



**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****Fifty-first session**

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Item 5 (b) of the provisional agenda

Transport of gases: miscellaneous

**Adsorbed gases – exemption for gases of Class 2.2 (not toxic,
not flammable)****Submitted by the expert of Germany*****Introduction**

1. With the amendment of 2.2.1.2 (e), adsorbed gases were incorporated into the eighteenth edition of the United Nations Model Regulations. These are gases of divisions 2.1, 2.2 and 2.3 that are adsorbed onto a solid porous material for transport purposes. As a result, the internal receptacle pressure is less than 101.3 kPa at 20 °C and less than 300 kPa at 50 °C. Therefore, relatively large amounts of gas can be transported at low pressure. In this regard, this state is comparable to liquefied and refrigerated liquefied gases.

2. For gases of division 2.2 that are not toxic and not flammable, there is an exemption in 2.2.2.3 of the Model Regulations. This exemption is subject to the condition that the pressure during transport is less than 200 kPa at 20 °C. Liquefied and refrigerated liquefied gases are excluded from this exemption, as exposure to fire or heating may result in a sharp rise in pressure and thus in the bursting of the receptacle and a release of the contents.

3. Adsorbed gases of division 2.2 that are not toxic and not flammable comply with the conditions for an exemption in accordance with 2.2.2.3. However, in the case of exposure to fire or heating, there are risks similar to that presented by liquefied or refrigerated liquefied gases. Moreover, with UN 3511, a specific n.o.s. entry has been created for adsorbed gases of division 2.2 that would otherwise be superfluous. For this reason, the

* In accordance with the programme of work of the Sub-Committee for 2017–2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, para. 14).

German expert is of the opinion that adsorbed gases of division 2.2, too, should be excluded from the exemption in accordance with 2.2.2.3.

Proposal

4. It is suggested to amend 2.2.2.3 of the Model Regulations to read as follows:
“2.2.2.3 Gases of Division 2.2 are not subject to these Regulations if they are transported at a pressure of less than 200 kPa at 20 °C and are not liquefied, refrigerated liquefied or adsorbed gases.”
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