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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
(Twenty-first session, 1-10 July 2002,
agenda item 5(b))

TANKS

Miscellaneous proposal

Transmitted by the expert from Spain

Background

During the last Sub-Committee of Experts on the Transport of Dangerous Goods, in December 2001, the expert from Spain presented document ST/SG/AC.10/C.3/2001/45. He received some comments and finally withdrew his proposal inviting the experts of the Sub-Committee to contact him to work in the development of a new paragraph to be presented as a new proposal to the July Sub-Committee (see para. 23 of the report of the twentieth session).

Proposal 1

Amend the existing paragraph 6.7.2.12.2 to read as follows:

"6.7.2.12.2 The combined delivery capacity of the relief devices, (including the reduction of this relief capacity, when the portable tank is fitted with frangible-discs preceding spring-loaded pressure relief devices or when the spring-loaded pressure relief devices are provided with flame arresters), in condition of complete fire engulfment of the portable tank, shall be sufficient to limit the pressure of the shell to 20% above the start-to-discharge pressure of the pressure limiting device. Emergency pressure relief devices may be used to achieve the full relief capacity prescribed. These devices may be fusible, spring loaded or frangible disc components or a combination of spring-loaded and frangible disc devices. The total required capacity of the relief devices may be determined using the formula in 6.7.2.12.2.1 or the table in 6.7.2.12.2.3."

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Justification

The amendment of paragraph 6.7.2.12.2, consisting in the addition of a new sentence, is proposed, on the one hand, to address the problem of the reduction of the discharge capacity of the pressure relief devices, when a portable tank is fitted with a frangible disc preceding a spring-loaded pressure relief device and, on the other hand, to take into account the reduction of the delivery capacity of the pressure relief devices when these devices are provided with flame arresters. In the last case, due attention must be paid to the reduction of the relief capacity caused by the flame arresters (see paragraph 4.2.1.13.10) in the case of transport of Division 5.2 substances and Division 4.1 self-reactive substances in portable tanks.

Proposal 2

Amend paragraph 6.7.2.13.2 to read as follows:

"6.7.2.13.2 The rated flow capacity marked on the spring-loaded pressure relief devices shall be determined according to ISO 4126-1:1991"

Justification

ISO 4126-1:1991 is a standard concerning only safety valves and do not apply to other devices as frangible discs and fusible elements.

According to the definition of ISO 4126-1:1991, safety valve "is a valve which automatically, without the assistance of any energy other than that of the fluid concerned, discharges a certified quantity of the fluid so as to prevent a determined safe pressure being exceeded, and which is designed to reclose and prevent the further flow of fluid after normal pressure conditions of service have been restored" which is not the case of the frangible disk or the fusible elements.

Proposal 3

Amend subparagraph (e) in 6.7.2.13.1 to read as follows:

"6.7.2.13.1 (e) The rated flow capacity of the spring loaded pressure relief devices, frangible discs or fusible elements in standard cubic meters of air per second (m³/s);".

Justification

The amendment of subparagraph (e), is intended to make clear that also the fusible elements or frangible disc should wear the mark of the rated flow-capacity, and not only the spring loaded pressure relief device, as happens frequently nowadays (a graphic document will be issued during the meeting).
