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| **Committee of Experts on the Transport of Dangerous Goods  and on the Globally Harmonized System of Classification and Labelling of Chemicals 3 December 2020** |
| **Sub-Committee of Experts on the Transport of Dangerous Goods**  **Fifty-seventh session**  Geneva, 30 November-8 December 2020  Item 6 (c) of the provisional agenda  **Miscellaneous proposals for amendments to the Model Regulations  on the Transport of Dangerous Goods: fibre-reinforced plastics (FRP) portable tanks** |

Informal working group on fibre-reinforced plastics (FRP) portable tanks

Transmitted by the expert from Germany

1. Germany welcomes the report of the Informal Working Group on Fibre-Reinforced Plastics (FRP) portable tanks (ST/SG/AC.10/C.3/2020/57 as amended by ST/SG/AC.10/C.3/2020/57/Rev.1 and informal document INF.43 (57th session)).

2. The proposed text is based on the ADR regulations and in accordance with the best practise in design, production, testing, and inspection elements worldwide. There are good experiences with ADR fibre-reinforced plastics tanks with a background of 20 years. No accidents of catastrophic consequences occurred in Germany in at least 10 years.

3. Furthermore, additional requirements are implemented. These relate to design, production control, and inspection. Moreover, safety factors as state of the art and in relation to the dangerous goods are introduced.

4. Indeed, no technical proof by experiments has been shown for the safety level in comparison to conventional metal portable tanks and their resilience against mechanical damage. For safety reasons, a frame structure protects the conventional metal portable tanks as their resilience against local impacts is limited, which has been shown in experiments. Fibre-reinforced plastics tanks have an equivalent frame structure, which indicates the same level of safety. In both cases, the frame structure avoids a local impact on the tank shell.

5. Keeping in mind that the behaviour of metal and fibre-reinforced plastics tanks can be different and have both, advantages and disadvantages, a direct comparison of tests is hardly possible. One advantage for fibre-reinforced plastics tanks with a plastic liner is that we can expect a leakage before rupture behaviour which prevents a BLEVE. In this case, the level of safety is much higher for fibre-reinforced plastics tanks. One disadvantage is the ageing behaviour, which is additionally addressed by the service life inspection programme in the prosed text compared to the ADR regulations. But metal portable tanks may have corrosion issues. Therefore, the inspection deals with corrosion. In this case, a technical proof of a level of safety is not possible, because the material behaviour is different and so we believe that the technical specifications and provisions provide an appropriate level of safety without validation.

6. Based on our long term experiences with ADR fibre-reinforced plastics tanks, we believe that the technical specifications and provisions, proposed by ST/SG/AC.10/C.3/2020/57 as amended by ST/SG/AC.10/C.3/2020/57/Rev.1 and by the informal document INF.43 (57th session) for the adoption, provide an appropriate level of safety without validation or benchmark testing of accidental and in-service damage.

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