

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

#### Comments on ST/SG/AC.10/C.3/2009/16/Rev.1 – Salvage pressure receptacles

Transmitted by the Compressed Gas Association (CGA)

1. In ST/SG/AC.10/C.3/2009/16/Rev.1, the expert from Germany proposes new requirements for salvage pressure receptacles in the Model Regulations. CGA would like to provide the following comments regarding that proposal.
2. In ST/SG/AC.10/C.3/2009/16/Rev.1, proposed text for 1.2.1, 4.1.1.17.8, and the second paragraph of 6.2.3.5 address the use of salvage pressure receptacles only in situations involving gases in pressure receptacles. Dangerous goods other than gases are transported in pressure receptacles, and the use of salvage pressure receptacles may be warranted and should be permitted in such cases. Dangerous goods in other packagings (other than pressure receptacles) may also be safely transported in salvage pressure receptacles; for example, salvage cylinders are sometimes used in place of salvage drums, provided all applicable requirements are met, and such use also should be permitted.
3. In ST/SG/AC.10/C.3/2009/16/Rev.1, proposed text for 4.1.1.17.4 states that salvage pressure receptacles should not be used for the transport of fully-complying pressure receptacles. It should be noted that all types of salvage packagings (e.g. salvage drums, salvage cylinders) are historically and routinely used as overpacks; in such situations, the packagings are marked accordingly, i.e. “OVERPACK” (in accordance with 5.1.2 of the Model Regulations), rather than “SALVAGE” (in accordance with 5.2.1.3 of the Model Regulations). Such packagings are used at times to meet the requirements of a customer or regulatory body when transporting highly hazardous dangerous goods (e.g. highly toxic, highly reactive, or pyrophoric gas) in order to provide additional or secondary protection during delivery.
4. In ST/SG/AC.10/C.3/2009/16/Rev.1, proposed text for 4.1.1.17.6 states that a pressure receptacle may only be placed in a salvage pressure receptacle if authorized in the approval certificate. However, the detailed requirements for authorized use of a salvage

pressure receptacle are sometimes specified by the competent authority in regulations and, therefore, not necessarily included in the approval certificate.

5. In ST/SG/AC.10/C.3/2009/16/Rev.1, proposed text for 4.1.1.17.6 references the pressure and tightness requirements in packing instruction P200 [table 1 or 2]. By referencing these P200 tables, the use of salvage pressure receptacles is limited. P200 is primarily applicable to gases, but other dangerous goods are transported in pressure receptacles and hence may warrant the use of a salvage pressure receptacle. The most critical criteria for the safe use of salvage pressure receptacles are: (a) compatibility between the materials of construction of the salvage pressure receptacle and the dangerous goods to be contained in it, and (b) the maximum pressure that could develop in the salvage pressure receptacle, based upon the volume of the salvage pressure receptacle. P200(3) specifies a general requirement that the pressure of the contents of a pressure receptacle at 65°C must not exceed the test pressure of that pressure receptacle; this requirement is also appropriate for salvage pressure receptacles, based upon current and best practice.

6. In ST/SG/AC.10/C.3/2009/16/Rev.1, proposed text for 4.1.1.17.6 repeats the sentiment as proposed in 4.1.1.17.4 that a fully-complying pressure receptacle should not be placed in a salvage pressure receptacle for transport. It should not be necessary to reiterate that statement in 4.1.1.17.6.

7. In ST/SG/AC.10/C.3/2009/16/Rev.1, proposed text for 4.1.1.17.8 states that labels must be applied to a salvage pressure receptacle as required for the gas inside the contained pressure receptacle. Markings such as the shipping name and UN number of the contents should also be displayed on the salvage pressure receptacle.

8. In ST/SG/AC.10/C.3/2009/16/Rev.1, proposed text for the third paragraph of 6.2.3.5 requires that salvage pressure receptacles be marked with the maximum water capacity and the maximum permissible pressure of a pressure receptacle authorized to be transported inside the salvage pressure receptacle. These proposed markings would not facilitate the calculations needed to ensure that pressure requirements are met. Rather, the water capacity and the test pressure of the salvage pressure receptacle should be marked. For example, a salvage pressure receptacle with a certain test pressure and a certain water capacity may safely contain a cylinder with a higher test pressure but a smaller water capacity, provided that, if the contents of the cylinder were to be totally discharged into the larger salvage pressure receptacle, the pressure in the salvage pressure receptacle at 65°C would not exceed test pressure of that salvage pressure receptacle (as discussed previously in paragraph 5). The water capacity and the test pressure of the salvage pressure receptacle must be known for calculations to ensure that pressure requirements are met, when one receptacle or furthermore multiple receptacles are to be contained in the salvage pressure receptacle.

### **Proposed amendments to the proposal in ST/SG/AC.10/C.3/2009/16/Rev.1**

9. As discussed in paragraph 2 above, amend the proposed definition in 1.2.1 as follows:

*“Salvage pressure receptacle means a special pressure receptacle into which are placed damaged, defective, leaking or non-conforming ~~pressure vessels~~ receptacles with a water capacity not exceeding 1000 l (e.g. pressure receptacles) for the purpose of transport e.g. for recovery or disposal.”*

10. As discussed in paragraph 3 above, add text either at the end of 4.1.1.17.4 or as a note after 4.1.1.17.4, as follows:

“4.1.1.17.4 In case of damaged, defective, leaking, non-conforming or not fully complying pressure receptacles, salvage pressure receptacles according to 6.2.3 may be used. Salvage pressure receptacles should not be used for the transport of pressure receptacles, which without any doubt fully comply with the provisions.

[NOTE:] Pressure receptacles used as salvage pressure receptacles may be used as overpacks in accordance with 5.1.2 to transport fully-complying pressure receptacles. When used as overpacks, markings shall be in accordance with 5.1.2 instead of 4.1.1.17.”

11. As discussed in paragraphs 4, 5, and 6 above, amend 4.1.1.17.6 as follows:

“4.1.1.17.6 A pressure receptacle may only be placed in a salvage pressure receptacle if authorized in the approval certificate or by the competent authority and if ~~the salvage pressure receptacle meets the requirements for pressure and tightness as laid down for the gas in packing instruction P200 [table 1 or 2].~~ A pressure receptacle fully complying with the requirements and which is not damaged, defective or leaking ~~should not be placed in a salvage pressure receptacle for transport.~~ the following criteria are met:

- (a) the contents of the contained pressure receptacle(s) shall be limited in pressure and volume so that if totally discharged into the salvage pressure receptacle, the pressure in the salvage pressure receptacle at 65°C will not exceed the test pressure of the salvage pressure receptacle; and
- (b) the materials of construction of the salvage pressure receptacle, including its gaskets, valves, and fittings, shall be compatible with the dangerous goods to be contained.”

12. As discussed in paragraphs 2 and 7 above, amend 4.1.1.17.8 as follows:

“4.1.1.17.8 All labels and markings required for the ~~gas dangerous goods~~ inside the damaged ~~pressure~~ receptacle shall be applied to the salvage pressure receptacle for transport.”

13. As discussed in paragraphs 2 and 8 above, amend the second and third paragraphs of 6.2.3.5 as follows:

“In the approval certificate, the pressure receptacles or other receptacles and the group(s) or division(s) of ~~gases dangerous goods~~ authorized to be transported in a damaged pressure receptacle or other receptacle being placed in a salvage pressure receptacle shall be clearly indicated. A copy of the approval shall be delivered by the manufacturer to any user of a salvage pressure receptacle.

The marking of salvage pressure receptacles according to 6.2.3 shall be determined by the competent authority in taking into account suitable marking provisions of 6.2.2.7

as appropriate. In addition, the marking shall include the ~~maximum usable internal~~ volume or water capacity and the test pressure of pressure vessels (e.g. receptacles) ~~and the maximum permissible pressure of pressure receptacles that are authorized to be transported inside the salvage pressure receptacle.~~”

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