

**Economic and Social Council**Distr.: General  
22 June 2015

Original: English

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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**

Geneva, 15–25 September 2015

Item 6 of the provisional agenda

**Tanks****Proposal for amendments to special provisions TU21 of  
chapter 4.3 of RID/ADR****Transmitted by the Government of Latvia<sup>1, 2</sup>****Introduction**

1. According to the decision of the Working Group on Tanks adopted at the spring session reflected in the Working Group on Tanks report 2015 ECE/TRANS/WP.15/AC.1/138/Add.1 it was concluded that three options offered a satisfactory level of safety for carriage in tanks of UN No. 1381 phosphorus, white or yellow, dry, or under water or in solution and UN No. 2447 phosphorus, white molten:

- (a) using a minimum water layer of 12 cm;
- (b) using only a nitrogen blanket; or
- (c) using a combination of water and a nitrogen blanket.

2. The Working Group on Tanks stated that the current wording of TU21 seemed to allow these three options, but it was felt that the text could be made clearer.

3. On the basis of the above mentioned decisions of the Working Group on Tanks, Latvia has prepared this proposal in order to clarify the requirements of special provision TU21.

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<sup>1</sup> In accordance with the programme of work of the Inland Transport Committee for 2014–2015 (ECE/TRANS/240, para. 100, ECE/TRANS/2014/23, cluster 9, para.9.2).

<sup>2</sup> Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2015/31.

## Proposal

4. Amend special provision TU21 of 4.3.5 as follows:

### *Option 1*

**“TU21** The substance shall be covered with a protective agent by one of the following measures:

- (a) If only water is used as a protective agent, the filled substance shall be covered with a depth of not less than 12 cm of water at the time of filling. Between 1 October and 31 March, this water shall contain sufficient anti-freeze agent to make it impossible for the water to freeze during carriage; the anti-freeze agent shall be free from corrosive action and not liable to react with phosphorus. The degree of filling at a temperature of 60 °C shall not exceed 98%.
- (b) If only nitrogen is used as a protective agent, the degree of filling at a temperature of 60 °C shall not exceed 96%. The remaining space shall be filled with nitrogen in such a way that, even after cooling, the pressure at no time falls below atmospheric pressure. The tank shall be closed in such a way that no leakage of gas occurs.
- (c) If combination of water layer and a nitrogen blanket is used, the filled substance shall be covered with a water layer. Between 1 October and 31 March, this water shall contain sufficient anti-freeze agent to make it impossible for the water to freeze during carriage; the anti-freeze agent shall be free from corrosive action and not liable to react with phosphorus. The degree of filling at a temperature of 60 °C shall not exceed 98%. The remaining space shall be filled with nitrogen in such a way that, even after cooling, the pressure at no time falls below atmospheric pressure. The tank shall be closed in such a way that no leakage of gas occurs.”.

### *Option 2*

**“TU21** The substance shall be covered with a protective agent by one of the following measures:

- (a) If only water is used as a protective agent, the filled substance shall be covered with a depth of not less than 12 cm of water at the time of filling. The degree of filling at a temperature of 60 °C shall not exceed 98%.
- (b) If only nitrogen is used as a protective agent, the degree of filling at a temperature of 60 °C shall not exceed 96%.
- (c) If combination of water layer and a nitrogen blanket is used, the filled substance shall be covered with a water layer. The degree of filling at a temperature of 60 °C shall not exceed 98%. The remaining space shall be filled with nitrogen.

If water is used as a protective agent, between 1 October and 31 March, this water shall contain sufficient anti-freeze agent to make it impossible for the water to freeze during carriage; the anti-freeze agent shall be free from corrosive action and not liable to react with phosphorus.

If nitrogen is used as a protective agent, the remaining space of tank shall be filled with nitrogen in such a way that, even after cooling, the pressure at no time falls below

atmospheric pressure. The tank shall be closed in such a way that no leakage of gas occurs.”.

5. Latvia favours the second option.

### **Justification**

6. The amendment will remove the risk that special provision TU21 of 4.3.5 might be misunderstood.

### **Enforceability**

7. No difficulties with the enforcement of the amendment are foreseen.
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