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COMMITTEE OF EXPERTS ON THE TRANSPORT OF
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AND LABELLING OF CHEMICALS

Sub-Committee of Experts on the
Transport of Dangerous Goods
(Twenty-third session, 30 June -4 July 2003,
agenda item 2)

TRANSPORT OF GASES

Miscellaneous proposals to the requirements for Multi-Element Gas Containers (MEGCs)

Transmitted by the expert from the United States of America

Introduction

During the process of developing proposed amendments to the US Hazardous Materials Regulations to incorporate the requirements for MEGCs, the expert from the United States has found some issues that need to be addressed by the Working Group on Pressure Receptacles. This paper proposes several amendments to the requirements for MEGCs.

Proposals

1. It is proposed to amend the first sentence of paragraph 6.2.1.3.4 as follows:

Individual pressure receptacles shall be equipped with approved pressure relief devices as required in P200(1) or as specified by the country of use (see, for example, CGA S-1.1-2002).

Justification:

CGA S-1.1 is widely considered an acceptable standard for pressure relief device (PRD) requirements. Since paragraph 6.2.1.3.4 is the section that prescribes pressure receptacle PRD requirements, the standard should be referenced here.

2. It is proposed that paragraph 6.7.5.4.1 be amended as follows:

One or more pressure relief devices shall be fitted on MEGCs used for the transport of UN 1013 carbon dioxide and UN 1070 nitrous oxide. For all other gases, MEGCs or elements of MEGCs shall be fitted with one or more pressure relief devices consistent with 6.2.1.3.4. Pressure relief devices shall be as specified by the competent authority for the country of use.

Justification:

The pressure relief device requirements for the individual elements of a MEGC are contained in 6.2.1.3.4. Therefore, this paragraph should be referenced here. Paragraph 6.7.5.4.1 provides additional requirements unique to MEGCs and is primarily intended to address the relief device(s) fitted on the manifold that connects the MEGC elements. The working group should consider whether pressure relief devices are typically needed on the manifold device or whether it is sufficient to include them on the individual elements in which case most of the text in this paragraph is unnecessary.

3. It is proposed to add a new first sentence in paragraph 6.7.5.5.1 as follows:

The relief capacity of a pressure relief device for each element of a MEGC shall be determined in accordance with the standard specified by the competent authority for the country of use consistent with 6.2.1.3.4.

Justification:

Modification to the existing paragraph is required to clarify the different requirements related to the individual elements and the combined capacity of the MEGC. In most cases, if a PRD is installed on a MEGC, it would be on each element of the MEGC and must be designed in accordance with the standard prescribed for the pressure receptacle (e.g. CGA Pamphlet S-1.1-2002).

4. It is proposed to delete the current paragraph 6.7.5.6.1 and replace with a new paragraph 6.7.5.6.1 as follows:

Each pressure relief device shall be marked in accordance with the standard specified by the competent authority for the country of use (see, for example, CGA S-1.1-2002).

Justification:

The markings indicated currently in 6.7.5.6.1 are applicable for portable tank pressure relief devices (PRDs) but are not realistic for PRDs used on MEGCs or elements of MEGCs. CGA S1.1-2002 provides sufficient information for marking PRDs.
