

COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS AND ON THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

Sub-Committee of Experts on the Transport of Dangerous Goods

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Item 5 of the provisional agenda

MISCELLANEOUS PROPOSALS OF AMENDMENTS TO THE MODEL REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Design temperature range for pressure receptacles

Transmitted by the expert from Germany

Background

1. For gases various temperatures are mentioned in the UN Model Regulation in terms of the definitions in 2.2.1. The transport condition of a gas is described according to its physical state determined by pressure and its temperature: For compressed gases a temperature of -50 °C is relevant and for liquefied gases a critical temperature range of greater than -50 °C and +65 °C is shown, with also mentioning critical temperatures above +65 °C.
2. These transport conditions regarding the temperatures are currently not reflected in the design requirements for pressure receptacles in chapter 6.2. Therefore it is unclear what range of temperatures should be taken into account in the design process for pressure receptacles.
3. Many experts express the view, that pressure receptacles shall be designed to withstand temperatures between -20 °C and +65 °C with -40 °C being cited for certain areas of the world with usually very low ambient temperatures. But this cannot be verified from the current provisions of chapter 6.2. Even the standards listed in 6.2.2 do not give a clear picture to answer this question because they are using different temperature ranges as design requirements.
4. For portable tanks, 6.7.3.1 defines a design temperature range of -40 °C to +50 °C under ambient conditions. More severe design temperatures shall be considered for portable tanks subjected to severe climatic conditions.

Proposal 1:

5. The Sub-Committee is invited to discuss, whether for pressure receptacles a design temperature range should be included in chapter 6.2 and whether this should be in parallel to the range given for portable tanks in 6.7.3.1.

6. Based on the comments made, the expert from Germany is ready to prepare a document for the next session to clarify the issue and propose amendments as appropriate.

Proposal 2: Editorial Amendment

7. Though definitions for liquids and solids can be found in 1.2.1 of the Model Regulation, the definition for gases has not yet been included.

8. As all three definitions (liquids, solids and gases) are now also used in the GHS, the expert from Germany suggests to better aligning the definitions in 1.2.1 with the GHS by repeating the definition for gases (as shown in 2.2.1.1) in 1.2.1. This would ease the finding of all three definitions for users of the Model Regulation and the modal provisions after alignment.

9. The Sub-Committee may also wish to consider repeating the definitions for various types of gases as shown in 2.2.1.2 and insert them also in 1.2.1.
