

## 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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### LISTING, CLASSIFICATION AND PACKING

#### Ethylene Oxide (UN1040) Sterilization Units

#### Comments of Belgium on document ST/SG/AC.10/C.3/2008/3

Some fundamental comments that were made during the debate on informal document UN/SCETDG/32/INF14 at the previous session of the Sub-Committee have not been taken into account in document ST/SG/AC.10/C.3/2008/3 :

1. It is not clear why two separate sets of transport conditions would be necessary for small quantities of ethylene oxide in glass inner packagings (special packing provision “I” in Packing Instruction P200 and the proposed SPXXX), even more so because both sets are to a large extent identical (similar maximum quantities, the same provisions for the glass ampoules...). It is clear that safety during transport does not depend of the use that is going to be made of the ethylene oxide afterwards.

If a new SPXXX is introduced, special packing provision “I” in Packing Instruction P200 ought to be limited to the metal inner packagings.

2. The reference to the provisions of Chapter 3.5 in paragraph (b) of SPXXX could lead to differences in interpretation. In particular, the proposed text of (b) could lead to the conclusion that a sealed plastics bag is to be used in addition to the intermediate packaging required in 3.5.2 (b).

In SPXXX (b), it should be clarified that the sealed plastics bag is the intermediate packaging required in 3.5.2 (b).

3. It may also be noted that the example shown in the photograph on page 4 does not fulfil the provisions of paragraph (c). The dividing partitions will not prevent puncture of the plastics bag in the event of damage to the packaging (e.g. by crushing), because they are situated on the outside and

damages will most likely be caused by the broken glass of the inner receptacles ; the ICAO text clearly (and correctly) does not allow this configuration.

In SPXXX (b), it should be clarified that the protecting sleeves are to be placed inside the sealed plastics bag.

## Proposal

The expert from Belgium proposes the following :

1. Replace special packing provision “I” in Packing Instruction P200 with “UN 1040 ethylene oxide may also be packed in hermetically sealed ~~glass or~~ metal inner packagings suitably cushioned in fibreboard, wooden or metal boxes meeting the packing group I performance level. The ~~maximum quantity permitted in any glass inner packaging is 30 g, and the~~ maximum quantity permitted in any metal inner packaging is 200 g. After filling, each inner packaging shall be determined to be leak-tight by placing the inner packaging in a hot water bath at a temperature, and for a period of time, sufficient to ensure that an internal pressure equal to the vapour pressure of ethylene oxide at 55 °C is achieved. The maximum net mass in any outer packaging shall not exceed 2.5 kg.”.

2. Introduce an new SPXXX as follows :

“SPXXX Glass inner receptacles (such as ampoules or capsules) ~~used in sterilization devices, when~~ containing less than 30 ml of ethylene oxide per inner ~~receptacle packaging with not more than 300 ml per outer packaging,~~ may be transported in accordance with the provisions in Chapter 3.5, irrespective of the indication of E0 in column 7a of the Dangerous Goods List provided that :

(a) the net quantity per outer packaging is not more than 300 ml ; and

(b) after filling, each glass inner receptacle shall be determined to be leak-tight by placing the glass inner receptacle in a hot water bath at a temperature, and for a period of time, sufficient to ensure that an internal pressure equal to the vapour pressure of ethylene oxide at 55 °C is achieved. Any glass inner receptacle showing evidence of leakage, distortion or other defect under this test shall not be transported under the terms of this special provision ; and

(c) in addition to the packaging shall be as required by 3.5.2, with as the intermediate packaging each glass inner receptacle shall be placed in a sealed plastics bag compatible with ethylene oxide and capable of containing the contents in the event of breakage or leakage of the glass inner receptacle ; and

(d) glass inner receptacles must be placed within a protective sleeve capable of preventing the glass of the inner receptacle from puncturing the plastics bag in the event of damage to the packaging (e.g. by crushing).”