appropriate account of the self accelerating decomposition of the organic peroxide and of fire engulfment; and
- (b) when applicable, the control and emergency temperatures indicated are appropriate, taking into account the design (e.g. insulation) of the IBC to be used.'

Insert to the table a footnote (1) to the column headings 'Control Temperature' and 'Emergency Temperature'.

'(*) The temperatures indicated are based on a non-insulated IBC.'

Amend the entry for 'Peroxyacetic acid, stabilised, not more than 17%', as follows:

2nd column: Add '31HA1' and '31A'

3rd column: Replace '1000' with '1500' for IBC type 31H1 and add '1500' for IBC types 31HA1 and 31A.

- (3) Amend the last part of the sentence to read:

'... vent all the decomposition products and vapours evolved during self-accelerating decomposition or during a period of not less than one hour of complete fire engulfment calculated by the equations given in marginal 211 536(3) and 212 536(3).'

- 2567 (2) Insert 'inscriptions and' before 'danger labels.'

CLASS 6.1

TOXIC SUBSTANCES

- 2600 (2) Amend the heading for D. to read:

'Inorganic substances which, on contact with water (or atmospheric humidity) aqueous solutions or acids may release toxic gases; and other toxic water-reactive ⁽¹⁾ substances'.

Add at the end:

'Substances, solutions and mixtures, with the exception of substances and preparations used as pesticides, which do not meet the criteria of Council Directive 67/548/EEC ⁽¹⁾ or Council Directive 88/379/EEC ⁽²⁾ as amended and therefore are not classified as highly toxic, toxic or harmful according to these directives, as amended, may be considered as substances not belonging to Class 6.1'.

⁽¹⁾ OJ L 196, 16.8.1967, p. 1.

⁽²⁾ OJ L 187, 16.7.1988, p. 14.

- 2601 Amend the heading for A. to read:

'A. **Substances which are highly toxic on inhalation with a flash-point below 23 °C**.'

9° (a) Entry 3279, for 'organophosphorous' read 'organophosphorus'.

12° (c) Delete: '2666 ethyl cyanoacetate'.

17° (c) Entry 2849, for 'chloropropanol' read 'chloropropanol'.

- 2601**
(cont.)
- Amend the heading for D. to read:
- 'D. Inorganic substances which, on contact with water (or atmospheric humidity), aqueous solutions or acids may release toxic gases; and other toxic water-reactive substances'**
- 42° Amend Note 2. to read:
- 'Barium azide in the dry state or with less than 50% water by mass is a substance of Class 1, identification number 0224 (see marginal 2101, 01°)'.
'Mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water, by mass, is a substance of Class 1, identification number 0135 (see marginal 2101, 01°)'.
- 43° For 'flammable' read 'toxic flammable'.
- 52° Amend Note 3. to read:
- 'Mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water, by mass, is a substance of Class 1, identification number 0135 (see marginal 2101, 01°)'.
- 58° Move '2862 vanadium pentoxide, non-fused form' from (b) to (c).
- 59° Note: 1, for identification numbers 1730 and 1731: for 'pentafluoride' read 'pentachloride'.
- Insert a new Note 2. under F. to read as follows:
- 'Note: 2. The classification of a pesticide under one of the entries of 71° to 73° shall be effected on the basis of the active ingredient, of the physical state of the pesticide and any subsidiary risks it may exhibit'.
- Renumber existing Note 2, as Note 3.
- 71° Delete entries 3000, 3002, 3004 and 3008.
- Amend entry 3006 to read as follows:
- '3006 thiocarbamate-pesticide, liquid, toxic'.
- Insert the following entries after 3026:
- '3348 phenoxyacetic acid derivative pesticide, liquid, toxic,
3352 pyrethroid pesticide, liquid, toxic.'
- 72° Delete 2999, 3001, 3003 and 3007.
- Amend entry 3005 to read as follows:
- '3005 thiocarbamate pesticide, liquid, toxic, flammable, flash-point not less than 23°C'.
- Insert the following entries after 3025:
- '3347 phenoxyacetic acid derivative pesticide, liquid, toxic, flammable, flash-point not less than 23°C,
3351 pyrethroid pesticide, liquid, toxic, flammable, flash-point not less than 23°C'.
- 73° Delete entries 2765, 2767, 2769 and 2773.
- Amend entry 2771 to read as follows:
- '2771 thiocarbamate pesticide, solid, toxic'
- Insert the following entries after 3027:
- '3345 phenoxyacetic acid derivative pesticide, solid, toxic,
3349 pyrethroid pesticide, solid, toxic.'
- Delete the table 'List of common pesticides with corresponding identification numbers' and the corresponding Notes.

2601a (2) After '*plastics inner packagings*' insert 'which are not liable to break or be easily punctured'.

(3) Amend to read:

'For carriage in accordance with paragraphs (1) and (2) above each package shall be clearly and durably marked with:

- (a) the identification number of the goods contained therein, preceded by the letters 'UN';
- (b) in the case of different goods with different identification numbers within a single package:
 - the identification numbers of the goods contained therein, preceded by the letters 'UN', or
 - the letters 'LQ'⁽¹⁾.

These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. If the size of the package so requires, the dimensions may be reduced provided that the markings remain clearly visible.'

2602 (3) In the first indent insert after 'marked with the letter 'X',' the text 'or IBCs of packing group I marked with the letter 'X','

In the second indent for 'or IBCs of packing group II, marked with the letter 'Y',' read 'or IBCs of packing group II or I, marked with the letter 'Y' or 'X','

In the third indent for 'or IBCs of packing group III or II, marked with the letter 'Z' or 'Y',' read 'or IBCs of packing group III, II or I, marked with the letter 'Z', 'Y' or 'X','

2606 (3) Amend to read:

'Solid substances according to marginal 2600 (13) of 12°, 17° with the exception of 1694 Bromobenzyl cyanide, 23°, 25°, 32°, 33°, 34° with the exception of 1698 Diphenylamine chloroarsine, 35°, 36°, 41°, 51°, 52°, 55°, 61°, 65°, 73° and 90° may also be packed in metal IBCs conforming to marginal 3622, in rigid plastics IBCs conforming to marginal 3624, in composite IBCs conforming to marginal 3625 or wooden IBCs fitted with a sift-proof liner conforming to marginal 3627.

Composite IBCs of type 11HZ2 and 21HZ2 and wooden IBCs shall be carried in closed vehicles or in containers of the closed type with complete walls.'

(4) Add a new paragraph (4) to read:

'(4) Solid substances according to marginal 2600 (13) of 26° may also be packed in metal IBCs conforming to marginal 3622, in rigid plastics IBCs conforming to marginal 3624 and in composite IBCs conforming to marginal 3625 with the exception of types 11HZ2 and 21HZ2.

Composite IBCs shall be carried in closed vehicles or in containers of the closed type with complete walls.'

2614 Move the 7th paragraph to place it above as the 4th and amend it to read as follows:

'For the carriage of substances and preparations used as pesticides of 71° to 73°, the description of the goods shall include the technical name(s)⁽¹⁾ of the active ingredient(s), e.g. '2783 organophosphorus pesticide, solid, toxic (propaphos), 6.1, 73°(c), ADR.'

⁽¹⁾ The technical name(s) shall be the ISO common name(s) (see ISO 1750:1981, as amended), other name(s) listed in 'The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification' or the name(s) of the active substance(s).

2622 (3) Insert 'inscriptions and' before 'danger labels'.

⁽¹⁾ The letters 'LQ' are an abbreviation for the English words 'Limited Quantities'.

CLASS 6.2

INFECTIOUS SUBSTANCES

- 2650** (6) After the first subparagraph, insert the following new subparagraph:

'For the purposes of these provisions, biological products are divided into the following groups:

- (a) Those which contain pathogens in risk group 1; those which contain pathogens under such conditions that their ability to produce disease is very low to none; and those known not to contain pathogens.

Substances in this group are not considered infectious substances for the purposes of these provisions.

- (b) Those manufactured and packaged in accordance with the requirements of national governmental health authorities and carried for the purposes of final packaging or distribution, and use for personal health care by medical professionals or individuals.

Substances in this group are not subject to the provisions applicable to this class.

- (c) Those known or reasonably expected to contain pathogens in risk groups 2, 3 or 4 and which do not meet the criteria of (b) above.

Substances in this group shall be classified in Class 6.2 under identification numbers 2814 or 2900 as appropriate.'

Renumber the second subparagraph of existing paragraph (6) as paragraph (7) and add a new subparagraph as follows:

'For the purposes of these provisions, diagnostic specimens are divided into the following groups:

- (a) Those known or reasonably expected to contain pathogens in risk groups 2, 3 or 4 and those where a relatively low probability exists that pathogens of risk group 4 are present. Such substances shall be assigned identification numbers 2814 or 2900, as appropriate. Specimens carried for the purpose of initial or confirmatory testing for the presence of pathogens fall within this group.

- (b) Those where a relatively low probability exists that pathogens of risk groups 2 or 3 are present. Such substances shall be assigned identification numbers 2814 or 2900, as appropriate, except when the conditions of marginal 2656 apply. Specimens carried for the purpose of routine screening tests or initial diagnosis for other than the presence of pathogens fall within this group.

Note: Those known not to contain pathogens are not considered as substances of this Class'.

Delete the existing Note.

- (7) In the footnote, for '1992' read '1991'.

- (8) Insert the following new paragraph (8):

'(8) Dead animals which are known or reasonably believed to contain an infectious substance shall be packed, marked, labelled and carried in accordance with the conditions ⁽²⁾ specified by the competent authority of the country of origin ⁽³⁾.

⁽²⁾ Such regulations are contained e.g. in the Council of the European Communities Directive 90/667/EEC of 27 November 1990, laying down the veterinary rules for the disposal and processing of animal waste, for its placing on the market and for the prevention of pathogens in feedstuffs of animal or fish origin and amending Directive 90/425/EEC (OJ L 363, 27.12.1990).

⁽³⁾ If the country of origin is not a Member State, the competent authority of the first ADR country reached by the consignment.'

Renumber the existing footnote ⁽²⁾ to ⁽⁴⁾.

Renumber existing paragraphs (7) and (8) to (9) and (10) respectively.

- 2653** (1) (a) Add a second sentence to the Note as follows:

'Complete packages may be overpacked in accordance with the provisions of 2002(5); such an overpack may contain dry ice.'

2656 Amend to read as follows:

'Diagnostic specimens to which marginal 2650(7)(b) applies, shall be subject only to the provisions of marginal 2664 if the following conditions are met:

- (1) — The primary receptacles do not contain more than 100 ml; and
 - The outer packaging does not contain more than 500 ml; and
 - The primary receptacles are leakproof; and
 - The packaging is in accordance with the provisions of this class; however it need not be subject to the tests; or
- (2) the packagings comply with standard EN 829:1996.'

2661 (3) In the second sentence, delete 'biological products and'.

2664 (2) Amend to read as follows:

'For diagnostic specimens which are handed over for carriage under the conditions of marginal 2656, the description of the goods shall be 'Diagnostic specimen, containing . . .', the infectious substance determining the classification under 2° or 3° to be entered.'

2672 (2) Insert 'inscriptions and' before 'danger labels'.

CLASS 7

RADIOACTIVE MATERIAL

2703 (7) (a) Insert '(except for compatibility group S)' after '1.4'.

2704 In Schedules 1 to 4, paragraph 8, instead of 'see marginal 2702' read 'No provisions'.

CLASS 8

CORROSIVE SUBSTANCES

2800 (3) Add a new subparagraph (g) as follows:

'(g) Substances, solutions and mixtures which

1. do not meet the criteria of Directive 67/548/EEC or Directive 88/379/EEC as amended and therefore are not classified as corrosive according to these directives, as amended, and
 2. do not exhibit a corrosive effect on steel or aluminium,
- may be considered as substances not belonging to Class 8.'

2801 3° (b) Read '1796 nitrating acid mixture' and '1826 nitrating acid mixture, spent' in Italics.

32° (c) Amend 2790 to read as follows:

'2790 *acetic acid solution* with more than 10% but less than 50% acid, by mass'.

Replace '25%' with '10%' in the Note.

54° (a) Add before 2734: '2401 *piperidine*'.

65° (a) Add:

'3147 *dye, solid, corrosive, n.o.s* or 3147 *dye intermediate, solid, corrosive, n.o.s*'.

- 2801a** (2) After 'plastics inner packagings' insert 'which are not liable to break or be easily punctured'.
- (6) Amend to read:
- 'For carriage in accordance with paragraphs (1) and (2) above each package shall be clearly and durably marked with:
- (a) the identification number of the goods contained therein, preceded by the letters 'UN';
- (b) in the case of different goods with different identification numbers within a single package:
- the identification numbers of the goods contained therein, preceded by the letters 'UN', or
 - the letters 'LQ'⁽¹⁾.
- These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. If the size of the package so requires, the dimensions may be reduced provided that the markings remain clearly visible.'
- 2802** (3) In the first indent insert after 'marked with the letter 'X',' the text 'or IBCs of packing group I marked with the letter 'X,'
- In the second indent for 'or IBCs of packing group II, marked with the letter 'Y,' read 'or IBCs of packing group II or I, marked with the letter 'Y' or 'X,'
- In the third indent for 'or IBCs of packing group III or II, marked with the letter 'Z' or 'Y,' read 'or IBCs of packing group III, II or I, marked with the letter 'Z', 'Y' or 'X,'
- 2803** Amend the beginning of the first sentence to read: 'Substances of 6° shall be packed'
- Amend the last sentence to read:
- 'The maximum mass of the contents per litre of capacity shall not exceed 0,84 kg'.
- 2805** (1) *Note*: 1 to (d):
- For 'nitric acid of 2°(a) and hydrofluoric solution of 7°(a)' read '2°(a) or 7°(a)'.
- (3) and (4) Add new paragraphs to read:
- '(3) Solid substances according to marginal 2800 (6) of 16°, 39°, 46°, 52°, 55°, 65° and 75° may also be packed in metal IBCs conforming to marginal 3622, rigid plastics IBCs conforming to marginal 3624, in composite IBCs conforming to marginal 3625 or wooden IBCs fitted with a sift-proof liner conforming to marginal 3627.
- Composite IBCs of type 11HZ2 and 21HZ2 and wooden IBCs shall be carried in closed vehicles or in containers of the closed type with complete walls.
- (4) Solid substances according to marginal 2800 (6) of 67° may also be packed in metal IBCs conforming to marginal 3622, in rigid plastics IBCs conforming to marginal 3624 and in composite IBCs conforming to marginal 3625 with the exception of types 11HZ2 and 21HZ2.
- Composite IBCs shall be carried in closed vehicles or in containers of the closed type with complete walls.'
- 2806** (1) *Note* 2 to (d): Amend to read:
- 'The permissible period of use for packagings intended for the carriage of nitric acid of 2° (b), (identification number 2031), containing more than 55% pure acid or hydrofluoric acid solution of 7° (b) (identification number 1790), shall be two years from the date of their manufacture.'
- 2812** (8) Insert '2° (a) 1' before '3° (a)'.
- 2822** (2) Insert 'inscriptions and' before 'danger labels'.

⁽¹⁾ The letters 'LQ' are an abbreviation for the English words 'Limited Quantities'.

CLASS 9

MISCELLANEOUS DANGEROUS SUBSTANCES AND ARTICLES

2900 (3) Amend this paragraph to read as follows:

Replace 'and 3171' with, ', 3171'.

Delete '(wet battery)'.

Insert after 'battery powered equipment,' the text:

', 3334 aviation regulated liquid n.o.s. and 3335 aviation regulated solid n.o.s.,'

2901 5° Insert a new Note 1. to read as follows:

'Note: 1. Each cell or battery type shall be determined to meet the criteria for classification under Class 9 on the basis of tests carried out in accordance with the Manual of Tests and Criteria, Part III, sub-section 38.3'.

Amend second sentence of the existing Note 2, to read as follows:

'Each cell and battery shall incorporate a safety venting device or be designed to preclude a violent rupture under normal conditions of carriage.'

Delete existing Note 3.

Renumber existing Notes 1 and 2 as 2 and 3 respectively.

6° Amend Note at the end to read as follows:

'... electric storage batteries of Class 8, and lithium batteries of Class 9.'

8° Amend 3268 to read as follows:

'3268 *air bag inflators, pyrotechnic or 3268 air bag modules, pyrotechnic or 3268 seat-belt pretensioners, pyrotechnic*'

Note 1: Add the following at the end of the existing text:

'If the airbag inflator satisfactorily passes test series 6 (c), it is not necessary to repeat the test on the airbag module itself.'

Note 2: Amend to read:

'Air bags or seat-belts installed in vehicles or in completed vehicle components (such as steering columns, door panels, seats, etc.) are not subject to the provisions of this Directive.'

Under 'G. Elevated temperature substances' insert a new Note 2, as follows:

'Note: 2. Stone or aggregate asphalt mixture is not subject to the provisions of Class 9.'

71° The existing Note is numbered Note 1.

Add a new Note 2. to read as follows:

'Note: 2. Empty tank-vehicles, empty demountable tanks and empty tank-containers, uncleaned which have contained substances of 20°(c) are not subject to the requirements of this Directive if adequate measures have been taken to nullify any hazard.'

- 2901a**
- (1) After 'plastics inner packagings' insert 'which are not liable to break or be easily punctured'.
 - (2) Amend to read:

'For carriage in accordance with paragraph (1) above each package shall be clearly and durably marked with:

 - (a) the identification number of the goods contained therein, preceded by the letters 'UN',
 - (b) in the case of different goods with different identification numbers within a single package:
 - the identification numbers of the goods contained therein, preceded by the letters 'UN', or
 - the letters 'LQ'⁽¹⁾.

These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. If the size of the package so requires, the dimensions may be reduced provided that the markings remain clearly visible.'
 - (4) Amend the last two sentences to read:

'The apparatus shall, however, be packed in conformity with marginal 2905 (1) (a). Each package shall be marked according to paragraph (2) above.'
- 2906**
- (1) Delete the last sentence of subparagraph (c) and the last two sentences of the final subparagraph.
- 2908**
- (2) Amend footnote to read:

'See footnote to 2650(9).'
- 2914**
- (1) Amend the last sentence of the footnote to read as follows:

'For pesticides, the technical name shall be the ISO common name (see ISO 1750:1981, as amended), or another name listed in the 'WHO Recommended Classification of Pesticides Hazard and Guidelines to Classification' or the name of the active substance.'
 - (2) For 'Note 1' read 'Note 2'.
- 2921**
- (3) Insert 'inscriptions and' before 'danger labels'.

⁽¹⁾ The letters 'LQ' are an abbreviation for the English words 'Limited Quantities'.

PART III

APPENDICES TO ANNEX A

APPENDIX A.1

3170 Delete the word 'commercial' in the entry for '*charges, shaped, commercial*' and in the Note to '*Cartridges, oil well*'.

For '*Substances, explosive, very insensitive (Substances, EVI 48°/0482)*' read '*Substances, explosive, very insensitive (Substances, EVI), n.o.s. 48°/0482*'.

APPENDIX A.3

3300 2 (d) For 'DIN 5321:1978, Part 1' read 'DIN 53213:1978, Part 1'.

APPENDIX A.5

3500 (8) Amend the last sentence to read:

'However, a substance may be carried in such a packaging only where a vent is prescribed for that substance in the conditions of carriage of the relevant class or with the consent of the competent authority of a Member State.'

(10) For '3560' read '3561'.

3510 (1) In the definition of '*Reconditioned packagings*', insert '(a)' before 'metal drums' and insert a new subparagraph (b) as follows:

'(b) plastics drums and jerricans that:

- (i) are cleaned to original materials of construction, with all former contents, external coatings and labels removed;
- (ii) have all non-integral gaskets replaced; and
- (iii) are inspected after cleaning with rejection of packagings with visible damage such as tears, creases or cracks, or damaged threads or closures or other significant defects.'

In the definition of '*Remanufactured packaging*', insert '(a)' before 'metal drums' and add a new subparagraph (b) as follows:

'(b) plastics drums that:

- (i) are converted from one UN type to another UN type (e.g. 1H1 to 1H2); or
- (ii) undergo the replacement of integral structural components.'

(3) Insert the following definition:

'*Recycled plastics material*:

Material recovered from used industrial packagings that has been cleaned and prepared for processing into new packagings. The specific properties of the recycled material used for production of new packagings shall be assured and documented regularly as part of a quality assurance programme recognised by the competent authority. The quality assurance programme shall include a record of proper pre-sorting and verification that each batch of recycled plastics material has the proper melt flow rate, density and tensile yield strength, consistent with that of the design type manufactured from such recycled material. This necessarily includes knowledge about the packaging material from which the recycled plastics have been derived, as well as awareness of the prior contents of those packagings if those prior contents might reduce the capability of new packagings produced using that material. In addition, the packaging manufacturer's quality assurance programme under marginal 3500(13) shall include performance of the mechanical design type test in Section IV of this Appendix on packagings manufactured from each batch of recycled plastics material. In this testing, the stacking performance may be verified by appropriate dynamic compression testing rather than the stacking test of marginal 3555.'

3512 (1) (c) (ii) and (d) Delete the words:

'and for light gauge metal packagings, removable-head, intended to contain substances of Class 3, 5° (c)'.

(1) (d) Add a Note as follows:

Note: The provisions of subparagraph (d) do not apply to packagings intended for the transport of substances of 1° or 2° of Class 6.2.'

(7) Replace the example for new light gauge metal packagings by the following:

'RID/ADR/0A2/Y20/S/83	(a) (ii), (b), (c) (d) and (e)	Removable head, intended for liquids with a viscosity at 23°C exceeding 200 mm ² /s,
NL/VL 124	(f) and (g)	
RID/ADR/0A1/Y/100/83	(a) (ii), (b), (c), (d) and (e)	Non-removable head
NL/VL 123	(f) and (g)'.	

In the example for a new fibreboard box intended to contain substances of 1° or 2° of Class 6.2, replace the first line by the following:

'4 G/Class 6.2/92 (a) (i), (b), (c) (iii) and (e)'

(8) Add a new paragraph (8) to read as follows:

'(8) Packagings manufactured with recycled plastics material shall be marked 'REC' near the marks prescribed in this marginal.'

3526 (f) In the second sentence, replace 'For new packagings' with the following:

'Except for recycled plastics material as defined in 3510(3)'.

3551 (5) At the end of marginal 3551(5), Note, insert 'or average' between 'made of high' and 'molecular mass'.

(6) At the beginning of marginal 3551(6), insert the following text after the second subparagraph:

'and for jerricans in accordance with marginal 3526 of packing groups II and III and, if necessary, for composite packagings according to marginal 3537 in average molecular mass polyethylene meeting the following specifications:

- relative density at 23°C after thermal conditioning for one hour at 100°C >0,940, in accordance with ISO: 1183;
- melt flow rate at 190°C/21,6 kg load ≤ 0,5 g/10 min. and ≥ 0,1 g/10 min., in accordance with ISO:1133;
- melt flow rate at 190°C/5 kg load ≤ 3 g/10 min. and ≥ 0,5 g/10 min., in accordance with ISO:1133.'

At the end of marginal 3551(6), add the following sentence:

'The procedure in accordance with this paragraph also applies to high density, high or average molecular mass polyethylene packagings, the internal surface of which is fluorinated'.

(7) In first sentence, insert 'or average' between 'made of high' and 'molecular mass'.

3552 (4) (c) Delete: 'and for substances of Class 3, 5° (c)'.

3553 (1) and

3554 (1) Delete:

'— light gauge metal packagings, removable head intended for substances of Class 3, item 5° (c)'.

3555 (4) Replace the third subparagraph beginning: 'Stacking Stability . . .' with the following:

'Plastics packagings shall be cooled to ambient temperature before the assessment.'

3561 (1) Insert '—' before 'light gauge metal'.

Annex to appendix A.5

Section I

In the heading of Section I, insert 'or average' between 'of high' and 'molecular mass'.

a) Add the following text at the end:

'For filling substances causing cracking in polyethylene under stress which is resistant to the wetting solution, adequate chemical compatibility may be proved after preliminary storing for three weeks at 40 °C, in accordance with marginal 3 551(6) but with the original filling matter.'

e) Add the following text at the end:

'The period of use shall be determined in such cases by observing the degree of damage (e.g. two years for nitric acid in not less than 55 % concentration).'

Section II

Class 8, 61°

Amend footnote ⁽²⁾ to read:

⁽²⁾ Test to be carried out only with vent. If the test is carried out with nitric acid as the standard liquid, an acid-resistant vent and gasket shall be used. For hypochlorite solutions vents and gaskets of the same design type, resistant to hypochlorite (e.g. of silicone rubber) but not resistant to nitric acid, are also permitted.'

APPENDIX A.6

3601 (6) Amend the last sentence to read:

'However, a substance may be carried in such an IBC only where a vent is prescribed for that substance in the conditions of carriage of the relevant class or with the consent of the competent authority of a Member State.'

3622 (3) Delete this paragraph and renumber existing paragraphs (4) to (8) as (3) to (7).

3662 Insert a new paragraph (4), to read as follows:

'(4) a) An IBC filled prior to the date of expiry of the deadline for the periodic test in accordance with paragraph (2) may be carried for a period not to exceed three months beyond that date.

b) In addition, an IBC filled prior to the date of expiry of the deadline for the periodic test in accordance with paragraph (2) may be carried, unless otherwise approved by the competent authority, for a period not to exceed six months beyond that date in order to allow the return of substances of this Directive for proper disposal or recycling. When substances are carried in IBCs under these conditions, the following statement shall be included in the transport document 'Carriage in accordance with marginal 3662 (4) b).'

Renumber existing paragraph (4) as (5).

3663 (3) Insert a new paragraph (3), to read as follows:

'(3) a) An IBC filled prior to the date of expiry of the deadline for the visual inspection in accordance with paragraph (2) may be carried for a period not to exceed three months beyond that date.'

- 3663**
(cont.)
- b) In addition, an IBC filled prior to the date of expiry of the deadline for the visual inspection in accordance with paragraph (2) may be carried, unless otherwise approved by the competent authority, for a period not to exceed six months beyond that date in order to allow the return of substances of this Directive for proper disposal or recycling. When substances are carried in IBCs under these conditions the following statement shall be included in the transport document: 'Carriage in accordance with marginal 3663 (3) b).'

Renumber existing paragraphs (3) to (5) as (4) to (6) respectively.

APPENDIX A.7

- (1) In the Note before marginal 3730: for 'and the 1988 Supplement' read '(As amended 1990)'.

APPENDIX A.9

- 3900** (1) Amend the second sentence to read as follows:
- 'They have a line of the same colour as the symbol appearing on the label 5mm inside the edge and running parallel to it.'
- 3901** (3) Insert the words:
- '(as provided for in the IMDG Code or the ICAO Technical Instructions)'
- after 'to the requirements of other modes of transport'.
- For 'batteries of spectacles' read 'battery-vehicles'.
- 3903** Amend to read as follows:
- 'Danger labels which until 31 December 1998 conformed to the models prescribed at that date may be used until stocks are exhausted.'

ANNEX B

TABLE OF CONTENTS

Amend the title for marginal 10 220 in Part I, Section 2, to read:

'Tank-vehicles (fixed tanks), battery-vehicles and vehicles used for the carriage of dangerous goods in demountable tanks or in tank-containers of a capacity greater than 3 000 litres'.

Insert the following entry in Part I, Section 2 after the entry 'Breaking 10 221'

'Combustion heaters 10 222'

Insert the following entry at the beginning of Section 3 in part I:

'Combustion heaters 10 300'

Insert the following entry in Part I, Section 3 after 'Special training . . .':

'Training of persons other than drivers involved in the carriage of dangerous goods by road 10 316'

Insert the following entry in Part I, Section 4 after 'Prohibition . . . 10 405'

'Precautions with respect to foodstuffs, other articles of consumption and animal feeds 10 410'

Insert at the end of the title in Part I, Section 5 '*and containers*'.

Amend the title in Part II, Class 2 to read: 'Gases'.

In Part III, Appendix B.1, insert after the entry for Appendix B.1d a new entry as follows:

'Appendix B.1e Provisions concerning vacuum-operated waste tanks 215 000 and seq.'

Amend the title for Appendix B.2 to read as follows:

'Uniform provisions concerning the construction of vehicles intended for the carriage of dangerous goods'

PART I

GENERAL PROVISIONS APPLICABLE TO THE CARRIAGE OF DANGEROUS SUBSTANCES OF ALL CLASSES

10 010 Delete the words 'other than the provisions of 10 381 (1) a) where applicable'.

Replacet the text of 10 011 with:

'10 011 (1) Dangerous goods in packages may be carried in one transport unit without application of the provisions of this annex except for the following:

- general provisions — marginals 10 010 to 10 099;
- mode of carriage of goods — marginals XX 100 to XX 199 of Section 1 of Parts I and II;
- fire fighting appliances — marginal 10 240(1)(a);
- portable lighting apparatus — marginal 10 353;
- transport documents, and texts of any special agreement — marginal 10 381(1);
- special provisions concerning loading, unloading and handling — Section 4 of Parts I and II except restrictions under marginal XX 407 of Part II;
- supervision of vehicles carrying dangerous goods exceeding certain quantities under marginals 10 321 and XX 321;
- prohibition of fire or naked flame during loading, unloading and carriage of Class 1 substances and articles — marginal 11 354;
- adequate ventilation for vehicles carrying certain Class 2 gases — marginal 21 212;

provided that the quantity carried in the transport unit does not exceed the values indicated in paragraphs (2) and (3) below, subject to the provisions of paragraph (4).

(2) Where the dangerous goods carried in the transport unit belong to the same category, as defined in the table below, the maximum total quantity per transport unit is indicated in the table.

Transport category	Substances or articles	Maximum total quantity per transport unit
0	Class 1: 01°, 11°, 12°, 24°, 25°, 33°, 34°, 44°, 45° and 51° Class 4.2: Substances under (a) or with packing group I of the Recommendations on the Transport of Dangerous Goods Class 4.3: 1°-3° and 19°-25° Class 6.1: 1° and 2° Class 6.2: 1° and 2° Class 7: Material or marginal 2704, Schedules 5 to 13 Class 9: 2° (b) and 3° as well as Empty uncleaned packagings having contained substances of this transport category	0
1	Substances and articles under (a) or with packing group I of the Recommendations on the Transport of Dangerous Goods which are not in transport category 0 as well as substances and articles of the following classes, items or groups and letters: Class 1: 1°-10° (1), 13°-23°, 26°, 27°, 29° and 30°-32° Class 2: T, TC (1), TO, TF, TOC and TFC Class 4.1: 31°(b)-34°(b) and 41°(b)-50°(b) Class 5.2: 1°(b)-4°(b) and 11°(b)-20°(b)	20

10 010
(cont.)

Transport category	Substances or articles	Maximum total quantity per transport unit
2	Substances and articles under (b) or with packing group II of the Recommendations on the Transport of Dangerous Goods which are not in transport category 0, 1 or 4 as well as substances and articles of the following classes, items or groups and letters: Class 1: 35°-43°, 48° ⁽¹⁾ and 50° Class 2: F Class 6.1: Substances and articles classified under (c) Class 6.2: 3°	300
3	Substances and articles under (c) or with packing group III of the Recommendations on the Transport of Dangerous Goods which are not in transport category 2 or 4 as well as substances and articles of the following classes, items or groups and letters: Class 2: A and O Class 9: 6° and 7°	1 000
4	Class 1: 46° and 47° Class 4.1: 1°(b) and 2°(c) Class 4.2: 1°(c) Class 7: Material of marginal 2704, Schedules 1 to 4 Class 9: 8°(c) as well as Empty uncleaned packagings having contained dangerous substances other than those of transport category 0.	Unlimited

⁽¹⁾ For identification numbers 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005 and 1017, the maximum total quantity per transport unit shall be 50 kg.

In the above table, 'maximum total quantity per transport unit' means:

- for articles, gross mass in kilograms (for articles of Class 1; net mass in kg of the explosive substance);
- for solids, liquefied gases refrigerated liquefied gases, and gases dissolved under pressure, net mass in kilograms;
- for liquids and compressed gases, nominal capacity of receptacles in litres.

The term 'nominal capacity' of a receptacle means the nominal volume, measured in litres, of dangerous goods which the receptacle contains. For compressed gas receptacles, this will be equivalent to the water capacity.

(3) Where dangerous goods of different transport categories, as defined in the table of paragraph (2), are carried in the same transport unit, the sum of

- the quantity of substances and articles of transport category 1 multiplied by '50';
- the quantity of substances and articles of transport category 2 multiplied by '3'; and
- the quantity of substances and articles of transport category 3;

shall not exceed '1 000'.

(4) For the purposes of this marginal, liquids or gases contained in the ordinary fixed tanks of means of transport for their propulsion or for the operation of their specialised equipment (e.g. refrigerating appliances) or for ensuring their safety, as referred to in marginals 2201a (1), (2)(c), (d), (e), (h) and 2301a (4) to (6), shall not be taken into account.'

10 014

(1) In the definition of 'tank-container' delete the last sentence and insert 'gaseous', after 'liquid,'.

Amend the following definitions to read:

- the term '*demountable tank*' means a tank, other than a fixed tank, a tank-container or an element of a battery-vehicle, which has a capacity of more than 450 litres, is not designed for the carriage of goods without breakage of load, and normally can only be handled when it is empty;

- 10 014** (cont.)
- the term '*fixed tank*' means a tank having a capacity of more than 1 000 litres which is structurally attached to a vehicle (which then becomes a tank-vehicle) or is an integral part of the frame of such vehicle;
 - the term '*tank*' when used alone means a tank-container, or a fixed tank, or a demountable tank, or an element of a battery-vehicle having a capacity of more than 1 000 litres. (see, however, a limitation of the meaning of the word 'tank' in the provisions common to the B.1 Appendices, marginal 200 000 (2));'

Insert the following definitions:

- '— the term '*combustion heater*' means a device directly using liquid or gaseous fuel and not using the waste heat from the engine used for propulsion of the vehicle;
- the term '*package*' means the complete product of the packing operation, consisting of the packaging or IBC and its contents prepared for dispatch. The term includes receptacles for gases as defined in marginal 2211 as well as articles which, because of their size, weight or configuration may be carried unpackaged or carried in cradles, crates or handling devices. The term does not apply to unpackaged articles or substances which are carried in bulk in containers or vehicles, nor to substances carried in tanks;'

- 10 111** (1) Delete the text ', and then only under the conditions stipulated by those provisions'.

Insert a new paragraph (2) to read as follows:

- '(2) Suitable measures shall be taken for all carriage in bulk to ensure that none of the contents can escape.'

Renumber existing paragraph (2) as new paragraph (3).

- 10 220** (1) Insert the following words 'and a vacuum operated waste tank with a tilting tank' in the last sentence after the words 'granular substances'.

- (2) Amend to read as follows:

'Vehicles carrying liquids having a flash-point of 61 °C or below (with the exception of diesel fuel complying with Standard EN 590:1993, gas oil, and heating oil (light) — identification number 1202 — with a flash-point as specified in Standard EN 590:1993) or flammable substances of Class 2 as defined in marginal 2200(3) shall, in addition, comply with the requirements of marginals 220 532, 220 533, and 220 534 of Appendix B.2.'

- 10 221** (1) For 'type III' read 'EX/III' and for '11 204 (3)' read '11 204 (2)'.

- (3) Replace '1999' by '2009'.

- 10 222** Add a new marginal as follows:

'Combustion heaters

- 10 222 (1) Combustion heaters in the driver's cabin and for the engine of vehicles of the types indicated in the table of marginal 220 500 shall conform to marginal 220 536.

- (2) Combustion heaters intended for heating load compartments shall be in conformity with marginal 220 536 except for the following:

- the switch may be attached outside the driver's cabin;
- the heater shall be capable of being switched off from outside the load compartment;
- no proof is required that the heat exchanger of air heating devices is resistant to reduced aftertuning.

- (3) The provisions of paragraphs (1) and (2) above apply to motor vehicles equipped with combustion heaters after 30 June 1999. Motor vehicles equipped before 1 July 1999 shall be brought in conformity with these provisions before 1 January 2010.'

- 10 251** (a) Amend to read:

'Transport units carrying fixed tanks, or demountable tanks exceeding 1 000 litres capacity, or tank-containers ...' (remainder unchanged).

Amend the second sentence to read as follows:

10 251 (cont.) Transport units carrying tanks (fixed tanks or demountable tanks) containing diesel fuel complying with Standard EN 590:1993, gas oil, or heating oil (light) — identification number 1202 — with a flash-point as specified in Standard EN 590:1993 are exempted from this requirement;

10 260 (a) Delete.

Renumber existing (b) as new (a).

Replace (c) and (d) by (b) and (c) as follows:

'(b) the necessary equipment to take the general actions referred to in the safety instructions set out in marginal 10 385, in particular:

- two self-standing warning signs (e.g. reflective cones or triangles or flashing amber lights which are independent from the electrical equipment of the vehicle);
- a suitable warning vest or warning clothing (e.g. as described in European Standard EN 471) for each member of the vehicle crew;
- one handlamp (see also marginal 10 353) for each member of the vehicle crew.

(c) the necessary equipment to take the additional and special actions referred to in the safety instructions set out in marginal 10 385.'

10 281 Amend to read as follows:

'At the request of the manufacturer or his duly accredited representative, base vehicles of new motor vehicles and their trailers which are subject to approval according to marginal 10 282, may be type approved by a competent authority in accordance with ECE Regulation No 105 ⁽¹⁾ provided that it has been amended so that its requirements correspond to those of Appendix B.2 to this Annex. This type-approval, granted by one Contracting Party, shall be accepted by the other Contracting Parties as ensuring the conformity of the base vehicle when the approval of the complete vehicle is obtained, provided that no modification of the base vehicle alters its validity. When the base vehicle has been type-approved in accordance with this marginal, compliance with marginal 220 536 (2) shall be verified on the complete vehicle.

⁽¹⁾ Regulation No 105 (Uniform provisions concerning the approval of vehicles intended for the carriage of dangerous goods with regard to their specific constructional features) annexed to the Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions) (1958 Agreement, as amended).'

10 282 (1) Amend to read:

Tank-vehicles, vehicles carrying demountable tanks exceeding 1 000 litres capacity, battery vehicles . . .' (remainder unchanged).

(2) In the first sentence, insert 'referred to in paragraph (1) above.', after 'for each vehicle'.

At the end, add a new footnote ⁽¹⁾.

⁽¹⁾ For vacuum operated waste tanks, see Note 2 to marginal 230 000.'

10 300 Add a new marginal as follows:

'Combustion heaters

10 300 (1) No fuel tanks, power sources, combustion air or heating air intakes as well as exhaust tube outlets required for the operation of the combustion heater shall be installed in the load compartment of vehicles or containers carrying goods bearing a label in conformity with model numbers 1, 1.4, 1.5, 1.6, 3, 4.1, 4.3, 5.1, 5.2, 01 or 05. It shall be ensured that the heating air outlet cannot be blocked by cargo. The temperature to which packages are heated must not exceed 50 °C. Heating devices installed inside the load compartments shall be designed so as to prevent the ignition of an explosive atmosphere under operating conditions.

10 300 (2) The operation of combustion heaters of vehicles of type FL (marginal 220 500) is forbidden during loading and unloading and at
(cont.) loading sites.'

10 315 (1) Amend to read:

'Drivers of vehicles, carrying dangerous goods in fixed tanks or demountable tanks with a capacity exceeding 1 000 litres, drivers of battery-vehicles with a total capacity . . .' (remainder unchanged).

10 316 Insert a new marginal as follows:

Training of persons other than drivers involved in the carriage of dangerous goods by road

10 316 (1) Persons whose duties concern the carriage of dangerous goods by road shall receive training in the requirements governing the carriage of such goods appropriate to their responsibilities and duties. This requirement shall apply to individuals such as personnel who are employed by the road vehicle operator or the consignor, personnel who load or unload dangerous goods and personnel in freight forwarding or shipping agencies.

(2) The training shall take the following form, appropriate to the responsibility and duties of the individual concerned:

a) General awareness training

Personnel shall be familiar with the general requirements of the provisions for the carriage of dangerous goods by road.

b) Function-specific training

Personnel shall receive detailed training, commensurate directly with their duties and responsibilities, in the provisions of the regulations concerning the carriage of dangerous goods by road.

c) Safety training

Commensurate with the degree of risk of injury or exposure arising from an incident involving the carriage of dangerous goods, including loading and unloading, personnel shall receive training covering the hazards and dangers presented by dangerous goods.

The training provided shall aim to make personnel aware of the safe handling and emergency response procedures, together with an awareness of the requirements of other modes of transport, where the carriage of dangerous goods will involve a multimodal transport operation.

(3) Details of all training undertaken shall be kept by both the employer and the employee and shall be verified upon commencing any new employment. The training of personnel involved in the carriage of dangerous goods by road shall be periodically supplemented with refresher training to take account of changes in regulations.'

10 385 (1) Replace existing subparagraph c) with:

'the general actions, e.g. to warn the road users and passers-by and call the police/firebrigade;'

Add new subparagraphs d) - f) as follows:

'd) the additional actions to deal with minor leakages or spillages to prevent their escalation, if this can be achieved without personal risk;

e) the special actions for special products, if applicable;

f) the necessary equipment for general and if applicable additional and/or special actions.'

(2) Amend to read as follows:

'These instructions shall be provided by the consignor and shall be supplied to the carrier at the latest when the transport order is given, so as to enable him to take all necessary steps to ensure that the employees concerned are aware of these instructions and are capable of carrying them out properly.'

(3) Insert a new paragraph (3) as follows:

'The consignor shall be responsible for the contents of these instructions. They shall be provided in a language the driver(s) taking over the dangerous goods is (are) able to read and to understand, and in all languages of the countries of origin, transit and destination.'

10 385
(cont.)

Renumber existing paragraphs (3) to (7) as (4) to (8) respectively.

(4) (old (3)) Amend to read as follows:

'These instructions shall be kept readily identifiable in the drivers cab.'

(8) (old (7)) Amend the different subparagraphs as follows:

Add a fourth sub-item to the subparagraph with the title 'NATURE OF DANGER' as follows:

'— If applicable, it shall be mentioned here that the goods carried react dangerously with water.'

Amend the subparagraph with the title: 'BASIC PERSONAL PROTECTION' as follows:

Delete 'basic' from the title and in the first line.

For '10 260, 11 260, 21 260, 43 260 and 71 260' read '10 260 and 21 260'.

Replace the subparagraph with the title: 'IMMEDIATE ACTIONS BY THE DRIVER' with the following:

'GENERAL ACTIONS BY DRIVER'

Mention of the following instructions:

'— Stop the engine

— No naked lights, no smoking

— Mark roads and warn other road users or passers-by

— Inform the public about the hazard and give advice to keep upwind

— Notify police and fire brigade as soon as possible'

Replace the subparagraph with the title 'SPILLAGE' with the following:

'ADDITIONAL AND/OR SPECIAL ACTIONS BY THE DRIVER

Appropriate instructions shall be included here as well as the list of equipment necessary for the driver to perform the additional and/or special actions according to the class(es) of the goods being carried (e.g. shovel, collecting container . . .).

It is considered that drivers of vehicles should be instructed and trained to take additional actions with minor leakages or spillages to prevent their escalation, provided that this can be achieved without personal risk.

It is considered that any special action recommended by the consignor requires a special training of the driver. If applicable, appropriate instructions shall be included here as well as the list of equipment needed for these special actions.'

Amend the subparagraph with the title: 'FIRE' as follows:

Insert after the title: '*Information for the driver in case of fire*'

Delete the sentence 'When applicable . . . with water.'

In the subparagraph with the title 'FIRST AID', for 'he would have been in' read 'of'

10 500

In the *Note* at the beginning of the marginal add the following: 'If the provisions of marginal 2007 (c) are applied, only paragraph (1) below is applicable.'

(3) Amend the beginning of the last sentence to read:

'These orange-coloured plates shall bear the identification numbers prescribed in Appendix B.5 for each of the substances carried. . .' (remained unchanged).

(9) Delete the words 'or in bulk'.

10 505 Delete.

10 507 Delete, at the beginning of the marginal:

'Without prejudice to the measures prescribed in marginal 10 505 above.'

10 604 For '1997' read '1999' (twice).

For '1996' read '1998'.

10 606 Read as follows:

'Tank-vehicles, vehicles carrying demountable tanks and vehicles intended for the carriage of tank-containers registered before 1 January 1995, which were used, before that date, for the carriage of substances of marginal 2301, 61^o(c) and which do not fully comply with the requirements of marginals 10 220, 10 221, 10 251 and 10 261 may continue to be used until 31 December 2004.'

When a certificate of approval is required in accordance with marginal 10 282 (2), this certificate shall bear a mention indicating that the vehicle has been approved on the basis of marginal 10 606.'

10 607 Add the following new marginal 10 607:

'10 607 Tank-vehicles, vehicles carrying demountable tanks and vehicles intended for the carriage of tank-containers registered before 1 January 1997, which were used, before that date for the carriage of substances of marginal 2901, 20^o(c) and which do not fully comply with the requirement of marginals 10 220, 10 221, 10 251 and 10 261 may continue to be used until 31 December 2006.'

When a certificate of approval is required in accordance with marginal 10 282 (2), this certificate shall bear a mention indicating that the vehicle has been approved on the basis of marginal 10 607.'

PART II

SPECIAL PROVISIONS APPLICABLE TO THE CARRIAGE OF DANGEROUS SUBSTANCES OF CLASSES 1 TO 9

CLASS 1

EXPLOSIVE SUBSTANCES AND ARTICLES

11 108 (2) Delete. Delete '(1)' before the remaining paragraph.

11 204 Amend to read as follows:

'For the purposes of this Annex, transport units authorised to carry substances and articles of Class 1 are classified as follows:

(1) EX/II transport units: whose engine shall be of the compression ignition construction.

a) The vehicles shall comply with the provisions of Appendix B.2 applicable to EX/II vehicles.

b) The vehicles shall be designed, constructed and equipped so that the explosives are protected from external hazards and the weather.

They shall be either closed or sheeted. Sheeting shall be resistant to tearing and be of impermeable material, not readily flammable. It shall be tautened so as to cover the vehicle on all sides, with an overlap of not less than 20 cm down the sides of the vehicle, and be kept in position by a lockable device.

The load carrying compartment of closed vehicles shall not have windows and all openings shall have lockable, close-fitting door or covers.

c) If the transport unit includes a trailer, this trailer shall have a coupling device in accordance with ECE Regulation 55⁽¹⁾, it shall be constructed so as to be adequately braked or restrained if it becomes detached from the motor vehicle towing it.

(2) EX/III transport units: whose engine shall be of the compression ignition construction.

a) The vehicles shall comply with the provisions of Appendix B.2 applicable to EX/III vehicles.

b) These vehicles shall be closed. The loading surface, including the front wall, shall be continuous. The insulating and heat resisting properties of the body shall be at least equivalent to those of a partition consisting of a metal outer wall lined with a layer of fire-proofed wood of 10 mm thickness; or the body shall be of a construction which shall ensure that no flame penetration of the wall or hot spots of more than 120 °C on the inner wall surface will occur within 15 minutes from the start of a fire resulting from the operation of the vehicle, such as a tyre fire. All the doors shall be capable of being locked. They shall be so placed and constructed as to overlap the joints.

c) If the transport unit includes a trailer, this trailer shall have a coupling device in accordance with ECE Regulation 55⁽¹⁾, and it shall be fitted with an effective braking device which acts on all the wheels, is actuated by the drawing vehicle's service-brake control and automatically stops the trailer in event of breakage of the coupling. The use of trailers equipped only with an inertia breaking system shall be limited to a maximum load of 50 kg net explosive mass.'

⁽¹⁾ Regulation No 55 (Uniform provisions concerning the approval of mechanical coupling components of combinations of vehicles (in its latest amended form)), annexed to the Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions (1958 Agreement, as amended).

11 205 (1) Replace 'transport units of Types II and III' with 'EX/II and EX/III transport units'.

(3) Replace 'type III transport unit' and 'type II transport unit' with 'EX/II transport unit' and 'EX/III transport unit' respectively.

11 210 At the end for '11 204 (3)' red '11 204 (2)'.

11 222 Add a new marginal as follows:

'Combustion heaters

11 222 (1) Combustion heaters with gaseous fuels are not allowed on vehicles carrying dangerous goods of class 1.

(2) Combustion heaters shall not be installed in load compartments of EX/II and EX/III vehicles.'

- 11 251** (1) Delete 'lighting'.
- (2)(a) Delete.
- (2)(b) Renumber as (2) and amend to read as follows:
- 'The electrical installation in the load carrying compartment shall be dust-protected (at least IP54 or equivalent) or, in the case of Compatibility Group J, flame-proof EX d (at least IP65 or equivalent).'
- 11 260** Delete.
- 11 281** Insert the following new marginal:
- 'Type approval of vehicles**
- 11 281 For EX/II and EX/III vehicles of which the base vehicle has been type approved in accordance with marginal 10 281, compliance with marginals 220 533 and 220 534 shall be verified on the completed vehicle.'
- 11 282** Replace 'Type II and Type III' with 'EX/II and EX/III'.
- 11 311** (3) Amend to read as follows:
- 'The presence of a driver's assistant is not required on board a vehicle carrying articles of 43°, identification No 0336, in amounts not exceeding a net explosive mass of 5 000 kg.'
- 11 321** In the last sentence for '51°' read '91°'.
- 11 401** In the table:
- In the heading to the last column, for '51°' read '91°'
- Delete the row concerning Type I and delete the footnote '(1)'
- In the row concerning Type III amend '15 000' to read '16 000' (five times).
- Amend 'Type II' to read 'EX/II' and 'Type III' to read 'EX/III'.
- 11 403** (2) Add the following sentence:
- 'Goods of Class 9, 6° and 7° bearing labels conforming to model No 9 may however be carried on the same vehicle as goods in packages bearing labels conforming to model Nos. 1, 1.4, 1.5 or 1.6.'
- 11 500** (4) Add a footnote '(1)' after '0015', '0016' and '0303'.

(1) For numbers 0015, 0016 and 0303, only articles containing one or several corrosive substances according to the criteria of Class 8.

CLASS 2

GASES

21 260 Amend to read as follows:

'When gases or articles designated with letters T, TO, TF, TC, TFC, TOC are being carried, each member of the vehicle crew shall be provided with a respiratory protective device enabling them to escape (e.g. escape hood or mask with a combined gas particle cartridge A1B2E1K1-P2, e.g. as described in European standard EN 141).'

CLASS 4.1

FLAMMABLE SOLIDS

41 105 (8) c) Amend to read:

'thermal insulation and single mechanical refrigeration; provided that for self-reactive substances with a flash-point lower than the sum of the emergency temperature plus 5°C explosion-proof electrical fittings, EEx IIB T3, are used within the cooling compartment to prevent ignition of flammable vapours from the self-reactive substances;'

e) Amend the last subparagraph to read:

'— for self-reactive substances with a flash-point lower than the sum of the emergency temperature plus 5°C explosion-proof electrical fittings, EEx IIB T3, are used within the cooling compartment to prevent ignition of flammable vapours from the self-reactive substances.'

41 111 (2) Delete the second sentence.

CLASS 4.3

SUBSTANCES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES

43 260 Delete.

CLASS 5.1

OXIDISING SUBSTANCES

51 260 Delete.

CLASS 5.2

ORGANIC PEROXIDES

52 105 (6) c) Amend to read:

'thermal insulation and single mechanical refrigeration; provided that for organic peroxides with a flash-point lower than the sum of the emergency temperature plus 5°C explosion-proof electrical fittings, EEx IIB T3, are used within the cooling compartment to prevent ignition of flammable vapours from the organic peroxides;'

e) Amend the last subparagraph to read:

'— for organic peroxides with a flash-point lower than the sum of the emergency temperature plus 5°C explosion-proof electrical fittings, EEx IIB T3, are used within the cooling compartment to prevent ignition of flammable vapours from the organic peroxides.'

CLASS 6.1

TOXIC SUBSTANCES

61 260 Delete.

61 385 Delete.

CLASS 7

RADIOACTIVE MATERIAL

71 260 Delete.

CLASS 8

CORROSIVE SUBSTANCES

81 413 Amend '2°a) 2.' to read '2° a)'.

CLASS 9

MISCELLANEOUS DANGEROUS SUBSTANCES AND ARTICLES

91 118 For 'and 12° (c)' read 'and solid substances and mixtures (such as preparations and wastes) of 12° (c)'.

91 403 Add the following sentence:

'Goods of Class 9, 6° and 7° bearing labels conforming to model No 9 may however be carried on the same vehicle as goods in packages bearing labels conforming to model Nos. 1, 1.4, 1.5 or 1.6'.

PART III

APPENDICES TO ANNEX B

200 000 (1) Add the following new subparagraph at the end:

'e) Appendix B.1e applies to vacuum-operated waste tanks'.

APPENDIX B.1a

211 120 (2) Add at the end of the existing text:

'When fine grain steel is used, the guaranteed value of the yield strength shall be not more than 460 N/mm² and the guaranteed value of the upper limit of the tensile strength shall be not more than 725 N/mm² according to the material specification.'

211 130 Amend to read as follows:

'The items of equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during carriage or handling. They shall exhibit a suitable degree of safety comparable to that of the shells themselves, and shall in particular:

- be compatible with the substances carried; and
- meet the requirements of marginal 211 121.

As many operating parts as possible shall be served by the smallest possible number of apertures in the shell wall. The shell or each of its compartments shall be provided with an opening large enough to permit inspection. The leakproofness of the service equipment including the closure (cover) of the inspection openings shall be ensured even in the event of overturning of the tank-vehicle, demountable tanks and battery-vehicles, taking into account the forces generated by an impact (such as acceleration and dynamic pressure). Limited release of the tank contents due to a pressure peak during the impact is however allowed. The gaskets shall be made of a material compatible with the substance carried and shall be replaced as soon as their effectiveness is impaired, for example as a result of ageing. Gaskets ensuring the leakproofness of fittings requiring manipulation during normal use of tank-vehicles, demountable tanks and batteries of receptacles, shall be so designed and arranged that manipulation of the fittings incorporating them does not damage them.'

211 131 Delete the last sentence.

211 173 Amend to read:

'Where shells intended for the carriage of liquids ⁽¹⁾ are not divided by partitions or surge plates into sections of not more than 7 500 litres capacity, they shall be filled to not less than 80 % or not more than 20 % of their capacity.'

211 187 Amend to read:

'211 187 (1) Fixed tanks (tank vehicles), demountable tanks and battery-vehicles constructed between 1 January 1978 and 31 December 1984, if used after 31 December 2004, shall conform to the provisions of marginal 211 127 (5), applicable as from 1 January 1990, concerning wall thickness and protection against damage.

(2) Fixed tanks (tank vehicles), demountable tanks and battery-vehicles constructed between 1 January 1985 and 31 December 1989, if used after 31 December 2010, shall conform to the provisions of marginal 211 127 (5), applicable as from 1 January 1990, concerning wall thickness and protection against damage.'

211 188 Add a new marginal to read:

'211 188 Fixed tanks (tank-vehicles), demountable tanks and battery-vehicles constructed before the entry into force of the provisions applicable from 1 January 1999 which do not conform to those provisions but were constructed according to the requirements of this Directive in force until that date may still be used.'

211 220 (1) For '211 125 (3)' read '211 125 (2)'.

211 251 (5) Table

Item No and Group	Identification No	Name of the substance	Minimum test pressure for shells				Max. filling ratio kg/l
			with thermal insulation		without thermal insulation		
			MPa	bar	MPa	bar	

Insert the following entries:

2°A	3337	REFRIGERANT GAS R 404A	2,9	29	3,2	32	0,82
	3338	REFRIGERANT GAS R 407A	2,9	29	3,3	33	0,94
	3339	REFRIGERANT GAS R 407B	3,1	31	3,4	34	0,93
	3340	REFRIGERANT GAS R 407C	2,7	27	3,1	31	0,95
2°F	3354	INSECTICIDE GAS, FLAMMABLE, N. O. S.	See marginal 211 251 (2) or (3)				
2°TF	3355	INSECTICIDE GAS, TOXIC, FLAMMABLE, N. O. S.	See marginal 211 251 (2) or (3).'				

Amend the following entries:

2°A	2422	OCTAFLUOROBUT-2-ENE (REFRIGERANT R 1318)	1	10	1	10	1,34
	2424	OCTAFLUOROPROPANE (REFRIGERANT GAS R 218)	2,1	21	2,3	23	1,07
	3220	PENTAFLUROETHANE (REFRIGERANT GAS R 125)	3,1	31	3,4	34	0,95
	3296	HEPTAFLUROPROPANE (REFRIGERANT GAS R 227)	1,4	14	1,6	16	1,20
	3298	ETHYLENE OXIDE AND PENTAFLUROETHANE MIXTURE, with not more than 7,9% ethylene oxide	2,4	24	2,6	26	1,02
	3299	ETHYLENE OXIDE AND TETRAFLUROETHANE MIXTURE, with not more than 5,6% ethylene oxide	1,5	15	1,7	17	1,03

211 251
(cont.)

Item No and Group	Identification No	Name of the substance	Minimum test pressure for shells				Max. filling ratio kg/l	
			with thermal insulation		without thermal insulation			
			MPa	bar	MPa	bar		
2°F	2200	PROPADIENE, INHIBITED	1,8	18	2,0	20	0,50	
	2453	ETHYL FLUORIDE (REFRIGERANT GAS R 161)	2,1	21	2,5	25	0,57	
	3153	PERFLUORO(METHYL VINYL ETHER)	1,4	14	1,5	15	1,14	
	3252	DIFLUOROMETHANE (REFRIGERANT GAS R 32)	3,9	39	4,3	43	0,78	
	1965		HYDROCARBON GAS MIXTURE, LIQUEFIED N.O.S.					
			MIXTURE A	1	10	1	10	0,50
			MIXTURE A01	1,2	12	1,4	14	0,49
			MIXTURE A02	1,2	12	1,4	14	0,48
			MIXTURE A0	1,2	12	1,4	14	0,47
			MIXTURE A1	1,6	16	1,8	18	0,46
			MIXTURE B1	2	20	2,3	23	0,45
			MIXTURE B2	2	20	2,3	23	0,44
			MIXTURE B	2	20	2,3	23	0,43
			MIXTURE C	2,5	25	2,7	27	0,42
		Other mixtures	See marginal 211 251 (2) or (3)					
2°T	1581	CHLOROPICRIN AND METHYL BROMIDE MIXTURE	1	10	1	10	1,51	
	1582	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	1,3	13	1,5	15	0,81	
2°TF	2204	CARBONYL SULPHIDE	2,7	27	3,0	30	0,84	
2°TC	2197	HYDROGEN IODIDE, ANHYDROUS	1,9	19	2,1	21	2,25	
	2420	HEXAFLUOROACETONE	1,6	16	1,8	18	1,08	
2°TO	3083	PERCHLORYL FLUORIDE	2,7	27	3,0	30	1,21'	

Transfer '2451 NITROGEN TRIFLUORIDE, COMPRESSED' and related data from 1°TO to 1°O.

211 260 Amend the third sentence of the footnote to read as follows:

'Instead of the name of the n.o.s. entry supplement by the technical name the use of one of the following names is permitted:'

In the third indent insert after 'mixture A': 'mixture A01, mixture A02,' and insert after 'mixture A1': 'mixture B1, mixture B2'.

211 521 For 'substances of 1°' read 'substances of 1° of marginal 2501'.

211 532 Amend to read as follows:

'Shells intended for the carriage of substances of 1° a) or of 20° of marginal 2501 shall be fitted in their upper part with a shut-off device preventing any build-up of excess pressure inside the shell due to the decomposition of the substances carried, any leakage of liquid, and any entry of foreign matter into the shell. The shut-off devices of shells intended for the carriage of ammonium nitrate liquid of marginal 2501, 20°, shall be so designed as to preclude obstruction of the devices by solidified ammonium nitrate during carriage.

Shells and their service equipment intended for the carriage of substances of 1° b) and c) of marginal 2501 shall be so designed as to prevent the entry of foreign matter, leakage of liquid or any building up of dangerous excess pressure inside the shell due to the decomposition of the substances carried'.

211 536 (1) to (4) Replace the word 'pressure-relief device' with 'emergency-relief device'.

(3) Amend the end of the first sentence of this paragraph to read as follows:

'... fire engulfment as calculated by the following formula:

$$q = 70961 \cdot F \cdot A^{0.82}$$

where:

q = heat absorption [W]

A = wetted area [m²]

F = insulation factor [-]

F = 1 for non-insulated vessels, or

$$F = \frac{U(923 - T_{PO})}{47032} \quad \text{for insulated vessels}$$

where:

K = heat conductivity of insulation layer [W · m⁻¹ · K⁻¹]

L = thickness of insulation layer [m]

U = K/L = heat transfer coefficient of the insulation [W · m⁻² · K⁻¹]

T_{PO} = temperature of peroxide at relieving conditions [K]

At the end of the existing text, add the following Note:

'Note: An example of a method to determine the size of emergency-relief devices is given in Appendix 5 of the Manual of Tests and Criteria as amended by document ST/SG/AC.10/23/Add. 1, Annex 2, circulated by the United Nations Organization.'

211 610 (1) Insert a new indent (c) as follows:

'(c) Substances in powdery or granular form classified under (a) of 17°, 25°, 27°, 32° to 36°, 41°, 43°, 44°, 51°, 52°, 55°, 56°, 61°, 65° to 68°, 73° and 90°.'

Rename existing c) as d) and for 'of 11°, 12°, 14° to 28°' read 'of 11° to 28°'.

Rename existing d) as e) and delete '71° to'.

211 621 Add 'and c)' to '211 610 (1) b)'.

211 622 Replace '211 610 (1) c)' by '211 610 (1) d)'.

211 623 Replace '211 610 (1) d)' by '211 610 (1) e)'.

- 211 631** Replace '(c) and (d)' with '(c) to (e)'.
- 211 650** Replace '211 610 (1) a), b) and c)' with '211 610 (1) a) to d)'.
- 211 651** Replace '211 610 (1) d)' by '211 610 (1) e)'.
- 211 680** After 'or 27°' insert 'and 1809 phosphorus trichloride of 67° (a),'
- 211 681** Add the following new marginal:
- '211 681** Fixed tanks, tank-vehicles and demountable tanks intended for the carriage of substances of 8°(a), 10°(a), 13°(b), 15°(a), 16°(a), 18°(a), 20°(a) and 67°(a) of marginal 2601, which were built before 1 January 1997 in accordance with the requirements of this Appendix applicable until 31 December 1996 for the carriage of substances of those items, but which do not conform to the requirements applicable as from 1 January 1997, may still be used until 31 December 2002.'
- 211 810** Add a new indent c) as follows:
- '(c) Substances in powdery or granular form classified under (a) of 16°, 39°, 46°, 52°, 55°, 65°, 67°, 69°, 71°, 73° and 75°.
- Rename existing c) and d) respectively d) and e).
- 211 821** Add 'and c)' to '211 810 b)'.
- 211 822** Replace '211 810 c)' by '211 810 d)'.
- 211 823** Replace '211 810 d)' by '211 810 e)'.
- 211 831** Replace '211 810 b), c) and d)' with '211 810 b) to e)'.
- 211 834** Insert 'due to the decomposition of the substances carried.' at the end of the text.
- 211 851** Replace '211 810 b) and c)' with '211 810 b) to d)'.
- 211 852** Replace '211 810 d)' by '211 810 e)'.
- Add the following new marginals:
- '211 881** Fixed tanks, tank-vehicles and demountable tanks intended for the carriage of 2686 2-diethylaminoethanol of 54°(b), which were built before 1 January 1997 in accordance with the requirements of this Appendix applicable until 31 December 1996 for the carriage of that substance, but which do not conform to the requirements applicable as from 1 January 1997, may still be used until 31 December 2002.
- 211 882** Fixed tanks, tank-vehicles and demountable tanks intended for the carriage of 2401 Piperidine of 54° (a), built before 1 January 1999 in accordance with the requirements of this Appendix applicable until 31 December 1998 for the carriage of this substance, but which do not, however, conform to the requirements applicable as from 1 January 1999, may continue to be used until 31 December 2004.'
- 211 910** In the *Note*: add ', 31°, 32° or 35°' after '21°(c)' and read ',' for 'and'.

APPENDIX B.1b

212 100 Delete last sentence and insert 'gaseous,' after 'liquid'.

212 120 (2) Add at the end of the existing text:

'When fine grain steel is used, the guaranteed value of the yield strength shall be not more than 460 N/mm² and the guaranteed value of the upper limit of the tensile strength shall be not more than 725 N/mm² according to the material specification.'

212 173 Amend to read:

'Where shells intend for the carriage of liquids ⁽²⁾ are not divided by partitions or surge plates into sections of not more than 7 500 litres capacity, they shall be filled to not less than 80 % or not more than 20 % of their capacity.'

212 182 Add a new marginal to read:

'**212 182** Tank-containers constructed before the entry into force of the provisions applicable from 1 January 1999 which do not conform to those provisions but were constructed according to the requirements of this Directive in force until that date may still be used.'

212 220 (1) For '211 125 (3)' read '212 125 (2)'.

212 251 (5) Table

Item No and Group	Identification No	Name of the substance	Minimum test pressure for shells				Max. filling ratio kg/l
			with thermal insulation		without thermal insulation		
			MPa	bar	MPa	bar	

Insert the following entries:

2°A	3337	REFRIGERANT GAS R 404A	2,9	29	3,2	32	0,82
	3338	REFRIGERANT GAS R 407A	2,9	29	3,3	33	0,94
	3339	REFRIGERANT GAS R 407B	3,1	31	3,4	34	0,93
	3340	REFRIGERANT GAS R 407C	2,7	27	3,1	31	0,95
2°F	3354	INSECTICIDE GAS, FLAMMABLE, N.O.S.	See marginal 212 251 (2) and (3)				
2°F	3355	INSECTICIDE GAS, TOXIC, FLAMMABLE, N.O.S.	See marginal 212 251 (2) and (3)				

212 251
(cont.)

Item No and Group	Identification No	Name of the substance	Minimum test pressure for shells				Max. filling ratio kg/l
			with thermal insulation		without thermal insulation		
			MPa	bar	MPa	bar	

Amend the following entries:

2° A	2422	OCTAFLUOROBUT-2-ENE (REFRIGERANT R 1318)	1	10	1	10	1,34
	2424	OCTAFLUOROPROPANE (REFRIGERANT GAS R 218)	2,1	21	2,3	23	1,07
	3220	PENTAFLUROETHANE (REFRIGERANT GAS R 125)	3,1	31	3,4	34	0,95
	3296	HEPTAFLUROPROPANE (REFRIGERANT GAS R 227)	1,4	14	1,6	16	1,20
	3298	ETHYLENE OXIDE AND PENTAFLUROETHANE, MIXTURE, with not more than 7,9% ethylene oxide	2,4	24	2,6	26	1,02
	3299	ETHYLENE OXIDE AND PENTAFLUROETHANE, MIXTURE, with not more than 5,6% ethylene oxide	1,5	15	1,7	17	1,03
2° F	2200	PROPADIENE, INHIBITED	1,8	18	2,0	20	0,50
	2453	ETHYLFLUORIDE (REFRIGERANT GAS R 161)	2,1	21	2,5	25	0,57
	3153	PERFLURO(METHYL VINYL ETHER)	1,4	14	1,5	15	1,14
	3252	DIFLUOROMETHANE (REFRIGERANT GAS R 32)	3,9	39	4,3	43	0,78
	1965	HYDROCARBON GAS MIXTURE LIQUEFIED N.O.S.	1	10	1	10	0,50
		MIXTURE A	1	10	1	10	0,50
		MIXTURE A01	1,2	12	1,4	14	0,49
		MIXTURE A01	1,2	12	1,4	14	0,49
		MIXTURE A02	1,2	12	1,4	14	0,48
		MIXTURE A0	1,2	12	1,4	14	0,47
		MIXTURE A1	1,6	16	1,8	18	0,46
		MIXTURE B1	2	20	2,3	23	0,45
		MIXTURE B2	2	20	2,3	23	0,44
		MIXTURE B	2	20	2,3	23	0,43
		MIXTURE C	2,5	25	2,7	27	0,42
	Other mixtures	see marginal 212 251 (2) or (3)					

212 251
(cont.)

Item No and Group	Identification No	Name of the substance	Minimum test pressure for shells				Max. filling ratio kg/l
			with thermal insulation		without thermal insulation		
			MPa	bar	MPa	bar	
2°T	1581	CHLOROPICRIN AND METHYL BROMIDE MIXTURE	1	10	1	10	1,51
	1582	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	1,3	13	1,5	15	0,81
2°TF	2204	CARBONYL SULPHIDE	2,7	27	3,0	30	0,84
2°TC	2197	HYDROGEN IODIDE, ANHYDROUS	1,9	19	2,1	21	2,25
	2420	HEXAFLUOROACETONE	1,6	16	1,8	18	1,08
2°TO	3083	PERCHLORYL FLUORIDE	2,7	27	3,0	30	1,21'

Transfer '2451 NITROGEN TRIFLUORIDE, COMPRESSED' and related data from 1° TO to 1° O.

212 260 Amend the third sentence of the footnote to read as follows:

'Instead of the name of the n.o.s. entry supplemented by the technical name the use of one of the following names is permitted':

In the third indent insert after 'mixture A': 'mixture A01, mixture A02' and insert after 'mixture A1': 'mixture B1, mixture B2'.

212 521 For 'substances of 1°' read 'substances of 1° of marginal 2501'.

212 532 Amend to read as follows:

'Shells intended for the carriage of substances of 1° a) or of 20° of marginal 2501 shall be fitted in their upper part with a shut-off device preventing any build-up of excess pressure inside the shell due to the decomposition of the substances carried, any leakage of liquid, and any entry of foreign matter into the shell. The shut-off devices of shells intended for the carriage of ammonium nitrate liquid of marginal 2501, 20°, shall be so designed as to preclude obstruction of the devices by solidified ammonium nitrate during carriage.

Shells and their service equipment intended for the carriage of substances of 1° b) and c) of marginal 2501 shall be so designed as to prevent the entry of foreign matter, leakage of liquid or any building up of dangerous excess pressure inside the shell due to the decomposition of the substances carried.'

212 536 (1) to (4) Replace the word 'pressure-relief device' with 'emergency-relief device'.

(3) Amend the end of the first sentence of this paragraph to read as follows:

'... fire engulfment as calculated by the following formula:

$$q = 70961 \cdot F \cdot A^{0,82}$$

where:

q = heat absorption [W]

A = wetted area [m²]

F = insulation factor [-]

F = 1 for non-insulated vessels, or

$$F = \frac{U(923 - T_{PO})}{47032} \quad \text{for insulated vessels}$$

where:

K = heat conductivity of insulation [$\text{W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$]

L = thickness of insulation layer [m]

U = K/L = heat transfer coefficient of the insulation [$\text{W} \cdot \text{m}^{-2} \cdot \text{K}^{-1}$]

T_{PO} = temperature of peroxide at relieving conditions [K]

At the end of the existing text, add the following Note:

'Note: An example of a method to determine the size of emergency-relief devices is given in Appendix 5 of the Manual of Tests and Criteria as amended by document ST/SG/AC.10/23/Add. 1, Annex 2, circulated by the United Nations Organization.'

212 610 (1) Insert a new indent c) as follows:

'c) Substances in powdery or granular form classified under (a) of 17°, 25°, 27°, 32° to 36°, 41°, 43°, 44°, 51°, 52°, 55°, 56°, 61°, 65° to 68°, 73° and 90°.'

Rename existing c) as d) and for 'of 11°, 12°, 14° to 28°', read 'of 11° to 28°'.

Rename existing d) as e) and delete '71° to'.

212 621 Add 'and c)' to '212 610 (1) b)'.

212 622 Replace '212 610 (1) c)' by '212 610 (1) d)'.

212 623 Replace '212 610 (1) d)' by '212 610 (1) e)'.

212 631 Replace 'c) and d)' with 'c) to e)'.

212 650 Replace '212 610 (1) a), b) and c)' with '212 610 (1) a), to d)'.

212 651 Replace '212 610 (1) d)' by '212 610 (1) e)'.

212 680 After 'or 27°' insert 'and 1809 phosphorus trichloride of 67° (a)'.

212 681 Add the following new marginal:

'**212 681** Tank-containers intended for the carriage of substances of 8°(a), 10°(a), 13°(b), 15°(a), 16°(a), 18°(a), 20°(a) and 67°(a) of marginal 2601, which were built before 1 January 1997 in accordance with the requirements of this Appendix applicable until 31 December 1996 for the carriage of substances of those items, but which do not conform to the requirements applicable as from 1 January 1997, may still be used until 31 December 2001.'

212 810 Add a new indent c) as follows:

'c) Substances in powdery or granular form classified under (a) of 16°, 39°, 46°, 52°, 55°, 65°, 67°, 69°, 71°, 73° and 75°.'

Rename existing c) and d) respectively d) and e) and in d) for 'substances 15° or classified' read 'phosphorus oxybromide of 15° and substances classified'.

212 821 Add 'and c)' to '212 810 b)'.

212 822 Add '212 810 c)' to '212 810 d)'.

212 823 Replace '212 810 d)' by '212 810 e)'.

212 831 Replace '212 810 b), c) and d)' with '212 810 b), to e)'.

- 212 834** Insert 'due to the decomposition of the substances carried.' at the end of the text.
- 212 851** Replace '212 810 b) and c)' with '212 810 b), to d)'.
- 212 852** Replace '212 810 d)' by '212 810 e)'.
- 212 881** Add the following new marginals:
- '212 881** Tank-containers intended for the carriage of 2686 2-diethylaminoethanol of 54°(b), which were built before 1 January 1997 in accordance with the requirements of this Appendix applicable until 31 December 1996 for the carriage of that substance, but which do not conform to the requirements applicable as from 1 January 1997, may still be used until 31 December 2001.
- 212 882** Tank-containers intended for the carriage of 2401 Piperidine of 54° a), built before 1 January 1999 in accordance with the requirements of this Appendix applicable until 31 December 1998 for the carriage of this substance, but which do not, however, conform to the requirements applicable as from 1 January 1999, may continue to be used until 31 December 2003.'
- 212 920** Add the following sentence at the end:
- 'The effective minimum thickness of the walls of shells intended for the carriage of substances of 20°(c) shall not be less than 3 mm.'

APPENDIX B.1d

- 214 250** (2) Amend to read as follows:

'Shells constructed of fine-grained steels for the carriage of:

- substances of Class 2 which are classified as corrosive and substances of marginal 2201, 4°A; and
- substances of marginal 2801, 6°

shall be heat-treated for thermal stress relief.

Insert a new Appendix B.1e as follows:

'APPENDIX B.1e

PROVISIONS CONCERNING VACUUM-OPERATED WASTE TANKS

Note: This appendix applies to fixed tanks and demountable tanks.

SECTION 1

GENERAL, SCOPE (USE OF TANKS), DEFINITIONS

Definition

- 215 101** In the following requirements 'vacuum-operated waste tank' means a fixed or demountable tank primarily used for the carriage of dangerous wastes, with special constructional features and/or equipment to facilitate the loading and discharge of wastes as specified in this Appendix. A tank, which fully complies with the requirements of Appendix B.1a, is not considered to be a 'vacuum-operated waste tank'.

215 102 The term 'protected area' means the areas located as follows:

- (1) The lower part of the tank in a zone which extends over a 60° angle on either side of the lower generating line;
- (2) The top part of the tank in a zone which extends over a 30° angle on either side of the top generating line;
- (3) On the end front of the tank on motor vehicles;
- (4) On the rear end of the tank inside the protection volume formed by the device stipulated in marginal 10 220 (1).

Scope

215 103 The special requirements of sections 2 to 7 complete or modify Appendix B.1a and are applied to vacuum-operated waste tanks.

Vacuum-operated waste tanks may be equipped with openable ends, if the special requirements in Part II of Appendix B.1a allow bottom discharge of the substances to be carried.

Vacuum-operated waste tanks shall comply with all provisions of Appendix B.1a, with the exception of requirements overtaken by a special provision in this Appendix. However the provisions of marginals 211 127 (4) to (6), 211 173 and 211 174 shall not apply.

Use

215 130 Substances in Classes 3, 4.1, 5.1, 6.1, 6.2, 8 and 9 may be carried in vacuum-operated waste tanks if their carriage in fixed or demountable tanks is permitted according to the special requirements of Part II of Appendix B.1a.

SECTION 2

CONSTRUCTION

215 121 Tanks shall be designed for a calculation pressure equal to 1,3 times the filling or discharge pressure but not less than 400 kPa (4 bar) (gauge pressure). For the carriage of substances for which a higher calculation pressure of the tank is specified in Appendix B.1a, this higher pressure shall apply.

215 122 Tanks shall be designed to withstand a negative internal pressure of 100 kPa (1 bar).

SECTION 3

ITEMS OF EQUIPMENT

215 130 The items of equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during transport or handling. This requirement can be fulfilled by placing the equipment in a so-called 'protected area' (see marginal 215 102).

215 131 The bottom discharge of shells may be constituted by external piping with a stop-valve fitted as close to the shell as practicable and a second closure which may be a blank flange or other equivalent device.

215 132 The position and closing direction of the stop-valve(s) connected to the shell, or to any compartment in the case of compartmented shells, shall be unambiguous, and be able to be checked from the ground.

215 133 In order to avoid any loss of contents in the event of damage to the external filling and discharge fittings (pipes, lateral shut-off devices), the internal stop-valve, or the first external stop-valve (where applicable), and its seatings shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to withstand them. The filling and discharge devices (including flanges or threaded plugs) and protective caps (if any) shall be capable of being secured against any inadvertent opening.

215 134 The tanks may be equipped with openable ends. Openable ends shall comply with the following conditions:

- (1) The ends shall be designed to be secured leaktight when closed.
- (2) Inadvertent opening shall not be possible.
- (3) Where the opening mechanism is power operated the end shall remain securely closed in the event of a power failure.

215 134 (4) A safety or breakseal device shall be incorporated to ensure that the openable end cannot be opened when there is still a residual over pressure in the tank. This requirement does not apply to openable ends, which are power-operated, where the movement is positively controlled. In this case the controls shall be of the dead-man type and be so positioned that the operator can observe the movement of the end at all times and is not endangered during opening and closing of the end.

(cont.)

(5) Provisions shall be made to protect the end and prevent it from being forced open during a roll-over of the vehicle.

215 135 Vacuum-operated waste tanks which are fitted with an internal piston to assist in the cleaning of the tank or discharging shall be provided with stop-devices to prevent the piston in every operational position being ejected from the tank when a force equivalent to the maximum allowed working pressure of the tank is applied to the piston. The maximum allowed working pressure for tanks or compartments with pneumatic operated piston shall not exceed 100 kPa (1,0 bar). The internal piston shall be constructed in a manner and of materials which will not cause an ignition source when the piston is moved.

The internal piston may be used as a compartment provided it is secured in position. Where any part of the means by which the internal piston is secured is external to the tank, it shall be placed in a position not liable to accidental damage.

215 136 The tanks may be equipped with suction booms if,

- a) the boom is fitted with an internal or external stop-valve fixed directly to the shell, or directly to a bend that is welded to the shell;
- b) the stop-valve mentioned in a) is so arranged that carriage with the valve in an open position is prevented; and
- c) the boom is constructed in such a way that the tank will not leak as a result of accidental impact on the boom.

215 137 The tanks shall be fitted with the following additional service equipment:

(1) The outlet of a pump/exhauster unit shall be so arranged as to ensure that any flammable or toxic vapours are diverted to a place where they will not cause a danger.

(2) A device to prevent immediate passage of flame shall be fitted to both the inlet and outlet of a vacuum pump/exhauster unit which may create sparks and which is fitted on a tank used for the carriage of flammable wastes.

(3) Pumps which can deliver a positive pressure shall have a safety device fitted in the pipework which can be pressurised. The safety device shall be set to discharge at a pressure not exceeding the maximum working pressure of the tank.

(4) A stop valve shall be fitted between the shell, or the outlet of the overfill prevention device fitted to the shell, and the pipework connecting the shell to the pump/exhauster unit.

(5) The tank shall be fitted with a suitable pressure/vacuum manometer, which shall be mounted in a position where it can be easily read by the person operating the pump/exhauster unit. A distinguishing line shall be marked on the scale to indicate the maximum working pressure of the tank.

(6) The tank, or in case of compartmented tanks, every compartment, shall be equipped with a level indicating device. Sight glasses may be used as level-indicating devices provided:

- (i) they form a part of the tank wall and have a resistance to the pressure comparable to that of the tank; or they are fitted external to the tank;
- (ii) the top and bottom connections to the tank are equipped with shut-off valves fixed directly to the shell and so arranged that carriage with the valves in an open position is prevented;
- (iii) are suitable for operation at the maximum allowed working pressure of the tank; and
- (iv) are placed in a position where they will not be liable to accidental damage.

215 138 Shells of vacuum-operated waste tanks shall have a safety valve preceded by a bursting disc.

SECTION 4

TYPE APPROVAL

(No special requirements)

SECTION 5

TESTS**215 150** Vacuum-operated waste tanks shall be subject to an internal and external examination at least every three years.

SECTION 6

MARKING

(No special requirements)

SECTION 7

OPERATION

- 215 170** (1) Vacuum-operated waste tanks shall be filled with liquids classified as flammable through fillings, which discharge into the tank at a low level. Provisions shall be made to minimise the production of spray.
- (2) When discharging flammable liquids with a flash-point below 23°C by using air pressure the maximum allowed pressure is 100 kPa (1 bar).
- (3) The use of tanks fitted with an internal piston operating as a compartment wall is allowed only when the substances on either side of the wall (piston) do not react dangerously with each other (see marginal 211 179).'

APPENDIX B.2

UNIFORM PROVISIONS CONCERNING THE CONSTRUCTION OF VEHICLES INTENDED FOR THE CARRIAGE OF DANGEROUS GOODS INCLUDING PROVISIONS FOR THEIR TYPE-APPROVAL WHERE APPROPRIATE

Amend the title to read:

'UNIFORM PROVISIONS CONCERNING THE CONSTRUCTION OF VEHICLES INTENDED FOR THE CARRIAGE OF DANGEROUS GOODS'**220 100** (1) Delete 'and to their type-approval'.

SECTION 3 Amend the title to read

'SECTION 3

VEHICLE DESIGNATION'**220 300** Delete.**220 301** Amend to read:

'For the purposes of this Appendix and of EEC Regulation No 105 ⁽¹⁾ vehicles subject to approval according to marginal 10 282 or to type approval according to marginal 10 281 and EEC Regulation No 105 are assigned a designation according to the dangerous goods which the vehicle is intended to transport, i.e.:

EX/II: (unchanged)

EX/III: (unchanged)

220 301 FL: after '61 °C', insert: '(with the exception of diesel fuel complying with standard EN 590: 1993, gas oil, and heating oil (light) (cont.) — identification number 1202 — with a flash-point as specified in standard EN 590: 1993)'. (rest of the text unchanged)

OX: (unchanged)

AT: (unchanged)

(¹) Regulation No 105 (Uniform provisions concerning the approval of vehicles intended for the carriage of dangerous goods with regard to their specific constructional features) annexed to the Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions) (1958 Agreement, as amended).'

220 302 Delete.

220 303 Delete.

SECTION 4 Delete (Keep as a 'reserved' section).

220 500 In the table, replace the row for 220 536 with the following:

		EX/II	EX/III	AT	FL	OX
220 536 (1) (2) (5)	combustion heaters	×	×	×	×	×
220 536 (3) (4)	combustion heaters				×	

220 516 Add the following new paragraph (3):

(3) *Electrical connections*

Electrical connections between motor vehicles and trailers shall have a protection degree IP54 in accordance with IEC standard 529 and be designed to prevent accidental disconnection. Examples of appropriate connections are given in ISO 12 098:1994 and ISO 7638:1985.'

220 521 (3) Delete.

220 532 Delete paragraph (1) and renumber paragraphs (2) and (3) to (1) and (2).

220 533 Amend the second sentence to read:

'In the case of EX/II and EX/III vehicles the engine shall be placed forward of the front wall of the load compartment: it may nevertheless be placed under the load compartment, provided this is done in such a way that any excess heat does not constitute a hazard to the load by raising the temperature on the inner surface of the load compartment above 80 °C.'

220 534 Amend the third sentence to read:

'The exhaust system of EX/II and EX/III vehicles shall be so constructed and situated that any excess heat shall not constitute a hazard to the load by raising the temperature on the inner surface of the load compartment above 80 °C.'

Delete the last sentence.

220 536 Amend to read as follows:

'Combustion heaters

220 536 (1) [reserved]

(2) The combustion heaters and their exhaust gas routing shall be designed, located, protected or covered so as to prevent any risk of unacceptable heating or ignition of the load. This requirement shall be considered as fulfilled if the fuel tank and the exhaust system of the appliance conform to provisions similar to those prescribed for fuel tanks and exhaust systems of vehicles in marginals 220 532 and 220 534 respectively.

(3) The combustion heaters shall be put out of operation by at least the following methods:

(a) Intentional manual switching off from the driver's cabin;

(b) Unintentional stopping of the vehicle engine; in this case the heating device may be restarted manually by the driver;

(c) Start up of a feed pump on the motor vehicle for the dangerous goods carried.

(4) Afterrunning is permitted after the combustion heaters have been put out of operation. For the methods of paragraphs (3) (b) and (c) above the supply of combustion air shall be interrupted by suitable measures after an afterrunning cycle of not more than 40 seconds. Only heaters shall be used for which proof has been furnished that the heat exchanger is resistant to the reduced afterrunning cycle of 40 seconds for the time of their normal use.

(5) The combustion heater shall be switched on manually. Programming devices shall be prohibited.'

SECTIONS 6, 7, 8 and 9 Delete.

221 000 Delete.

APPENDIX B.3

CERTIFICATE OF APPROVAL FOR VEHICLES CARRYING CERTAIN DANGEROUS GOODS

230 000 At the beginning, add a new *Note 2*, to read as follows:

'*Note: 2.* The approval certificate for a vacuum-operated waste tank vehicle shall bear the following remark 'vacuum-operated waste tank vehicle.'

Renumber the existing *Note* to *Note 1*.

APPENDIX B.5

LIST OF SUBSTANCES AND IDENTIFICATION NUMBERS

250 000 (3) *Note 1*, add '2' at the beginning of the list of classes.

Note before Table 1, add '2' at the beginning of the list of classes.

Tables I and II

Amend as necessary in accordance with the amendments to Table 3.

250 000*(cont.)*

Table III

1. Amend entries in the list as follows:

- 1105 Amend the name in column (b), to read 'Pentanols' (twice).
- 1251 In column (d), read '6.1 + 3 + 8'.
- 1280 In column (c), for '339', read '33'.
- 1391 Add '+ 3 ⁽¹⁾' in column (d) (twice).
- 1500 Replace '50' with '56' in column (c) and add '+ 6.1' in column (d).
- 1965 For the entry 'Butane (trade name): see Mixture A, A0' amend the name to read 'Butane (trade name): see Mixture A, A01, A02, A0'.
- For the entry 'Mixture A, A0, A1, B, C: see Hydrocarbon gas mixture liquefied, n.o.s.' amend the name to read:
'Mixture A, A01, A02, A0, A1, B1, B2, B, C: see Hydrocarbon gas mixture liquefied, n.o.s.'
- 2003 Amend the name in column (b), to read as follows:
'Metal alkyls, water-reactive, n.o.s. or metal aryls, water-reactive, n.o.s.'
- 2031 Add '+05' in column (d) and change the hazard identification No '88' to read '885'.
- 2211 Delete label '9' in column (d).
- 2401 Replace '338' with '883' in column (c), '3 + 8' with '8 + 3' in column (d) and '3, 23° (b)' with '8, 54° (a)' in column (e).
- 2451 Replace '265' with '25' in column (c), '6.1 + 05' with '2 + 05' in column (d) and '2, 1° TO' with '2, 1° O' in column (e).
- 2771 Amend the name in column (b), to read as follows: 'Thiocarbamate pesticide, solid, toxic'.
- 2772 Amend the name in column (b), to read as follows: 'Thiocarbamate pesticide, liquid, flammable, toxic'.
- 2789 In column (b), add 'with more than 80 % acid, by mass' after 'solution'.
- 2790 Replace the existing entry with the two following entries:
2790/ Acetic acid solution with 50 % to 80 % acid, by mass/ 80/ 8/ 8, 32° (b)1.
2790/ Acetic acid solution with more than 10 % but less than 50 % acid, by mass/ 80/ 8/ 8, 32° (c).
- 2796 In column (b), for 'with more' read 'with not more'.
- 2862 Amend '6.1, 58° (b)' to read '6.1, 58° (c)' in column (e).
- 3005 Amend the name in column (b), to read as follows: 'Thiocarbamate pesticide, liquid, toxic, flammable'.
- 3006 Amend the name in column (b), to read as follows: 'Thiocarbamate pesticide, liquid, toxic' (twice).
- 3049 Amend the name in column (b), to read as follows:
'Metal alkyl halides, water-reactive, n.o.s. or metal aryl halides, water-reactive, n.o.s.'
- 3050 Amend the name in column (b), to read as follows:
'Metal alkyl hydrides, water-reactive, n.o.s. or metal aryl hydrides, water-reactive, n.o.s.'
- 3096 In column (e), amend '(b)' to read '(a), (b)'.

⁽¹⁾ When flash-point is not more than 61 °C.

250 000
(cont.)

3203 Amend the name in column (b), to read as follows:

'Pyrophoric organometallic compound, water-reactive, n.o.s.'

3314 In column (d), delete label '9'.

2. Delete the following entries:

1081, 2666, 2765, 2766, 2767, 2768, 2769, 2770, 2773, 2774, 2999, 3000, 3001, 3002, 3003, 3004, 3007 and 3008.

3. Add new entries as follows:

Insert the following entries:

Subst. Id. No.	Name of substance	Hazard Id. No.	Label	Class and item number
(a)	(b)	(c)	(d)	(e)
1565	Barium cyanide	66	6.1	6.1, 41° (a)
1575	Calcium cyanide	66	6.1	6.1, 41° (a)
1581	Chloropicrin and methyl bromide mixture	26	6.1	2,2° T
1582	Chloropicrin and methyl chloride mixture	26	6.1	2,2° T
1626	Mercuric potassium cyanide	66	6.1	6.1, 41° (a)
1680	Potassium cyanide	66	6.1	6.1, 41° (a)
1689	Sodium cyanide	66	6.1	6.1, 41° (a)
1905	Selenic acid	88	8	8, 16° (a)
2316	Sodium cuprocyanide, solid	66	6.1	6, 41° (a)
2344	Bromopropanes	30	3	3, 31° (c)
2471	Osmium tetroxide	66	6.1	6.1, 56° (a)
2630	Selenates	66	6.1	6.1, 55° (a)
2630	Selenites	66	6.1	6.1, 55° (a)
3048	Aluminium phosphide pesticide	642	6.1	6.1, 43° (a)
3095	Corrosive solid, self-heating, n.o.s.	884	8+4.2	8, 69° (a)
3096	Corrosive solid, water-reactive n.o.s.	842	8+4.3	8, 71° (a)
3147	Dye or dye intermediate, solid, corrosive, n.o.s.	88	8	8, 65° (a)
3336	Mercaptans, liquid, flammable, n.o.s. or mercaptan mixture, liquid, flammable, n.o.s.	30	3	3, 31° (c)
3336	Mercaptans, liquid, flammable, n.o.s. or mercaptan mixture, liquid, flammable, n.o.s.	33	3	3, 2° (a), 2° (b), 3° (b)
3337	Refrigerant gas R404A	20	2	2, 2° A
3338	Refrigerant gas R407A	20	2	2, 2° A
3339	Refrigerant gas R407B	20	2	2, 2° A
3340	Refrigerant gas R407C	20	2	2, 2° A

250 000
(cont.)

Subst. Id. No.	Name of substance	Hazard Id. No.	Label	Class and item number
(a)	(b)	(c)	(d)	(e)
3341	Thiourea dioxide	40	4.2	4.2, 5° (b), (c)
3342	Xanthates	40	4.2	4.2, 5° (b), (c)
3345	Phenoxyacetic acid derivative pesticide, solid, toxic	60	6.1	6.1, 73° (b), (c)
3345	Phenoxyacetic acid derivative pesticide, solid, toxic	66	6.1	6.1, 73° (a)
3346	Phenoxyacetic acid derivative pesticide, liquid, flammable, toxic	336	3 + 6.1	3, 41° (a), (b)
3347	Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable	63	6.1 + 3	6.1, 72° (b), (c)
3347	Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable	663	6.1 + 3	6.1, 72° (a)
3348	Phenoxyacetic acid derivative pesticide, liquid, toxic	60	6.1	6.1, 71° (b), (c)
3348	Phenoxyacetic acid derivative pesticide, liquid, toxic	66	6.1	6.1, 71° (a)
3349	Pyrethroid pesticide, solid, toxic	60	6.1	6.1, 73° (b), (c)
3349	Pyrethroid pesticide, solid, toxic	66	6.1	6.1, 73° (a)
3350	Pyrethroid pesticide, liquid, flammable, toxic	336	3 + 6.1	3, 41° (a), (b)
3351	Pyrethroid pesticide, liquid, toxic, flammable	63	6.1 + 3	6.1, 72° (b), (c)
3351	Pyrethroid pesticide, liquid, toxic, flammable	663	6.1 + 3	6.1, 72° (a)
3352	Pyrethroid pesticide, liquid, toxic	60	6.1	6.1, 71° (b), (c)
3352	Pyrethroid pesticide, liquid, toxic	66	6.1	6.1, 71° (a)
3354	Insecticide gas, flammable, n.o.s.	23	3	2, 2° F
3355	Insecticide gas, toxic, flammable, n.o.s.	263	6.1 + 3	2, 2° TF

APPENDIX B.6

260 000 In the last sentence, for '(7A × 105 mm)' read '(74 × 105 mm)'.