

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 (b) of the provisional agenda

Transport of gases:

miscellaneous

Transport of fuel gas containment systems - Addition of SP 392 to the dangerous goods list entries for gases of division 2.2

Transmitted by the expert from Germany

Introduction

1. SP 392 is applicable to carry fuel gas containment systems designed and approved to be fitted in motor vehicles containing flammable gases of UN Nos. 1011, 1049, 1075, 1954, 1965, 1969, 1971 and, 1978. It allows the transport for disposal, recycling, repair, inspection, maintenance or from where gas containment systems are manufactured to a vehicle assembly plant. The transport from the place of manufacture to an assembly plant was included in particular with regard to the transport of fuel gas containment systems with hydrogen. The following explanation was given in ST/SG/AC.10/C.3/2016/51: “Moreover, for the simplification of the production process, there is also a need to transport new filled hydrogen tanks to the assembly facility. Usually, the tank is tested for leakage by means of an inert gas at the production facility and then transported further at low pressure. At the assembly facility, the tank then has to be flushed with hydrogen several times to ensure that the required mixing ratio in the fuel cell is achieved. The fuel cell is sensitive to contaminations of the fuel gas. If the tank was already tested for leakage with hydrogen or hydrogen mixtures, the effort required for eliminating the inert gas at the assembly facility would be considerably lower.”

2. After further consideration it turned out that the delivery of new, unused fuel gas containment systems by the manufacturer is not limited to fuel gas containment systems containing flammable gases (when filled with the actual gas for propulsion). Sometimes they contain test gases or gases for stabilizing the tanks which are non-flammable. One example being a mixture of 10% He/90% N₂, being classified as UN1956 compressed Gases n.o.s. (Helium, Nitrogen).

3. Currently it is not possible to carry such fuel gas containment systems containing gases of division 2.2, if the pressure of the gas in the receptacle does exceed 201kPa (2,01bar), because SP 392 is only applicable to flammable gases (referred to chapter/table 3.2, column 6).

Justification

4. Because these gases are less dangerous compared to flammable gases, SP 392 should be amended to allow for non-flammable, non-toxic, non-oxidizing **test and stabilization gases** (asphyxiant gases of division 2.2) and mixtures thereof. The gas tanks are proven in accordance with the requirements of regulations at a max. operation pressure > 200 bar. For this reason, the gas tanks are also suitable for non-flammable, non-toxic, non-oxidizing test gases or mixtures thereof with a lower pressure of usually 10 bar.

5. The issue was already discussed during the Joint Meeting in September and the WP.15 in November 2017, Amendments to ADR/RID/ADN were adopted in order to respond to the needs of the automobile industry with urgency, but it was also confirmed that a decision of the experts of the Sub-Committee is needed to achieve multimodal harmonization.

Proposal

6. In addition to the flammable gases with UN Nos. 1011, 1049, 1075, 1954, 1965, 1969, 1971, 1978:

For UN Nos. 1002, 1006, 1013, 1046, 1056, 1058, 1065, 1066, 1080, 1952, 1956, 2036, 3070, 3163, 3297, 3298 and 3299 insert “392” in Column (6) in the dangerous goods list (chapter 3.2).
