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ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

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

**DRAFT AMENDMENTS TO ANNEXES A AND B OF ADR ADOPTED
PROVISIONALLY (FOR ENTRY INTO FORCE ON 1 JANUARY 2005) BY THE
WORKING PARTY ON ITS SEVENTY-FOURTH SESSION (19-23 MAY 2003)**

1.1.3.1 (c) Insert “or returns from” after “such as deliveries to”.
(*ref.*: TRANS/WP.15/AC.1/2002/18/Rev.1).

1.2.1 Add the following definitions:

““IAEA” means the International Atomic Energy Agency, (IAEA, P.O. Box 100 – A-1400 Vienna);”

““EN” (standard) means an european standard published by the European Committee for Standardization (CEN) (CEN – 36 rue de Stassart B-1050 Brussels);”

““ISO” (standard) means an international standard published by the International Organization for Standardization (ISO) (1, rue de Varembé – CH-1204 Geneva 20);”.
(*ref.* : TRANS/WP.15/AC.1/2002/28).

1.6.1.6 Add a new [1.6.1.6] to read as follows:

“[1.6.1.6] The requirements of 8.2.1 are applicable to drivers of vehicles with a permissible maximum mass not exceeding 3.5 tonnes as from 1 January 2007. This transitional provision does not apply to drivers referred to in 8.2.1.3 and 8.2.1.4.”

1.6.3.21 Renumber as 1.6.3.26 and insert the following new paragraphs:

“1.6.3.21 (Reserved)

1.6.3.22 (Reserved)

1.6.3.23 (Reserved)

1.6.3.24 (Reserved)

1.6.3.25 The date of the leakproofness test required by 6.8.2.4.3 need not be added to the tank plate required by 6.8.2.5.1 until the first leakproofness test after 1 January 2005 is performed.”
(ref. : TRANS/WP.15/AC.1/2002/37 + INF.17 of September 2002).

1.6.4.14 Add a new 1.6.4.14 as follows:

“1.6.4.14 The date of the leakproofness test required by 6.8.2.4.3 need not be added to the tank plate required by 6.8.2.5.1 until the first leakproofness test after 1 January 2005 is performed.”
(ref. : TRANS/WP.15/AC.1/2002/37 + INF.17 of September 2002).

2.1.3.4 Read as follows:

"Solutions and mixtures containing substances belonging to one of the entries mentioned in 2.1.3.4.1 or 2.1.3.4.2 shall be classified in accordance with the provisions of these paragraphs."
(ref. : TRANS/WP.15/AC.1/2002/29).

2.1.3.4.1 The existing 2.1.3.4 becomes 2.1.3.4.1 with the following changes:

– first sentence: replace: "2.1.3.5" with "2.1.3.5.3",

– delete the text under "Class 9".

(ref. : TRANS/WP.15/AC.1/2002/29).

2.1.3.4.2 Add a new paragraph as follows:

"2.1.3.4.6 Solutions and mixtures containing a substance belonging to one of the following entries of Class 9:

UN No. 2315 POLYCHLORINATED BIPHENYLS (PCBs);

UN No. 3151 POLYHALOGENATED BIPHENYLS, LIQUID;

UN No. 3151 POLYHALOGENATED TERPHENYLS, LIQUID;

UN No. 3152 POLYHALOGENATED BIPHENYLS, SOLID; or

UN No. 3152 POLYHALOGENATED TERPHENYLS, SOLID

shall always be classified under the same entry of Class 9 provided that:

- they do not contain any additional dangerous component other than components of packing group III of classes 3, 4.1, 4.2, 4.3, 5.1, 6.1 or 8; and
- they do not have the hazard characteristics as indicated in 2.1.3.5.3." (ref. : TRANS/WP.15/AC.1/2002/29).

2.2.61.3 Insert a table footnote ^{i/} at the end of subsection 2.2.61.3, with a reference to it after “liquid” and “solid” for the pesticides of classification codes T6 and T7, with the following text:

^{ii/} *Articles impregnated with this pesticide, such as fibreboard plates, paper strips, cotton-wool balls, sheets of plastics material, in hermetically closed wrappings, are not subject to the provisions of ADR."*

Existing table footnotes ^{i/} to ^{w/} become table footnotes ^{i/} to ^{o/}. (ref. : TRANS/WP.15/AC.1/2002/32).

3.2 Table A:

UN No. / Category	Column	Amendment	Ref.
1005	(13)	Add “TT8”	TRANS/WP.15/AC.1/2002/30 + INF.17 of September 2002
1268	(6)	Delete “274”	TRANS/WP.15/AC.1/2002/19
2315	(17)	Add “VV15”	TRANS/WP.15/AC.1/2002/2/Rev.1 + INF.14 of September 2002
2319	(6)	Delete “274”	TRANS/WP.15/AC.1/2002/19
2426	(12)	Replace “L4BV” with “L4BV (+)”	INF.21 of March 2002
2912	(17)	Add “VV16”	TRANS/WP.15/AC.1/2002/36
2913	(17)	Add “VV17”	TRANS/WP.15/AC.1/2002/36
3151	(17)	Add “VV15”	TRANS/WP.15/AC.1/2002/2/Rev.1 + INF.14 of September 2002
3152	(17)	Add “VV15”	TRANS/WP.15/AC.1/2002/2/Rev.1 + INF.14 of September 2002
3295	(6)	Delete “274”	TRANS/WP.15/AC.1/2002/19
All	(11)	Delete “TP13”	TRANS/WP.15/AC.1/2002/10
	(13)	Delete “TE1”	TRANS/WP.15/AC.1/2002/25 + INF.17 of September 2002
Pesticides of Class 6.1 (of	(6)	Add “648”	TRANS/WP.15/AC.1/2002/19

classification codes T6 and T7)			
All Class 9 entries	(16)	Delete "V1"	TRANS/WP.15/AC.1/2001/4

Add the following new special provision 648 as follows:

"648 Articles impregnated with this pesticide, such as fibreboard plates, paper strips, cotton-wool balls, sheets of plastics material, in hermetically closed wrappings, are not subject to the provisions of ADR."

(ref. : TRANS/WP.15/AC.1/2002/32).

4.1.4.1 (P200) Amend the second heading to read:

"Test pressure, filling ratios and filling requirements".

At the end of this section, add the following paragraph (7):

"(7) The filling of gas receptacles may only be carried out by specially-equipped centres, with qualified staff using appropriate procedures.

The procedures should include checks:

- of the conformity to regulations of receptacles and accessories;
- of their compatibility with the product to be carried;
- of the absence of damage which might affect safety;
- of compliance with the degree or pressure of filling, as appropriate;
- of regulation markings and identification."

Renumber the following sub-paragraphs in consequence.

In (11), (former (10)), add the following references:

Requirements applicable	Reference	Document title
(7)	EN 1919:2000	Transportable gas cylinders. Cylinders for gases (excluding acetylene and LPG). Inspection at time of filling
(7)	EN 1920:2000	Transportable gas cylinders. Cylinders for compressed gases (excluding acetylene). Inspection at time of filling
(7)	EN 12754:2001	Transportable gas cylinders. Cylinders for dissolved acetylene. Inspection at time of filling

(ref: TRANS/WP.15/AC.1/2002/13).

4.2.5.3 Amend special provision TP13 to read as follows:

“TP13 (*Reserved*)”.
(*ref:* TRANS/WP.15/AC.1/2002/10).

4.3.4.1.3 (d) Add: “UN No. 2426 ammonium nitrate, liquid, hot concentrated solution with more than 80% but not more than 93%: code L4BV”.
(*ref:* INF.21 of march 2002),

5.4.1.1.3 Amend the examples to read as follows:

“WASTE, UN 1230, METHANOL, 3 (6.1), II or
WASTE, METHANOL, 3 (6.1), UN 1230, II or
WASTE, UN 1993 FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol),
3, II or
WASTE, FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol), 3,
UN 1993, II.”
(*ref:* INF.10 of September 2002).

5.4.1.2.1 (d) Replace “of the protective container/separate compartment” by “of the protective compartment or containment system”.
(*ref:* Consequential amendment of TRANS/WP.15/AC.1/2002/3 + INF.43 of September 2002).

5.4.3.1 (a) Amend to read as follows:

- "(a) - the name of the substance or article or group of goods;
- the Class; and
- the UN number, or for a group of goods, the UN numbers."

5.4.3.8 Amend the first indent under "LOAD" as follows:

"-Mention of:

- the name of the substance or article, or group of goods presenting the same dangers;
 - the Class; and
 - the UN number or, for a group of goods the, UN numbers
- for which these instructions are intended or applicable."

6.8.2.2.10 Add a new 6.8.2.2.10 as follows:

“6.8.2.2.10 If tanks required to be hermetically closed are equipped with safety valves, these shall be preceded by a bursting disc and the following conditions shall be observed. The arrangement of the bursting disc and safety valve shall be such as to satisfy the competent authority. A pressure gauge or another suitable indicator shall be provided in the space between the bursting disc and the safety valve, to enable detection of any rupture, perforation or leakage of the disc which may disrupt the action of the safety valve.”
(*ref.* : TRANS/WP.15/AC.1/2002/25 + INF.17 of September 2002).

6.8.2.5.1 Amend the eighth indent to read as follows:

“– date (month and year) of initial test and most recent test in accordance with 6.8.2.4.1, 6.8.2.4.2 or 6.8.2.4.3;”
(*ref.* : TRANS/WP.15/AC.1/2002/37 + INF.17 of September 2002).

6.8.3.4.3 Insert a new second sentence which reads as follows:

“When the shell, its fittings, piping and items of equipment have been tested separately, the tank shall be subjected to a leakproofness test after assembly.”
(*ref.* : TRANS/WP.15/AC.1/2002/16).

6.8.3.4.6 Add the following sentence at the end of the current text after sub-paragraphs (a) and (b):

“When the shell, its fittings, piping and items of equipment have been tested separately, the tank shall be subjected to a leakproofness test after assembly.”
(*ref.* : TRANS/WP.15/AC.1/2002/16).

6.8.3.4.9 Amend the existing text to read as follows:

“Leakproofness tests of tanks intended for the carriage of gases shall be performed at a pressure of not less than:

- For compressed gases, liquefied gases and dissolved gases: 20% of the test pressure;
- For refrigerated liquefied gases: 90% of the maximum working pressure.”
(*ref.* : TRANS/WP.15/AC.1/2002/16).

6.8.4 (b) Amend the special provision TE1 to read as follows:

“TE1 (*Reserved*)”
(*ref.* : TRANS/WP.15/AC.1/2002/25 + INF.17 of September 2002).

6.8.4 (d) Add a new special provision TT8 which reads as follows:

“TT8 Tanks approved for the carriage of UN 1005 AMMONIA, ANHYDROUS and constructed of fine-grained steel with a yield strength of more than 400 N/mm² in accordance with the material standard, shall be subjected at each periodic test according to 6.8.2.4.2, to magnetic particle inspections to detect surface cracking.

For the lower part of each shell at least 20 % of the length of each circumferential and longitudinal weld shall, together with all nozzle welds and any repair or ground areas, be inspected.”

(ref. : TRANS/WP.15/AC.1/2002/30 + INF.17 of September 2002).

7.3.3 Add the following new special provisions VV15, VV16 and VV17:

“VV15 Carriage in bulk is permitted in closed or sheeted vehicles, closed containers or sheeted large containers with complete walls for substances or mixtures (such as preparations or wastes) containing not more than 1000 mg/kg of substance to which this UN No is assigned.

The bodies of vehicles or containers shall be leakproof or rendered leakproof, for example by means of a suitable and sufficiently stout inner lining.”

(ref. : TRANS/WP.15/AC.1/2002/2/Rev.14 + INF.14).

“VV16 Carriage in bulk is permitted in accordance with the provisions of 4.1.9.2.3.”

(ref. : TRANS/WP.15/AC.1/2002/36).

“VV17 Carriage in bulk of SCO-I is permitted in accordance with the provisions of 4.1.9.2.3.”

(ref. : TRANS/WP.15/AC.1/2002/36).

7.5.2.2 Amend the table footnote to read:

“a Packages containing articles of compatibility group B and substances or articles of compatibility group D may be loaded together on one vehicle or in one container provided they are effectively segregated such that there is no danger of transmission of detonation from the articles of compatibility group B to the substances or articles of compatibility group D. Segregation shall be achieved by the use of separate compartments or by placing one of the two types of explosive in a special containment system. Either method of segregation shall be approved by the competent authority.”

(ref. : TRANS/WP.15/AC.1/2002/3 + INF.43 of September 2002).

7.5.10 Amend the beginning of the paragraph to read as follows:

"In the case of flammable gases, or liquids with a flash-point of 61°C or below, or UN No. 1361, carbon or carbon black, packing group II, a good electrical connection..." (*remainder unchanged*).
(*Ref. document: INF.13, May 2003*)

8.2.1.1 Amend the beginning to read:

"Drivers of vehicles carrying dangerous goods shall hold a certificate..."

8.2.1.2 Amend the beginning to read:

"Drivers of vehicles carrying dangerous goods shall attend ..."

8.2.1.4 Delete:

"Irrespective of the permissible maximum mass of the vehicle,"

8.2.1.5 In the first sentence, replace "a refresher training course" with "refresher training" and "examinations" with "examination".

8.2.2.5.1 Amend to read as follows:

"Refresher training undertaken at regular intervals serves the purpose of bringing the drivers' knowledge up to date; it shall cover new technical, legal and substance-related developments."

8.2.2.5.2 Replace "courses" with "training".

8.2.2.5.3 Amend to read:

"The duration of the refresher training including individual practical exercises shall be of at least two days."

8.2.2.5.4 Amend the end of the sentence to read: "...shall be permitted on each training day."

8.2.2.7.3 Replace "courses" with "training".

8.2.2.7.3.1 Replace "a refresher training course" with "refresher training".

8.2.2.7.3.3 Insert, at the beginning, "In the examination" and delete "course".

8.2.2.8.2 Replace "a refresher training course" with "refresher training" and delete "successfully".

8.2.3 Amend the heading to read:

“Training of persons other than drivers holding a certificate in accordance with 8.2.1, involved in the carriage of dangerous goods by road”

Amend the end of the last sentence of the paragraph to read:

“...or shipping agencies and drivers of vehicles other than drivers holding a certificate in accordance with 8.2.1, involved in the carriage of dangerous goods by road.”

8.5 Special provision S1 (1) (a), delete:

“Irrespective of the permissible maximum mass of the vehicle,”.

Special provision S11 (1), delete:

“Irrespective of the permissible maximum mass of the vehicle,”.

Replace Chapters 9.1, 9.2 and 9.3 with the following:

“CHAPTER 9.1

SCOPE, DEFINITIONS AND REQUIREMENTS FOR THE APPROVAL OF VEHICLES

9.1.1 Scope and definitions

9.1.1.1 *Scope*

The requirements of Part 9 shall apply to vehicles of categories N and O, as defined in Annex 7 of the Consolidated Resolution on the Construction of Vehicles (R.E.3)¹, intended for the carriage of dangerous goods.

These requirements refer to vehicles, as regards their construction, type approval, ADR approval and annual technical inspection.

9.1.1.2 *Definitions*

For the purposes of Part 9:

"*Vehicle*" means any vehicle, whether complete, incomplete or completed, intended for the carriage of dangerous goods by road;

"*EX/II vehicle*" or "*EX/III vehicle*" means a vehicle intended for the carriage of explosives substances and articles (Class 1);

"*FL vehicle*" means a vehicle intended for the carriage of liquids having a flash-point of not more than 61°C (with the exception of diesel fuel complying with standard EN 590:1993, gas oil, and heating oil (light) - UN No. 1202 - with a flash-point as specified in standard EN 590: 1993) or flammable gases, in tank-containers, portable tanks or MEGCs of more than 3 m³ capacity, fixed tanks or demountable tanks of more than 1 m³ capacity or a battery-vehicle of more than 1 m³ capacity intended for the carriage of flammable gases;

"*OX vehicle*" means a vehicle intended for the carriage of hydrogen peroxide, stabilized or hydrogen peroxide, aqueous solution stabilized with more than 60% hydrogen peroxide (Class 5.1, UN No. 2015) in tank-containers or portable tanks of more than 3 m³ capacity, fixed tanks or demountable tanks of more than 1 m³ capacity;

¹ Document of the United Nations Economic Commission for Europe, TRANS/WP.29/78/Rev.1, as amended.

"*AT vehicle*" means a vehicle, other than FL or OX, intended for the carriage of dangerous goods in tank-containers, portable tanks or MEGCs of more than 3 m³ capacity, fixed tanks or demountable tanks of more than 1 m³ capacity or a battery vehicle of more than 1 m³ capacity other than an FL vehicle;

"*Complete vehicle*" means any vehicle which does not need any further completion (e.g. one stage built vans, lorries, tractors, trailers);

"*Incomplete vehicle*" means any vehicle which still needs completion in at least one further stage (e.g. chassis-cab, trailer chassis);

"*Completed vehicle*" means any vehicle which is the result of a multi-stage process (e.g. chassis or chassis-cab fitted with a bodywork);

"*Type-approved vehicle*" means any vehicle which has been approved in accordance with ECE Regulation N. 105² or Directive 98/91/EC³;

"*ADR approval*" means certification by a competent authority of a Contracting Party that a single vehicle intended for the carriage of dangerous goods satisfies the relevant technical requirements of this Part as an EX/II, EX/III, FL, OX, or AT vehicle;

9.1.2 Approval of EX/II, EX/III, FL, OX and AT vehicles

NOTE: No special certificates of approval shall be required for vehicles other than EX/II, EX/III, FL, OX and AT vehicles, apart from those required by the general safety regulations normally applicable to vehicles in the country of origin.

9.1.2.1 General

EX/II, EX/III, FL, OX and AT vehicles shall comply with the relevant requirements of this Part.

Every complete or completed vehicle shall be subjected to a first inspection by the competent authority in accordance with the administrative requirements of

² Regulation No. 105 (Uniform provisions concerning the approval of vehicles intended for the carriage of dangerous goods with regard to their specific constructional features).

³ Directive 98/91/EC of the European Parliament and of the Council of 14 December 1998 relating to motor vehicles and their trailers intended for the transport of dangerous goods by road and amending Directive 70/156/EEC relating to the type approval of motor vehicles and their trailers (Official Journal of the European Communities No. L 011 of 16.01.1999, p. 0025 – 0036).

this Chapter to verify conformity with the relevant technical requirements of Chapters 9.2 to 9.7.

The conformity of the vehicle shall be certified by the issue of a certificate of approval in accordance with 9.1.3.

When vehicles are required to be fitted with an endurance braking system, the manufacturer of the vehicle or his duly accredited representative shall issue a declaration of conformity with the relevant prescriptions of Annex 5 of ECE Regulation No. 13. This declaration shall be presented at the first technical inspection.

9.1.2.2 *Requirements for type-approved vehicles*

At the request of the vehicle manufacturer or his duly accredited representative, vehicles subject to ADR approval according to 9.1.2.1 may be type-approved by a competent authority. The relevant technical requirements of Chapter 9.2 shall be considered to be fulfilled if a type approval certificate has been issued by a competent authority in accordance with ECE Regulation No. 105² or Directive 98/91/EC³ provided that the technical requirements of the said Regulation or the said Directive correspond to those of Chapter 9.2 of this Part and provided that no modification of the vehicle alters its validity.

This type approval, granted by one Contracting Party, shall be accepted by the other Contracting Parties as ensuring the conformity of the vehicle when the single vehicle is submitted for inspection for ADR approval.

At the inspection for ADR approval, only those parts of the type-approved incomplete vehicle which have been added or modified in the process of completion shall be inspected for compliance with the applicable requirements of Chapter 9.2.

(Ref. Doc.: TRANS/WP.15/2003/11 as amended by INF.19, May 2003)

9.1.2.3 *Annual technical inspection*

EX/II, EX/III, FL, OX and AT vehicles shall be subject to an annual technical inspection in their country of registration to make sure that they conform to the relevant requirements of this Part, and to the general safety regulations

² *Regulation No 105 (Uniform provisions concerning the approval of vehicles intended for the carriage of dangerous goods with regard to their specific construction features).*

³ *Directive 98/91/EC of the European Parliament and of the Council of 14 December 1998 relating to motor vehicles and their trailers intended for the transport of dangerous goods by road and amending Directive 70/156/EEC relating to the type approval of motor vehicles and their trailers (Official Journal of the European Communities No L011 of 16.01.1999, p. 0025-0036).*

(concerning brakes, lighting, etc.) in force in their country of registration; if these vehicles are trailers or semi-trailers coupled behind a drawing vehicle, the drawing vehicle shall be subject to technical inspection for the same purposes.

The conformity of the vehicle shall be certified either by the extension of validity of the certificate of approval or by the issue of a new certificate of approval in accordance with 9.1.3.

9.1.3 Certificate of approval

9.1.3.1 Conformity of EX/II, EX/III, FL, OX and AT vehicles with the requirements of this Part is subject to a certificate of approval (certificate of ADR approval) issued by the competent authority of the country of registration for each vehicle whose inspection yields satisfactory results.

9.1.3.2 A certificate of approval issued by the competent authority of one Contracting Party for a vehicle registered in the territory of that Contracting Party shall be accepted, so long as its validity continues, by the competent authorities of the other Contracting Parties.

9.1.3.3 The certificate of approval shall have the same layout as the model shown in 9.1.3.5. Its dimensions shall be 210 mm x 297 mm (format A4). Both front and back may be used. The colour shall be white, with a pink diagonal stripe.

It shall be drawn up in the language or one of the languages of the country issuing it. If that language is not English, French or German, the title of the certificate of approval and any remarks under item 11 shall also be drawn up in English, French or German.

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

9.1.3.4 The validity of a certificate of approval shall expire not later than one year after the date of the technical inspection of the vehicle preceding the issue of the certificate. The next approval term shall, however, be related to the last nominal expiry date, if the technical inspection is performed within one month before or after that date.

However, in the case of tanks subject to compulsory periodic inspection this provision shall not mean that tightness (leakproofness) tests, hydraulic pressure tests or internal inspections of tanks have to be carried out at intervals shorter than those laid down in Chapters 6.8 and 6.9.

9.1.3.5 Model for certificate of approval for vehicles carrying certain dangerous goods

CERTIFICATE OF APPROVAL FOR VEHICLES CARRYING CERTAIN DANGEROUS GOODS			
This certificate testifies that the vehicle specified below fulfils the conditions prescribed by the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).			
1. Certificate No.:	2. Vehicle manufacturer:	3. Vehicle Identification No.:	4. Registration number (if any):
5. Name and business address of carrier, operator or owner:			
6. Description of vehicle: ¹			
7. Vehicle designation(s) according to 9.1.1.2 of ADR: ²			
EX/II	EX/III	FL	OX AT
8. Endurance braking system: ³			
<input type="checkbox"/> Not applicable <input type="checkbox"/> The effectiveness according to 9.2.3.1.2 of ADR is sufficient for a total mass of the transport unit of ____t ⁴			
9. Description of the fixed tank(s)/battery-vehicle (if any):			
9.1 Manufacturer of the tank:			
9.2 Approval number of the tank/battery-vehicle:			
9.3 Tank manufacturer's serial number/Identification of elements of battery-vehicle:			
9.4 Year of manufacture:			
9.5 Tank code according to 4.3.3.1 or 4.3.4.1 of ADR:			
9.6 Special provisions according to 6.8.4 of ADR (if applicable):			
10. Dangerous goods authorised for carriage:			
The vehicle fulfils the conditions required for the carriage of dangerous goods assigned to the vehicle designation(s) in No. 7.			
10.1 In the case of an EX/II or EX/III vehicle ³			
<input type="checkbox"/> goods of Class 1 including compatibility group J <input type="checkbox"/> goods of Class 1 excluding compatibility group J			
10.2 In the case of a tank-vehicle/battery-vehicle ³			
<input type="checkbox"/> only the substances permitted under the tank code and any special provisions specified in No. 9 may be carried ⁵ or <input type="checkbox"/> only the following substances (Class, UN number, and if necessary packing group and proper shipping name) may be carried: Only substances which are not liable to react dangerously with the materials of the shell, gaskets, equipment and protective linings (if applicable) may be carried.			
11. Remarks:			
12. Valid until:		Stamp of issuing service	
		Place, Date, Signature	

¹ According to the definitions for power-driven vehicles and for trailers of categories N and O as defined in Annex 7 of the Consolidated Resolution on the Construction of Vehicles (R.E.3) or in Directive 97/27/EC.

² Strike out what is not appropriate.

³ Mark the appropriate.

⁴ Enter appropriate value. A value of 44t will not limit the "registration / in-service maximum permissible mass" indicated in the registration document(s).

⁵ Substances assigned to the tank code specified in No. 9 or to another tank code permitted under the hierarchy in 4.3.3.1.2 or 4.3.4.1.2, taking account of the special provision(s), if any.

13. EXTENSIONS OF VALIDITY	
Validity extended until	Stamp of issuing service, place, date, signature:

NOTE: This certificate shall be returned to the issuing service when the vehicle is taken out of service; if the vehicle is transferred to another carrier, operator or owner, as specified in No. 5; on expiry of the validity of the certificate; and if there is a material change in one or more essential characteristics of the vehicle.

CHAPTER 9.2

REQUIREMENTS CONCERNING THE CONSTRUCTION OF VEHICLES

9.2.1 EX/II, EX/III, FL, OX and AT vehicles shall comply with the requirements of this Chapter, according to the table below.

For vehicles other than of EX/II, EX/III, FL, OX and AT:

- the requirements of 9.2.3.1.1 (Braking equipment in accordance with ECE Regulation No. 13 or Directive 71/320/EEC) are applicable to all vehicles first registered (or which entered into service if the registration is not mandatory) after 30 June 1997;
- the requirements of 9.2.5 (Speed limitation device in accordance with ECE Regulation No. 89 or Directive 92/6/EEC) are applicable to all motor vehicles with a maximum mass exceeding 12 tonnes first registered after 31 December 1987.

TECHNICAL SPECIFICATIONS		VEHICLES					COMMENTS
		EX/II	EX/III	AT	FL	OX	
9.2.2	ELECTRICAL EQUIPMENT						
9.2.2.2	Wiring		X	X ^a	X	X	^a In the case of AT vehicles carrying tank-containers, portable tanks or MEGCs, this requirement shall apply only to vehicles first registered after 30 June 1997. Applicable to all AT vehicles carrying tank-containers, portable tanks or MEGCs as from 1 January 2005.
9.2.2.3	Battery master switch						
9.2.2.3.1			X		X		^h The last sentence of 9.2.2.3.1 is applicable to vehicles first registered (or which entered into force if registration is not mandatory) after 30 June 2005.
9.2.2.3.2			X		X		
9.2.2.3.3					X		
9.2.2.3.4			X		X		
9.2.2.4	Batteries	X	X		X		
9.2.2.5	Permanently energized circuits						
9.2.2.5.1					X		
9.2.2.5.2			X				

TECHNICAL SPECIFICATIONS		VEHICLES					COMMENTS
		EX/II	EX/III	AT	FL	OX	
9.2.2.6	Electrical installation at rear of cab		X		X		
9.2.3	BRAKING EQUIPEMENT						
9.2.3.1	General provisions	X	X	X	X	X	
	Anti-lock braking system		X ^{b, d}	X ^{b, d}	X ^{b, d}	X ^{b, d}	<p>^b Applicable to vehicles first registered (or which entered into service if the registration is not mandatory) after 30 June 1993 in respect of motor vehicles (tractors and rigid vehicles) having a maximum mass exceeding 16 tonnes and trailers (i.e. full trailers, semi-trailers and centre-axle trailers) with a maximum mass exceeding 10 tonnes. Applicable to motor vehicles authorized to tow trailers with a maximum mass exceeding 10 tonnes, first registered after 30 June 1995. Applicable to all vehicles which are first approved in accordance with 9.1.2 after 30 June 2001 regardless of the date on which they were first registered.</p> <p>^d Mandatory compliance for all vehicles as from 1 January 2010.</p>
	Endurance braking system		X ^{c, g}	X ^{c, g}	X ^{c, g}	X ^{c, g}	<p>^c Applicable to motor vehicles first registered after 30 June 1993 having a maximum mass exceeding 16 tonnes or authorized to tow a trailer with a maximum mass exceeding 10 tonnes.</p> <p>^g Mandatory compliance for all motor vehicles as from 1 January 2010.</p>

TECHNICAL SPECIFICATIONS		VEHICLES					COMMENTS
		EX/II	EX/III	AT	FL	OX	
9.2.3.2	Emergency braking devices for trailers						
9.2.3.2.1		X					
9.2.3.2.2			X				
9.2.4	PREVENTION OF FIRE RISKS						
9.2.4.2	Vehicle cab						
9.2.4.3	Fuel tanks	X	X		X	X	
9.2.4.4	Engine	X	X		X	X	
9.2.4.5	Exhaust system	X	X		X		
9.2.4.6	Vehicle endurance braking		X	X	X	X	
9.2.4.7	Combustion heaters						
9.2.4.7.1 9.2.4.7.2 9.2.4.7.5		X ^e	X ^e	X ^e	X ^e	X ^e	^e Applicable to motor vehicles equipped after 30 June 1999. Mandatory compliance by 1 January 2010 for vehicles equipped before 1 July 1999 .
9.2.4.7.3 9.2.4.7.4					X ^e		^e Applicable to motor vehicles equipped after 30 June 1999. Mandatory compliance by 1 January 2010 for vehicles equipped before 1 July 1999.
9.2.4.7.6		X	X				

TECHNICAL SPECIFICATIONS		VEHICLES					COMMENTS
		EX/II	EX/III	AT	FL	OX	
9.2.5	SPEED LIMITATION DEVICE	X ^f	X ^f	X ^f	X ^f	X ^f	^f Applicable to motor vehicles with a maximum mass exceeding 12 tonnes first registered after 31 December 1987.
9.2.6	COUPLING DEVICE OF TRAILERS	X	X				

9.2.2 Electrical equipment

9.2.2.1 General provisions

The electrical installation as a whole shall meet the provisions of 9.2.2.2 to 9.2.2.6 in accordance with the table of 9.2.1.

9.2.2.2 Wiring

9.2.2.2.1 The size of conductors shall be large enough to avoid overheating. Conductors shall be adequately insulated. All circuits shall be protected by fuses or automatic circuit breakers, except for the following:

- from the battery to the cold start and stopping systems of the engine;
- from the battery to the alternator;
- from the alternator to the fuse or circuit breaker box;
- from the battery to the starter motor;
- from the battery to the power control housing of the endurance braking system (see 9.2.3.1.2), if this system is electrical or electromagnetic;
- from the battery to the electrical lifting mechanism for lifting the bogie axle.

The above unprotected circuits shall be as short as possible.

9.2.2.2.2 Cables shall be securely fastened and positioned in such a way that the conductors are adequately protected against mechanical and thermal stresses.

9.2.2.3 Battery master switch

9.2.2.3.1 A switch for breaking the electrical circuits shall be placed as close to the battery as practicable. [If a single pole switch is used it shall be placed in the supply lead and not in the earth lead.]

9.2.2.3.2 A control device to facilitate the disconnecting and reconnecting functions of the switch shall be installed in the driver's cab. It shall be readily accessible to the driver and be distinctively marked. It shall be protected against inadvertent operation by either adding a protective cover, by using a dual movement control device or by other suitable means. Additional control devices may be installed provided they are distinctively marked and protected against inadvertent operation. [If the control device(s) are electrically operated, the circuits of the control device(s) are subject to the requirements of 9.2.2.5.]

9.2.2.3.3 The switch shall have a casing with protection degree IP 65 in accordance with IEC Standard 529.

9.2.2.3.4 The cable connections on the switch shall have protection degree IP 54. However, this does not apply if these connections are contained in a housing which may be the battery box. In this case it is sufficient to insulate the connections against short circuits, for example with a rubber cap.

9.2.2.4 Batteries

The battery terminals shall be electrically insulated or covered by an insulating battery box cover. If the batteries are not located under the engine bonnet, they shall be fitted in a vented box.

9.2.2.5 Permanently energized circuits

9.2.2.5.1 (a) Those parts of the electrical installation including the leads which shall remain energized when the battery master switch is open, shall be suitable for use in hazardous areas. Such equipment shall meet the general requirements of IEC 60079, parts 0 and 14¹ and the additional requirements applicable from IEC 60079, parts 1, 2, 5, 6, 7, 11, 15 or 18² ;

(b) For the application of IEC 60079 part 14¹, the following classification shall be used:

Permanently energized electrical equipment including the leads which is not subject to 9.2.2.3 and 9.2.2.4 shall meet the requirements for Zone 1 for electrical equipment in general or meet the requirements for Zone 2 for electrical equipment situated in the driver's cab. The requirements for explosion group IIC, temperature class T6 shall be met.

However, for permanently energized electrical equipment installed in an environment where the temperature caused by non-electrical equipment situated in that environment exceeds the T6 temperature limit, the temperature classification of the permanently energized electrical equipment shall be at least that of the T4 temperature class.

[(c) The supply leads for permanently energised equipment shall either comply with the provisions of IEC 60079, part 7 ("Increased safety") and be protected by a fuse or automatic circuit breaker placed as close to the source

¹ The requirements of IEC 60079 part 14 do not take precedence over the requirement of this Part.

² As an alternative, the general requirements of EN 50014 and the additional requirements of EN 50015, 50016, 50017, 50018, 50019, 50020, 50021 or 50028 may be used

of power as practicable or, in the case of "intrinsically safe equipment", they shall be protected by a safety barrier placed as close to the source of power as practicable.].

9.2.2.5.2 Bypass connections to the battery master switch for electrical equipment which must remain energized when the battery master switch is open shall be protected against overheating by suitable means, such as a fuse, a circuit breaker or a safety barrier (current limiter).

9.2.2.6 *Provisions concerning that part of the electrical installation situated to the rear of the driver's cab*

The whole installation shall be so designed, constructed and protected such that it cannot provoke any ignition or short-circuit under normal conditions of use of vehicles and that these risks can be minimized in the event of an impact or deformation. In particular:

9.2.2.6.1 *Wiring*

The wiring located to the rear of the driver's cab shall be protected against impact, abrasion and chafing during normal vehicle operation. Examples of appropriate protection are given in figures 1, 2, 3 and 4 below. However, the sensor cables of anti-lock braking devices do not need additional protection.

FIGURES

Figure N°1

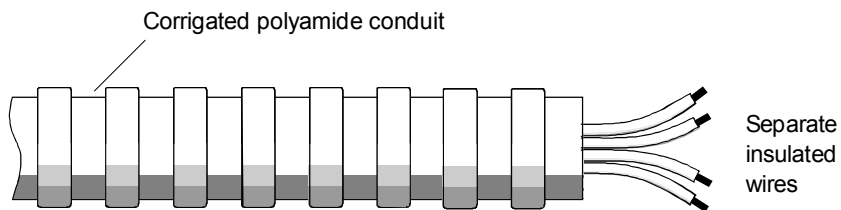


Figure N°2

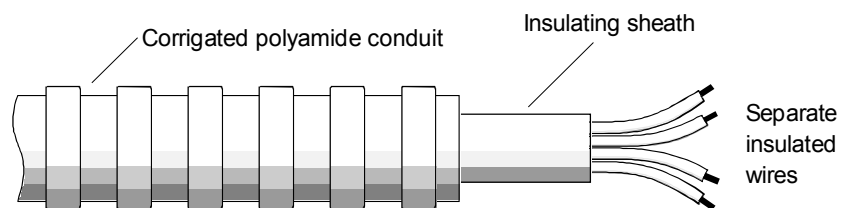


Figure N°3

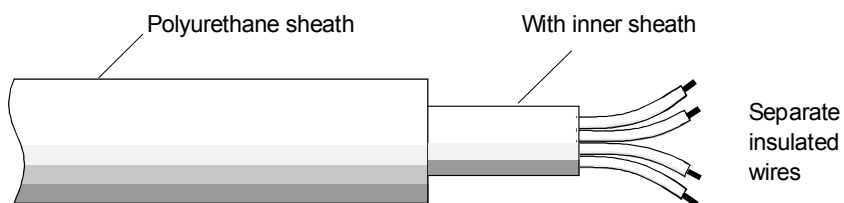
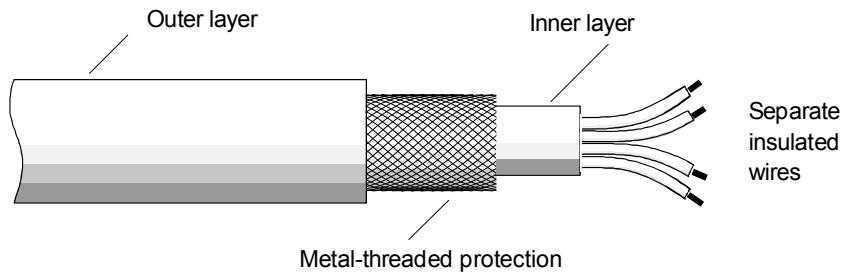


Figure N°4



9.2.2.6.2 *Lighting*

Lamp bulbs with a screw cap shall not be used.

9.2.2.6.3 *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.

9.2.3 Braking equipment

9.2.3.1 *General provisions*

9.2.3.1.1 Motor vehicles and trailers intended for use as transport units for dangerous goods shall fulfil all relevant technical requirements of ECE Regulation No.13³ or Directive 71/320/EEC⁴, as amended, in accordance with the dates of application specified therein.

9.2.3.1.2 EX/III, FL, OX and AT vehicles shall fulfil the requirements of ECE Regulation No.13³, Annex 5.

9.2.3.2 *Emergency braking devices for trailers*

9.2.3.2.1 Trailers shall be equipped with an effective system for braking or restraining them if they become detached from the motor vehicle towing them.

9.2.3.2.2 Trailers 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 the event of breakage of the coupling.

9.2.4 Prevention of fire risks

9.2.4.1 *General provisions*

The following technical provisions shall apply in accordance with the table of 9.2.1.

³ ECE Regulation No. 13 (Uniform provisions concerning the approval of vehicles of categories M, N and O with regard to braking).

⁴ Directive 71/320/EEC (originally published in the Official Journal of the European Communities No. L202 of 6.9.1971).

9.2.4.2 *Vehicle cab*

Unless the driver's cab is made of materials which are not readily flammable, a shield made of metal or other suitable material of the same width as the tank shall be fitted at the rear of the cab. Any windows in the rear of the cab or in the shield shall be hermetically closed and made of fire-resistant safety glass with fire-resistant frames. Furthermore, there shall be a clear space of not less than 15 cm between the tank and the cab or the shield.

9.2.4.3 *Fuel tanks*

The fuel tanks for supplying the engine of the vehicle shall meet the following requirements:

- (a) In the event of any leakage, the fuel shall drain to the ground without coming into contact with hot parts of the vehicle or the load;
- (b) Fuel tanks containing petrol shall be equipped with an effective flame trap at the filler opening or with a closure enabling the opening to be kept hermetically sealed.

9.2.4.4 *Engine*

The engine propelling the vehicle shall be so equipped and situated to avoid any danger to the load through heating or ignition. In the case of EX/II and EX/III vehicles the engine shall be of compression-ignition construction.

9.2.4.5 *Exhaust system*

The exhaust system (including the exhaust pipes) shall be so directed or protected to avoid any danger to the load through heating or ignition. Parts of the exhaust system situated directly below the fuel tank (diesel) shall have a clearance of at least 100 mm or be protected by a thermal shield.

9.2.4.6 *Vehicle endurance braking*

Vehicles equipped with endurance braking systems emitting high temperatures placed behind the rear wall of the driver's cab shall be equipped with a thermal shield securely fixed and located between this system and the tank or load so as to avoid any heating, even local, of the tank wall or the load.

In addition, the thermal shield shall protect the braking system against any outflow or leakage, even accidental, of the load. For instance, a protection including a twin-shell shield shall be considered satisfactory.

9.2.4.7 Combustion heaters

- 9.2.4.7.1 Combustion heaters shall comply with the relevant technical requirements of [ECE Regulation No. ...⁵ or] Directive 2001/56/EC⁶ in accordance with the dates of implementation specified therein and the provisions of 9.2.4.7.2 to 9.2.4.7.6 applicable according to the table in 9.2.1.
- 9.2.4.7.2 The combustion heaters and their exhaust gas routing shall be designed, located, protected or covered so as to prevent any unacceptable risk of 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 9.2.4.3 and 9.2.4.5 respectively.
- 9.2.4.7.3 The combustion heaters shall be put out of operation by at least the following methods:
- (a) Intentional manual switching off from the driver's cab;
 - (b) 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.
- 9.2.4.7.4 After running is permitted after the combustion heaters have been put out of operation. For the methods of 9.2.4.7.3 (b) and (c) 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.
- 9.2.4.7.5 The combustion heater shall be switched on manually. Programming devices shall be prohibited.
- 9.2.4.7.6 Combustion heaters with gaseous fuels are not permitted.

⁵ *Regulation ECE No. ... Proposal for new regulation with regard to the type approval of a heating system and of a vehicle with regard to its heating system.*

⁶ *Directive 2001/56/EC of the European Parliament and of the Council of 27 September 2001 relating to heating systems for motor vehicles and their trailers (initially published in the Official Journal of the European Communities No. L292 of 9 November 2001).*

9.2.5 Speed limitation device

Motor vehicles (rigid vehicles and tractors for semi-trailers) with a maximum mass exceeding 12 tonnes, shall be equipped with a speed limitation device according to the technical requirements of ECE Regulation No. 89⁷, as amended. The device shall be set in such a way that the speed cannot exceed 90 km/h, bearing in mind the technological tolerance of the device.

9.2.6 Coupling devices of trailers

Coupling devices of trailers shall comply with the technical requirements of ECE Regulation No. 55⁸ or Directive 94/20/EC⁹, as amended, in accordance with the dates of application specified therein.

⁷ ECE Regulations No. 89: uniform provisions concerning the approval of:

- I. Vehicles with regard to limitation of their maximum speed;
- II. Vehicles with regard to the installation of a speed limitation device (SLD) of an approved type;
- III. Speed limitation devices (SLD).

As an alternative, the corresponding provisions of directive 92/6/EEC of the Council of 10 February 1992 (originally published in the Official Journal of the European Communities No. L 057 of 02.03.1992) and directive 92/24/EEC of the Council of 31 March 1992 (originally published in the Official Journal of the European Communities No. L 129 of 14.05.1992), as amended, may apply provided that they have been amended in accordance with the latest amended form of ECE Regulation No. 89 applicable at the time of the vehicle approval.

⁸ ECE Regulation No. 55 (Uniform provisions concerning the approval of mechanical coupling components of combinations of vehicles).

⁹ Directive 94/20/EC of the European parliament and of the Council of 30 of May 1994 (originally published in the Official Journal of the European Communities No. L 195 of 29.07.1994).

CHAPTER 9.3

ADDITIONAL REQUIREMENTS CONCERNING COMPLETE OR COMPLETED EX/II OR EX/III VEHICLES

9.3.1 Materials to be used in the construction of vehicle bodies

No materials likely to form dangerous compounds with the explosive substances carried shall be used in the construction of the body.

9.3.2 Combustion heaters

9.3.2.1 Combustion heaters may only be installed on EX/II and EX/III vehicles for heating of the driver's cab or the engine.

9.3.2.2 Combustion heaters shall meet the requirements of 9.2.4.7.1, 9.2.4.7.2, 9.2.4.7.5, and 9.2.4.7.6.

9.3.2.3 The switch of the combustion heater may be installed outside the driver's cab.

It is not necessary to prove that the heat exchanger is resistant to the reduced after running cycle.

9.3.2.4 No combustion heaters or 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.

9.3.3 EX/II vehicles

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 flammable¹. It shall be tautened so as to cover the loading area on all sides.

All openings in the load compartment of closed vehicles shall have lockable, close-fitting doors or rigid covers. The driver's compartment shall be separated from the load compartment by a continuous wall.

¹ In the case of flammability, this requirement will be deemed to be met if, in accordance with the procedure specified in ISO standard 3795:1989 'Road vehicles, and tractors and machinery for agriculture and forestry - Determination of burning behaviour of interior materials', samples of the sheeting have a burn rate not exceeding 100 mm/min.

9.3.4 EX/III vehicles

9.3.4.1 The vehicles shall be designed, constructed and equipped so that the explosives are protected from external hazards and the weather. These vehicles shall be closed. The driver's compartment shall be separated from the load compartment by a continuous wall. The loading surface shall be continuous. Load restraint anchorage points may be installed. All joints shall be sealed. All openings shall be capable of being locked. They shall be so constructed and placed as to overlap at the joints.

[9.3.4.2 The body shall be made from heat and flame resistant materials with a minimum thickness of 10 mm. Materials classified as Class B-S₃-d₂ according to standard EN 13501-1: 2002 are deemed to fulfil this requirement.

If the material used for the body is metal, the complete inside of the body shall be covered with materials fulfilling the same requirement.]

9.3.5 Engine and load compartment

The engine propelling an EX/II or EX/III vehicle 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.

9.3.6 External heat sources and load compartment

The exhaust system of EX/II and EX/III vehicles or others parts of these complete or completed 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.

9.3.7 Electrical equipment

9.3.7.1 The rated voltage of the electrical system shall not exceed 24V.

9.3.7.2 Any lighting in the load compartment of EX/II vehicles shall be on the ceiling and covered, i.e. with no exposed wiring or bulb.

In the case of Compatibility Group J, the electrical installation shall be at least IP65 (e.g. flame-proof Eex d). Any electrical equipment accessible from the inside of the load compartment shall be sufficiently protected from mechanical impact from the inside.

9.3.7.3 The electrical installation on EX/III vehicles shall meet the requirements of 9.2.2.2, 9.2.2.3, 9.2.2.4, 9.2.2.5.2 and 9.2.2.6.

The electrical installation in the load compartment shall be dust-protected (at least IP54 or equivalent) or, in the case of Compatibility Group J, at least IP65 (e.g. flame-proof Eex d)."
