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## Economic Commission for Europe

### Inland Transport Committee

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

##### Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods

Bern, 19-23 March 2012

Item 2 of the provisional agenda

##### Tanks

### RID/ADR tanks and multimodal portable tanks for liquids

Transmitted by the International Road Transport Union (IRU)<sup>1, 2</sup>

#### *Summary*

**Explanatory summary:** Differences exist between the requirements for UN Portable Tanks and RID/ADR/ADN tank-containers, which present operating and enforcement difficulties. For example the position of fillers, transport companies and enforcers concerning pressure requirements, requirements for pressure relief devices and bottom openings is not clear.

**Decision to be taken:** Based on the daily situation encountered by transport companies and fillers, the Joint Meeting is requested to consider these issues and to take appropriate action.

**Enforcement:** There are enforcement issues to be resolved.

**Related documents:** Informal document INF.26 presented at the ninety-first session of the Working Party on the Transport of Dangerous Goods (WP.15)

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<sup>1</sup> In accordance with the programme of work of the Inland Transport Committee for 2010-2014 (ECE/TRANS/208, para.106, ECE/TRANS/2010/8, programme activity 02.7(c)).

<sup>2</sup> Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2012/15.

## Background

1. Chapters 4.2 and 6.7 of the RID/ADR define the use and construction of portable tanks. This type of tank is provided with an “Instruction for portable tanks and bulk containers”, for instance T-code: T7. The RID/ADR Chapter 4.2 is a “copy/paste” version of Chapter 4.2 of the United Nations model regulations.
2. Chapters 4.3 and 6.8 of the RID/ADR define the use and construction of RID/ADR tanks. This type of tank is provided with a “Tank code for RID/ADR tanks”, such as L4BH.
3. Under the technical specifications and instructions, we found the following descriptions for:

### **RID/ADR tanks**

- (i) Technical specifications

The requirements for the construction, equipment, type approval, inspections and tests and marking are in chapter 6.8, along with other tanks, such as fixed tanks, demountable tanks, etc.

- (ii) Instructions

The coding of tanks is divided into four parts (tank codes) given in column (12) of table A in chapter 3.2.

- Type of tank (L or S) – L for liquid state / S for solid state;
- Calculation pressure;
- Openings as described in 6.8.2.2.2;
- Pressure relief devices.

### **UN Portable Tanks**

- (i) Technical specifications

The general provisions for the use of portable tanks are in chapter 4.2 of the UN Model Regulations and introduced into the International Maritime Dangerous Goods (IMDG) Code and the RID/ADR.

- (ii) Instructions

Portable tank instructions specify the requirements applicable to a portable tank when used for carriage of specific substances. The instruction “T” specifies the minimum test pressure, the minimum shell thickness, the minimum pressure-relief and bottom-opening requirement given in column (10) of Table A in chapter 3.2.

- Minimum test pressure (bar);
- Minimum shell thickness (in mm-reference steel);
- Pressure-relief requirements (see sub-section 6.7.2.8);
- Bottom opening (see sub-section 6.7.2.6).

4. For the same products there are some discrepancies regarding the “tank specifications”. The differences are:

- RID/ADR tanks use calculation pressure for determining shell thickness and portable tanks use test pressure and minimum shell thickness;

- Between requirements of bottom openings under the level of liquids;
- Between requirements for pressure relief devices.

The example given below demonstrates the discrepancies. (Other examples can be brought to the attention of the Joint Meeting).

#### UN 1230 Methanol, 3, II, (D/E)

	<i>RID/ADR/ADN Tank-containers</i>	<i>UN Portable Tanks</i>
Code :	L4BH	T7
Test pressure :		4 bar
Calculation pressure :	4 bar	
Opening below the level of the liquid:	Permitted	Permitted
Pressure relief requirements :	PV Valve preceded by frangible disc.	PV Valve without frangible disc

#### 5. Use of double coding:

(i) T-code but no RID/ADR code: One of the reasons why dual approval is still sometimes needed is because RID/ADR does not provide a code for RID/ADR tanks but there is a T-code for portable tanks. In order to transport some substances in Europe, dual approval is required. For example: UN 3254 is given a T code but there is no corresponding RID/ADR tank code.

(ii) RID/ADR tank code but no T-code: There are some entries for which an RID/ADR tank code is provided but no T-code for portable tanks. For example, all three packing group entries for UN 1602 have an RID/ADR/ADN tank code (PG I L10CH), (PG II, III L4BH) but no T-code.

(iii) Pressure relief devices: "Hermetically closed tank" is defined in Chapter 1.2 of RID/ADR. In this definition a tank-container fitted with a frangible disc underneath the pressure relief valve is considered to be a hermetically closed tank. With the example of Methanol, it is possible to transport this substance in a portable tank which does not have a frangible disc.

(iv) Setting of pressure relief devices: The requirements for the setting of pressure relief devices are different for the portable tanks and the RID/ADR tanks.

(v) Opening below the level of the liquid: Some liquids are not permitted for transport in portable tanks with openings below the level of the liquid, but may be allowed in RID/ADR tanks with such openings. For example: UN 1738 is assigned to T8 for portable tank where bottom openings are not allowed. However, this substance is assigned to RID/ADR tank code L4BH signifying opening below the level of the liquid.

6. Transport companies and filler responsibilities: The issue faced today by fillers and tank transport operators is: what code should be used for land transport, when there is a conflict between codes as described in the example in the table above?

7. Enforcement: Enforcement Authorities and their agents face exactly the same problem.