



**Economic and Social  
Council**

Distr.  
GENERAL

TRANS/WP.15/2005/24  
29 August 2005

Original: ENGLISH

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**ECONOMIC COMMISSION FOR EUROPE**

INLAND TRANSPORT COMMITTEE

Working Party on the Transport of Dangerous Goods  
(Seventy-ninth session, agenda item 3,  
Geneva, 7-11 November 2005)

**SAFETY IN ROAD TUNNELS**

**Transmitted by the Government of the Netherlands**

**Summary:** Amendments to the draft tunnel regulations in ADR as a result of the discussion in May 2005 on the basis of INF.14 of the Netherlands.

**Decision to be taken:** Discuss and take decisions on the proposals.

**Related Documents:** TRANS/WP.15/181  
Informal document INF.14 (May 2005).

**Introduction**

At its last session, (9-13 May 2005), the Working Party decided to accept the text in informal document INF.14 from the Netherlands in principle. In this document the decisions of the Working Party with respect to documents TRANS/WP.15/2005/8 and informal document INF.23 of Sweden are incorporated.

Some editorial changes have been made on the basis of comments received by the Netherlands.

**Classification code FT2 in tunnel category C.**

In document TRANS/WP.15/2005/8 of the Netherlands it was proposed to add classification code FT of Class 3 PG I in tanks to tunnel category C. In the discussion the question was raised whether FT should cover FT1 and FT2. The representative of the Netherlands indicated at that time that FT1 was meant in the first place, because many of the

substances covered by FT1 are toxic by inhalation substances for example UN 2483 ethyl isocyanate, but it would be logical to add FT2 (pesticides) as well and this was adopted.

However after reflection this is not correct.

Substances with classification code FT2 cover generic entries of pesticides e.g. 2758 CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash-point less than 23°C. According to note 3 of paragraph 2.2.3.1.1 substances which are highly toxic on inhalation are substances of class 6.1. This means that FT2 of Class 3 does not cover substances which are highly toxic on inhalation.

For that reason FT2 of Class 3 should be deleted under Tunnel category C and also in table A.

These amendments are indicated in square brackets in this document.

### **Inconsistency in existing text**

One issue which was raised in INF.14 of the Netherlands but not discussed until now is the inconsistency which was already in document TRANS/WP.15/181:

- in C 5000 it is indicated that compatibility groups C and G are excepted and
- in column 15 of Table A the C 5000 is assigned to division 1.3 compatibility groups C and G.

In our view there should be a restriction to 5000 kg for these groups of substances in grouping C in accordance with the indication in Table A as these substances may go under heavy confinement from a deflagration to a detonation. This means that the present text :

C 5000 Dangerous goods of Division 1.3 '(except compatibility groups C and G), when the net explosive mass per transport unit is greater than 5,000 kg should be amended to read:

C 5000 Dangerous goods of Division 1.3 compatibility groups C and G, when the net explosive mass per transport unit is greater than 5,000 kg.

and the brackets should be deleted in C5000.

In addition as these explosives also always will represent a 'large fire' hazard, they should really also be restricted under Tunnel D without any limit, to be in line with the definition of that group. This means that in Tunnel D under 'D' the sentence :

''Class 1 : Division 1.3 compatibility groups C and G'' should be inserted.

As a consequence Table A should be amended as follows:

''Class 1 : Division 1.3 compatibility groups C and G (C5000)'' should read:

”Class 1 : Division 1.3 compatibility groups C and G (C5000,D)”.

These amendments are indicated in square brackets in this document.

In however this restriction is not wanted and the exception of compatibility group C and G in grouping C5000 is maintained, the restriction for compatibility group C and G should be logically in tunnel category D and in Table A the same amendments should be made. Otherwise their will be no restriction at all for 1.3C and 1.3G in tunnels.

### **Proposals in relation with INF.23 Sweden as adopted in the last session**

(Proposal 1 of INF. 23 of Sweden has been incorporated in the text of section 1.9.5 and in Chapter 8.6. )

1. Add in 1.1.3.6.2 :

Section 1.9.5 and Chapter 8.6

(Reference is made to proposal 2 concerning 1.1.3.6.2 of INF.23 of Sweden)

2. Transitional measures

1.6.X.X The requirements of 1.9.5 and 8.6 are applicable from [1 January 2009]

(Reference is made to proposal 3 of INF.23 of Sweden)

### **Proposals in relation with INF.14 of the Netherlands in the last session**

#### **PART 1**

#### **Chapter 1.9**

Add the following paragraphs 1.9.5 to 1.9.5.7:

#### **“1.9.5 Tunnel restrictions**

1.9.5.1 When applying traffic restrictions to road tunnels in accordance with 1.9.3 (a), Contracting Parties shall indicate such restrictions by means of signs and signals. Road signs and signals are described in the Convention on Road Signs and Signals (Vienna, 1968) and the European Agreement supplementing the Convention on Road Signs and Signals (Geneva, 1971) [as interpreted by the Resolution on Road Signs and Signals (R.E.2) of the UNECE Inland Transport Committee’s Principal Working Party on Road Transport, as amended. (See also Chapter 8.6).]

1.9.5.2 Such restrictions shall also be published officially and made publicly available.

- 1.9.5.3 In order to facilitate international understanding of signs, the system of signs and signals prescribed in the Vienna Convention is based on the use of shapes, and colours characteristic of each class of signs and wherever possible, on the use of graphic symbols rather than inscriptions. Where Contracting Parties consider it necessary to modify the signs and symbols prescribed, the modifications made shall not alter their essential characteristics. Where Contracting Parties do not apply the Vienna Convention, the prescribed signs and symbols may be modified, provided that the modifications made shall not alter their essential intent.
- 1.9.5.4 When access to tunnels is restricted to specific goods as defined in Chapter 8.6 signs shall be displayed with or without additional panels bearing letters B, C or D as appropriate for application in accordance with 8.6.4.
- 1.9.5.5 When Contracting Parties apply specific operating measures designed to reduce the risks and related to some or all vehicles using tunnels, such as declaration before entering or passage in convoys escorted by accompanying vehicles, such operating measures shall be published officially and made publicly available.
- 1.9.5.6 Traffic signs and signals intended to prohibit access of vehicles carrying dangerous goods to road tunnels shall be accompanied with, or preceded by, signs and signals indicating or prescribing alternative itineraries.
- 1.9.5.7 Tunnel restrictions shall not apply when dangerous goods are carried in accordance with 1.1.3

## **Chapter 8.6**

Add a new Chapter 8.6 to read as follows:

### **“CHAPTER 8.6**

#### **ROAD TUNNEL restrictions for the passage of vehicles carrying DANGEROUS GOODS**

##### **8.6.1 General provisions**

8.6.1.1 In accordance with 1.9.3 (a), Contracting Parties may decide to restrict the circulation of vehicles carrying dangerous goods in tunnels.

8.6.1.2 For the purpose of passage of vehicles carrying dangerous goods, road tunnels are divided in five categories. Depending on the tunnel characteristics, risk assesment and traffic management the transport of dangerous goods may be restricted. The tunnel category may change in different time periods e.g. on the hours of the day, or the day of the week etc.

8.6.1.3 The categorisation is based on the assumption that in tunnels there are three major dangers which may cause numerous victims and possibly serious damage to the tunnel structure:

- (a) Explosions;
- (b) Release of toxic gas or volatile toxic liquid;
- (c) Fires.

8.6.1.4 The prohibition of dangerous goods for carriage in a tunnel category is based on the intrinsic dangerous properties of the dangerous goods carried, the type of containment and the quantity carried per transport unit.

##### **8.6.2 Tunnel categories**

8.6.2.1 For the purpose of restricting dangerous goods, tunnels shall be divided into 5 categories as follows:

Tunnel A: No restrictions for the transport of dangerous goods.

Tunnel B: Restriction for dangerous goods which may lead to a very large explosion;

Tunnel C: Restriction for dangerous goods which may lead to a very large explosion, a large explosion or a large toxic release.

Tunnel D: Restriction for dangerous goods which may lead to a very large explosion, to a large explosion or a large toxic release and to a large fire.

Tunnel E: Restriction for all dangerous goods other than UN Nos. 2919, 3291, 3331 and 3373.

8.6.2.2 When dangerous goods associated with ~~assigned to~~ different tunnel categories are carried in the same transport unit, the transport unit shall be assigned to the most restrictive tunnel categorisation.

8.6.2.3 While determining the tunnel categories D dangerous goods carried in accordance with 1.1.3 shall not be taken into account ~~in the grouping assignment~~ and are not subject to the tunnel restrictions.

### **8.6.3 Restrictions for the transport of dangerous goods through tunnels**

8.6.3.1 Substances forbidden in tunnel categories are indicated by tunnel codes B, B1000, B1, C, C5000, C1, D or D1 in Column (15) of Table A of Chapter 3.2 as follows:

#### ***Tunnel A***

No restrictions.

#### ***Tunnel B***

##### **Dangerous goods prohibited through a Tunnel B:**

- B Dangerous goods of:
- Class 1: Compatibility groups A and L;
  - Class 3: Classification code D (UN Nos. 1204, 2059, 3064, 3343, 3357, 3379);
  - Class 4.1: Classification codes D or DT;  
Self-reactive substances, type B (UN Nos. 3221, 3222, 3231, 3232);
  - Class 5.2: Organic peroxides type B (UN Nos. 3101, 3102, 3111, 3112).
- B 1000 Dangerous goods of Divisions 1.1, 1.2 and 1.5 (except compatibility groups A and L), when the total net explosive mass per transport unit is greater than 1,000 kg.
- B1 When carried in tanks, dangerous goods of:
- Class 2: Classification codes F, TF and TFC;
  - Class 4.2: Packing Group I;
  - Class 4.3: Packing Group I;
  - Class 5.1: Packing Group I.

#### ***Tunnel C***

##### **Dangerous goods prohibited through a Tunnel C:**

Dangerous goods prohibited through a tunnel B and in addition:

C Dangerous goods of:

Class 1: Division 1.1, 1.2, 1.5 (except compatibility groups A and L);

Class 1: Compatibility groups H and J;

Class 7: UN Nos. 2977, 2978.

C 5000 Dangerous goods of Division 1.3 [ compatibility groups C and G], when the net explosive mass per transport unit is greater than 5,000 kg.

C1 When carried in tanks, dangerous goods of:

Class 2: Classification codes T, TC, TO, TOC;

Class 3: Packing Group I of classification code FC , FT1, [ FT2] and FTC;

Class 6.1: Packing Group I of classification codes TF1 and TFC and the toxic by inhalation entries (UN numbers 3381 to 3390);

Class 8: Packing Group I of classification code CT1.

### ***Tunnel D***

#### **Dangerous goods prohibited through a Tunnel D:**

Dangerous goods prohibited through a tunnel C and in addition:

D Dangerous goods of:

[Class 1 : Division 1.3 compatibility groups C and G]

Class 2: Classification codes F, FC, T, TC, TP, TFC, TOC;

Class 4.1: Self-reactive substances, types C, D, E, F, and UN Nos. 2956, 3241, 3242, 3251;

Class 5.2: Organic peroxides, type C, D, E, F;

Class 6.1: Packing Group I of classification code TF1 and TFC and the toxic by inhalation entries (UN numbers 3381 to 3390);

Class 8: Packing Group I of Classification code CTI;

Class 9: Classification code M10 (UN 3258).

D1 When carried in bulk or in tanks dangerous goods of:

Class 3: Packing Group I or II or classification code F2;

Class 4.2: Packing Group II;

Class 4.3: Packing Group II;

Class 6.1: Packing Group I of classification codes TF2 and TW1;  
Packing Group II of classification codes TF1, TF2, TFC and TW1;

Class 8: Packing Group I of classification codes CF1, CFT and CW1;

Class 9: Classification codes M2 and M3.

***Tunnel E***

**Dangerous goods prohibited through a Tunnel E:**

Dangerous goods prohibited through a tunnel D and in addition:

All dangerous goods, except UN Nos. 2919, 3291, 3331 and 3373.

8.6.3.2. No Restrictions.

UN 3291 CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO)MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S. and UN 3373 DIAGNOSTIC SPECIMENS are not subject to any tunnel restriction. UN Nos. 2919 and 3331 are subject to carriage under special arrangement approved by the competent authority.

**8.6.4 Provisions for road signs for the passage of vehicles carrying dangerous goods**

8.6.4.1 If Contracting Parties decide to restrict the circulation of vehicles carrying dangerous goods in tunnels, they may use signs C, 3h and D, 10a, 10b and 10c and signals according to the Vienna Convention on Road Signs and Signals (Vienna, 1968) and the European Agreement supplementing the Convention on Road Signs and Signals (Geneva, 1971) in accordance with 1.9.5.1, or equivalent signs and signals in accordance with 1.9.5.3.

8.6.4.2 The signs prohibiting the access of vehicles to road tunnels or indicating or prescribing alternative itineraries may appear with or without additional panels bearing letters B, C or D.

8.6.4.3 Signalisation of tunnel categories

Tunnel A: no sign, no restriction

Tunnel B: sign according to 8.6.4.1 with an additional panel bearing the letter B.

Tunnel C: sign according to 8.6.4.1 with an additional panel bearing the letter C.

Tunnel D: sign according to 8.6.4.1 with an additional panel bearing the letter D.

Tunnel E: sign according to 8.6.4.1 without an additional panel.

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**PART 3**

**Chapter 3.2**

3.2.1 Explanations for Column (15): Amend to read as follows:

“‘Transport category/Tunnel code’

Contains at the top of the cell a figure indicating the transport category to which the substance or article is assigned for the purposes of exemption related to quantities carried per transport unit (see 1.1.3.6).

Contains at the bottom of the cell the code(s) (between brackets) indicating that the substance or article is forbidden for carriage in specific tunnel categories (see 1.9.5 and Chapters 8.6 . When no tunnel group code has been assigned, this is indicated by the mention ‘(-)’.

When two codes are indicated, the applicable one is the one corresponding to the conditions of carriage, e.g. (B1000, C) indicates that the substance or article is forbidden for carriage in a tunnel of category B if the total net explosive mass on board of the transport unit is greater than 1,000 kg, otherwise the substance is forbidden for carriage in tunnel category C. (C1, D) means that the substance is forbidden for carriage in a tunnel of category C if the substance is carried in tanks, otherwise the substance is forbidden for carriage in tunnel category D.

NOTE. [*Remark: reason for this note is userfriendlyness*]

If in the table tunnel codes are indicated it means that there is a restriction for the passage of transport units in tunnel categories A,B,C,D or E as follows:

Tunnel codes	Forbidden in tunnels of category	Signalisation of the tunnel
B B1000 B1	B, C, D and E	Sign according to 8.6.4.1 with additional letter B
C C 5000 C 1	C, D and E	Sign according to 8.6.4.1 with additional letter C
D D 1	D and E	Sign according to 8.6.4.1 with additional letter D
E	E	Sign according to 8.6.4.1 without an additional letter

**Table A:**

Amend the heading of Column (15) to read:

“Transport category  
1.1.3.6  
(Tunnel code)  
(1.9.5 and 8.6)”.

Table A, Column (15): Add, between brackets, the tunnel code(s) indicating that the substance or article is forbidden for carriage in specific tunnel categories.

Class 1:	Division 1.1 compatibility groups A and L	(B)
Class 1:	Division 1.1 compatibility groups B, C, D, E, F, G and J	(B1000, C)
Class 1:	Division 1.2 compatibility group L	(B)
Class 1:	Division 1.2 compatibility groups B, C, D, E, F, G, H and J	(B1000, C)
Class 1:	Division 1.3 compatibility group L	(B)
Class 1:	Division 1.3 compatibility groups H and J	(C)
Class 1:	Division 1.3 compatibility groups C and G	(C5000 [, D])
Class 1:	Division 1.4	(E)
Class 1:	Division 1.5, compatibility group D	(B1000, C)
Class 1:	Division 1.6	(E)
Class 1:	UN No. 0190	(E)
Class 2:	Classification codes with letters: F, TF, TFC, FC T, TC, TO, TOC A, O	(B1, D) (D) (C1, D) (E)
Class 3:	Classification code D Packing Group I, classification code FC, FT1, [FT2], FFC Packing Groups I and II, classification code F2 Others	(B) (C1, E) (D1, E) (E)
Class 4.1:	Classification codes D and DT UN Nos. 3221, 3222, 3231, 3232 Self-reactive substances, types C, D, E, F UN Nos. 2956, 3241, 3242, 3251 Others	(B) (B) (D) (D) (E)
Class 4.2:	Packing Group I Packing Group II Others	(B1, E) (D1, E) (E)
Class 4.3:	Packing Group I Packing Group II Others	(B1, E) (D1, E) (E)
Class 5.1:	Packing Group I Others	(B1, E) (E)
Class 5.2:	Type B Types C, D, E, F	(B) (D)
Class 6.1:	Packing Group I of classification codes TF1, TFC and UN numbers 3381 to 3390 Packing Group I of classification codes TF2 and TW1 Packing Group II of classification codes TF1, TF2, TFC and TW1 Others	(C1, D) (D1, E) (D1, E) (E)
Class 6.2	UN Nos. 2814 and 2900	(E)
Class 7	UN Nos. 2977, 2978 Others except UN Nos. 2919 and 3331	(C) (E)

Class 8:	Packing Group I of classification code CTI	(C1, D)
	Packing Group I of classification codes CF1, CFT, and CW1	(D1, E)
	Others	(E)
Class 9:	Classification codes M2, M3	(D1, E)
	M10	(D)
	Others	(E)

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