

## Economic Commission for Europe

### Inland Transport Committee

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

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Item 2 of the provisional agenda

#### Tanks

### Degree of filling for environmentally hazardous substances – modification to 4.3.2.2.1

#### Transmitted by the Government of Belgium

#### *Summary*

**Executive summary:** The aim of this proposal is to clarify the applicability of 4.3.2.2.1 to environmentally hazardous substances.

**Action to be taken:** Adopt proposed modification to 4.3.2.2.1.

### Background

1. An anomaly seemingly exists within the regulatory framework with regards to the allowed degree of filling for environmentally hazardous liquids (UN 3082) in 4.3.2.2.1. Substances which are only environmentally hazardous are not covered by these provisions, which treat specifically flammable, toxic and corrosive liquids. This is not the case for UN portable tanks for instance, where 4.2.1.9.2 is generally applicable and a degree of filling of 97%, compensated by the thermal expansion of the liquid, is provided. The question then arises as to which degree of filling should be used for liquids which are only environmentally hazardous (UN 3082).

2. Secondly, 4.3.2.2.1 (a) allows a degree of filling of 100%, compensated for the thermal expansion of the liquid, only for flammable liquids without additional risks. As examples, corrosivity or toxicity are given. Many flammable liquids however have environmentally hazardous as only “additional risk”. This specific case has not been treated in 4.3.2.2.1.

### Proposal

Modify 4.3.2.2.1 as follows (new text underlined):

4.3.2.2.1 The following degrees of filling shall not be exceeded in tanks intended for the carriage of liquids at ambient temperatures:

- (a) for flammable **and/or environmentally hazardous** substances without additional risks (e.g. toxicity or corrosivity), in tanks with a breather device or with safety valves (even where preceded by a bursting disc):

$$\text{Degree of filling} = \frac{100}{1 + \alpha (50 - t_F)} \% \text{ of capacity}$$

- (b) for toxic or corrosive substances (whether flammable **and/or environmentally hazardous** or not) in tanks with a breather device or with safety valves (even where preceded by a bursting disc):

$$\text{Degree of filling} = \frac{98}{1 + \alpha (50 - t_F)} \% \text{ of capacity}$$

- (c) for flammable **and/or environmentally hazardous** substances and for slightly toxic or corrosive substances (whether flammable or not) in hermetically closed tanks without a safety device:

$$\text{Degree of filling} = \frac{97}{1 + \alpha (50 - t_F)} \% \text{ of capacity}$$

- (d) for highly toxic, toxic, highly corrosive or corrosive substances (whether flammable **and/or environmentally hazardous** or not) in hermetically closed tanks without a safety device:

$$\text{Degree of filling} = \frac{95}{1 + \alpha (50 - t_F)} \% \text{ of capacity}$$

### Justification

4. The proposed modification providing clarity to industry and enforcement personnel. The degree of filling for liquids which are flammable without posing an addition risk were deemed appropriate also for liquids which are only environmentally hazardous (UN 3082) or flammable liquids with environmentally hazardous as only subsidiary hazard.
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