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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****Fifty-first session**

Geneva, 3-7 July 2016

Item 5 (b) of the provisional agenda

**Transport of gases: miscellaneous****Miscellaneous amendments to Class 2****Transmitted by the International Organisation for Standardisation  
(ISO)\*****Introduction**

1. This paper proposes three separate amendments to the text of the Regulations. The first changes the requirements for MEGCs to allow composite construction for the elements. The second proposes a note to explain which country is meant by “country of approval” in the requirements for marking pressure receptacles. The third defines the thickness of pressure drums when carrying substances with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup>. At present this thickness is determined by the competent authority which creates uncertainty and lack of harmony.

**Proposal 1**

2. In 6.7.5.2.3 amend the first sentence as shown (new text underlined).

Elements of an MEGC shall be made of seamless steel, seamless aluminium or composite construction and be constructed and tested according to Chapter 6.2.

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\* 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, paragraph 14).

## Justification for proposal 1

3. Experts are reminded that in the 19<sup>th</sup> revised edition of the Model Regulations the definition of a tube was amended to include composite construction and this Revision also included standards for the construction of composite tubes. It is therefore anomalous to exclude composite construction from MEGCs in section 6.7.5. This section was drafted and approved early this century and at that time steel cylinders and tubes were universally used. Aluminium has found few if any uses in MEGCs, but there seems no technical or safety reason why it should not be included.

## Proposal 2

4. Add the following new Note immediately after 6.2.2.7.2 (c)

*NOTE: The country of approval shall be understood to be the country that approved the body which inspected the individual receptacle at the time of manufacture.*

## Justification for proposal 2

5. 6.2.2.7.2 specifies the ‘certification marks’ on a pressure receptacle. These are:

- (a) The UN packaging symbol;
- (b) The technical construction standard;
- (c) The country of approval;
- (d) The identity mark of the inspection body that is registered with the competent authority authorizing the marking;
- (e) The date of the initial inspection and test.

6. In Europe, where it is common to obtain type approval from one country and then use an inspection body from one or more other countries for the initial inspection, questions were asked as to whether the country of approval referred to the approval of the type or the approval at the time of initial inspection. The concept of the drafters of the marking text in 6.7.7.2 was to ensure traceability to the inspection body that inspected the individual pressure receptacle; the identity of the body applying the mark may need to be verified with the competent authority. The details of the type approval would be recovered from the manufacturer that is also obliged to apply its mark. Discussions in Europe culminated in the adoption of the above Note into the RID/ADR. However, elsewhere in the world, the question is still asked and sometimes the wrong alternative is employed. ISO requests that this issue is clarified by adoption of the Note proposed above.

## Proposal 3

7. In 4.1.4.1 P200 (5) special packing provision “k” specifies the requirements for toxic substances with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup>. The fourth paragraph ends with the following sentence.

“Pressure drums shall have a minimum wall thickness specified by the competent authority.”

It is proposed that this should be replaced by:

“Pressure drums shall have a minimum wall thickness in millimetres of not less than  $4 + (D \div 250)$  where D is the maximum outside diameter of the drum in mm.”

### **Discussion and justification for proposal 3**

8. The background to the requirement for the competent authority to specify the minimum wall thickness is that when Chapter 6.2 was written the experts involved were unable to agree on a recommendation. It is not easy since, being in the packing instruction P200, this requirement applies to existing drums as well as newly constructed ones. ISO, however, now feels emboldened to make a recommendation since the standard adopted for the construction of UN pressure drums to be reflected in the 20<sup>th</sup> revised edition of the Model Regulations (ISO 21172-1:2015) (see ST/SG/AC.10/44/Add.1) has the above formula to determine this minimum wall thickness for gases with an LC<sub>50</sub> less than or equal to 200 ml/m<sup>3</sup>. For other less toxic or non-toxic gases the formula is  $2 + (D \div 250)$ . This calculation is made to ensure the drum will withstand the handling loads expected in transport.

9. Only four substances in P200 that attract the special packing provision ‘k’ are permitted to be transported in pressure drums. These are:

- UN 1067 Dinitrogen tetroxide,
- UN 1076 Phosgene,
- UN 1975 Nitric oxide and dinitrogen tetroxide mixture and
- UN 3057 Trifluoroacetyl chloride.

With so few highly toxic gases eligible to be carried in pressure drums, this is a very specialized market. ISO experts do not know the number of drums used to transport these gases. This proposal is therefore somewhat tentative.

10. This proposal has been made at the beginning of the biennium so that experts may consult with their chemical industries before amendments to be reflected in the 21<sup>st</sup> revised edition of the Model Regulations are finalized. If currently used drums do not meet this requirement, it may be necessary to apply this requirement only to newly constructed drums.

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