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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

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Item 7 of the provisional agenda
Global harmonization of transport of dangerous goods regulations with the Model Regulations

Acetylene cylinders – standards for the requirements according to sub-section 6.2.1.1.9

Submitted by the expert from Germany[*]

Background

1. For acetylene cylinders the following specific requirements are given in Chapter 6.2 of the Model Regulations on the Transport of Dangerous Goods:

> "6.2.1.1.9 *Additional requirements for the construction of pressure receptacles for acetylene*
>
> Pressure receptacles for UN 1001 acetylene dissolved, and UN 3374 acetylene, solvent free, shall be filled with a porous material, uniformly distributed, of a type that conforms to the requirements and testing specified by a standard or technical code recognised by the competent authority and which:
>
> (a) Is compatible with the pressure receptacle and does not form harmful or dangerous compounds either with acetylene or with the solvent in case of UN 1001; and
>
> (b) Is capable of preventing the spread of decomposition of the acetylene in the porous material.

[*] 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).

In the case of UN 1001, the solvent shall be compatible with the pressure receptacle.".

2. In section 6.2.2 standards are listed. UN pressure receptacles shall comply with these standards, as applicable. Sub-section 6.2.2.1.3 lists standards which are applicable to acetylene cylinders, among them ISO 3807 (and its two predecessors ISO 3807-1 and ISO 3807-2).

3. In addition to the basic requirements, ISO 3807 contains detailed requirements regarding testing. Type tests include the elevated temperature test, the backfire test and for cylinders with fusible plugs the fire test. These requirements and tests cover the requirements according to sub-section 6.2.1.1.9.

4. Hence, there is no need for a competent authority to recognize a standard or technical rule with requirements for and testing of the porous material contained in acetylene cylinders. The applicable standards for the porous material are inherently recognized through their reference in sub-section 6.2.2.1.3. Quite contrary, this is contradicting the mandatory application of ISO 3807 as required in section 6.2.2.

Proposal

5. Change the wording in 6.2.1.1.9 as follows (text to be deleted is crossed out):

"6.2.1.1.9 *Additional requirements for the construction of pressure receptacles for acetylene*

Pressure receptacles for UN 1001 acetylene dissolved, and UN 3374 acetylene, solvent free, shall be filled with a porous material, uniformly distributed, of a type that ~~conforms to the requirements and testing specified by a standard or technical code recognised by the competent authority and which~~:

(a) Is compatible with the pressure receptacle and does not form harmful or dangerous compounds either with acetylene or with the solvent in case of UN 1001; and

(b) Is capable of preventing the spread of decomposition of the acetylene in the porous material.

In the case of UN 1001, the solvent shall be compatible with the pressure receptacle.".