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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

### Sub-Committee of Experts on the Transport of Dangerous Goods

#### Sixty-fifth session

Geneva, 25 November-3 December 2024

Item 6 (c) of the provisional agenda

#### Miscellaneous proposals for amendments to the Model Regulations on the Transport of Dangerous Goods: portable tanks

### Development of a new section 6.9.4 “Requirements for the design, construction, inspection and testing of portable tanks with shells made of fibre reinforced plastics (FRP) materials intended for the transport of non-refrigerated liquefied gases”

Submitted by the expert from the Russian Federation\*

#### Introduction

1. The United Nations is the organization dealing with values of peace, dialogue and international cooperation which underpin it. It has mapped the road to sustainable development and it will be for all of us to ensure that the journey is successful and its gains irreversible. The Russian Federation as a United Nations active member supports its goals, specially, within the framework of the environmental agenda and the creation of regulatory conditions for the development of “green” technologies.
2. Sustainable Development Goal 13: “Take urgent action to combat climate change and its impacts” requests, *inter alia*, preventing the rise of greenhouse gas emissions, which could be effectively achieved by decreasing emissions during the production of goods, improving transport efficiency, and utilizing low-emission fuels (e.g., natural gas).
3. In particular, the introduction of fibre reinforced plastics (FRP) makes it possible to significantly reduce the carbon footprint at the production and operation stages compared to traditional metal engineering solutions. The efforts of scientists and industry to improve reliable engineering solutions and materials technologies aim to achieve these goals.
4. Sustainable Development Goal 7: “Ensure access to affordable, reliable, sustainable, and modern energy” calls, *inter alia*, for a decrease in the percentage of polluting fuels and technologies, even in households, so that low-emission fuels can replace traditional fuels.

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\* A/78/6 (Sect. 20), table 20.5.



5. The Russian Federation believes that at present we have a brilliant opportunity to unite efforts for achieving the above goals - utilizing low-emission fuels (natural gas) and increasing its availability by delivering it to consumers in tanks with shells made of FRP. These materials are safe, reliable, leave a lower carbon footprint during manufacture and are already affordable for mass production.
6. The Russian Federation also believes that one of the United Nations' roles is to lead and promote new technologies aimed at the welfare of Earth's inhabitants; thus, maintaining progress in the composite industry is important and urgent from this point of view.
7. The Russian Federation is thankful to the Sub-Committee for the effective performance of coordination and regulatory functions and the creation of truly global regulatory documents, the application of which worldwide significantly improves the safety and efficiency of transport. We are confident that the *Model Regulations* and normative documents should fully regulate their application.
8. However, we kindly request the attention of the Sub-Committee that chapter 6.9 of the *Model Regulations* does not currently cover all classes of hazardous substances; for example, there are no requirements or recommendations for the transport of Class 2 goods. One of these goods is natural gas (propane, methane), which has several significant environmental and practical advantages over petroleum fuels.
9. Currently, transport equipment made of FRP for transport and storage of Class 2 substances, primarily natural gas, is being developed and effectively operated in many countries, ranging from small balloons to giant tanks on marine gas carriers. This transport is regulated by national regulations and standards.
10. Due to the expansion of international logistics' requests for the transport of Class 2 cargoes, primarily natural gas, the demand for portable tanks made of FRP standardized and approved for multimodal transport of liquefied uncooled and compressed gases is also growing.
11. Supporting the efforts of the United Nations in creating unified harmonized requirements for transport safety, the Russian Federation concludes that the use of portable tanks made of FRP for multimodal transport of Class 2 goods is not only safe but also effective in terms of operating costs and the "green" agenda as a whole.
12. In view of the above, the Russian Federation believes that now is the appropriate time to develop requirements for the design, manufacture, inspection, and testing of portable tanks made of FRP for the transport of Class 2 dangerous goods.

## I. Background

13. At fifty-fourth session in 2017 (report ST/SG/AC.10/C.3/108), the Sub-Committee considered, *inter alia*, the requests of the Australian Explosives Industry and Safety Group (AEISG) (document ST/SG/AC.10/C.3/2018/99) and of the Russian Federation (document ST/SG/AC.10/C.3/2018/91) to expand the work to address transport of uncooled liquefied gases in portable tanks made of FRP.
14. At the sixty-third session in 2023 (report ST/SG/AC.10/C.3/126), some delegations supported further development of new provisions on portable tanks made of FRP for the transport of Class 2 substances and invited the Russian Federation to submit a proposal for the next session, taking into account the comments received.
15. At its sixty-fourth session in July 2024, the Sub-Committee took note of document ST/SG/AC.10/C.3/2024/19 (Proposal for Sub-chapter 6.9.4 "Requirements for the design, construction, inspection and testing of portable tanks with shells made of FRP materials intended for the transport of non-refrigerated liquefied gases"), where some delegations expressed their support, and some other delegations preferred to obtain more information about relations between FRP and gases. So the Sub-Committee invited the Russian Federation, together with any volunteers, to submit an official document at the next session, considering that an official document would allow all experts to analyse its content and form their positions in advance to make the discussion more intensive and fruitful.

## II. Content

16. In order to dispel the expressed doubts, the Russian Federation would like to present more detailed data on the accumulated experience in the production and operation of transport equipment made of FRP for the transport of Class 2 substances in various countries, as well as an overview of national and international requirements and standards in this field areas.

17. Taking into account the established deadlines for submitting official documents, the Russian Federation, together with a group of international experts, will systematize and expand the obtained detailed data and provide a presentation at the sixty-fifth session of the Sub-Committee, based on the scientific-technical data presented in informal document INF.7 (an informal document will be submitted before the session).

## III. Actions requested

18. Considering the above, the Russian Federation would like to discuss further development of chapter 6.9 “Provisions for the design, construction, inspection and testing of portable tanks with shells made of fibre reinforced plastics (FRP) materials intended for the transport of substances of classes 3, 5.1, 6.1, 6.2, 8 and 9” in order to extend it to address transport of Class 2 substances.

19. The Russian Federation invites the Sub-Committee to:

(a) Consider the development of a new section 6.9.4 “Requirements for the design, construction, inspection and testing of portable tanks with shells made of fibre reinforced plastics (FRP) materials intended for the transport of non-refrigerated liquefied gases” as presented in document ST/SG/AC.10/C.3/2024/19, and informal documents INF.55 and INF.60 of the sixty-fourth session of the Sub-Committee; and

(b) Invite all experts to contribute to the development of the new section 6.9.4; and invite the informal group to proceed with the work, if so decided.

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