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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**
(Nineteenth session, 2-6 July 2001,
agenda item 5(b))

PACKAGINGS

Miscellaneous proposals

Maximum capacity and net mass for packagings

Transmitted by the expert from the United States of America

1. The expert from the United States of America believes that the Recommendations are not clear with regard to the maximum net capacity and maximum net mass permitted for packagings intended for the transport of liquids and solids in single, combination or composite packagings. Clarification is needed with respect to which packagings are subject to the requirements of Chapter 6.1 and how the applicable limits apply. Clarification is also necessary with respect to the maximum capacities applicable to packagings specified in section 6.1.4 "*Requirements for Packagings*". The Recommendations are not clear with respect to:

- Are packagings intended for liquids subject to both the 400 litre and 450 kg limits specified in 6.1.1.1 of the Recommendations?
- What is intended when both the 400 litre and 450 kg capacity limits are specified? Do both limits apply regardless of whether the packaging contains liquids or solids?
- When 60 litres and 120 kg are specified for a jerrican, are both limits applicable regardless of whether the jerrican is certified and used for solids or liquids?

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For portable tanks we have a 450 litre cut-off consistent with 6.1.1.1 and for IBCs additional testing is necessary if the capacity of the IBC is less than 450 litres.

2. In 6.1.1.1, the Recommendations state that the requirements of Chapter 6.1 do not apply to packages whose net mass exceeds 400 kg and packagings with a capacity exceeding 450 litres. There is confusion on the part of packaging manufacturers and users relevant to how the maximum net capacity and maximum net mass limits apply to packagings. The expert from the United States of America is proposing amendments to clarify the requirements in this paper based on the believed original intent as follows:

- to limit the capacity of packagings intended for the transport of liquids to not more than 450 litres;
- to limit the maximum net mass for single and composite packagings intended for the transport of solids and combination packagings containing liquids or solids to not more than 400 kgs; and
- to indicate that in no case shall a single packaging have a volume in excess of 450 litres.

The intention of the proposal is to clarify that consistent with the current requirement in the Recommendations, single and composite packagings used to transport liquids should not exceed 450 litres although they may have a net mass exceeding 400 kg. On this basis, a UN certified steel drum, for instance, could be filled with a quantity of liquid having a net mass greater than 400 kg as long as the capacity of the drum is not greater than 450 litres. For packagings used for transporting solids the packaging should have a maximum net mass not greater than 400 kg and a maximum capacity not greater than 450 litres. Combination packagings would be limited to a net mass not greater than 400 kg regardless if liquids or solids are contained.

3. Maximum net capacity and maximum net mass limits are also provided under the heading "Requirements for packaging" in 6.1.4 for each type of packaging. It is not entirely clear with respect to how these limitations apply to single, combination and composite packages containing liquids or solids. For instance, it is not clear whether a 3H2 jerrican can be certified for 75 kgs if the water capacity exceeds 60 L when the packaging is used solely for solid substances. The expert from the United States of America is proposing amendments to clarify the requirements in this paper based on the believed original intent as follows:

- when a kilogram limit is specified the limit applies for packagings intended for solids but in no case may the volume exceed 450 litres; and
- when a litre limit is specified the limit applies for packagings intended for liquids.

Proposal

4. It is proposed that paragraph 6.1.1.1 be revised by amending (c) and (d) and adding a new paragraph (e) as follows:

- (c) single packagings used for the transport of solids with a maximum net mass greater than 400 kg or a capacity greater than 450 litres;
- (d) single packages used for the transport of liquids with a capacity greater than 450 litres;
- (e) combination packagings with a net mass greater than 400 kg

5. It is proposed to clarify the maximum capacity and net mass specified in paragraphs 6.1.4.6.7, 6.1.4.6.8, 6.1.4.7.5, 6.1.4.7.6, 6.1.4.9.4, 6.1.4.10.2, 6.1.4.11.4, 6.1.4.12.6, 6.1.4.13.7, 6.1.4.14.4, 6.1.4.15.4, 6.1.4.16.5, 6.1.4.17.2, 6.1.4.18.3, 6.1.4.19.1.4, 6.1.4.20.1.4, 6.1.4.20.1.5.

The wording in paragraph 6.1.4.1.8, 6.1.4.2.6 and 6.1.4.3.6 should be changed from: "Maximum capacity of drum: 450 litres" to "For drums intended for liquids the maximum capacity shall be 450 litres."

The wording in paragraphs 6.1.4.1.9, 6.1.4.2.7, 6.1.4.3.7, 6.1.4.5.6 and 6.1.4.7.6 should be changed from: "Maximum net mass: 400 kg." to "For drums intended for solids the maximum net mass shall be 400 kg."

The wording in paragraph 6.1.4.4.5 should be changed from: "Maximum capacity of jerrican: 60 litres" to "For jerricans intended for liquids the maximum capacity shall be 60 litres."

The wording in paragraph 6.1.4.4.6, should be changed from: "Maximum net mass: 120 kg." to "For jerricans intended for solids the maximum net mass shall be 120 kg."

Paragraphs 6.1.4.5.5, 6.1.4.6.7 and 6.1.4.7.5 specify a maximum capacity of 250 litres for plywood drums, wooden barrels and fibre drums respectively. Since plywood drums, wooden barrels and fibre drums are not authorized in P001 or any other packing instruction for liquids, it is proposed that these paragraphs be deleted.

The wording in paragraph 6.1.4.6.8 should be changed from: "Maximum net mass: 400 kg." to "For wooden barrels intended for solids the maximum net mass shall be 400 kg."

The wording in paragraph 6.1.4.8.8 should be changed from maximum capacity for drums and jerricans: 1H1, 1H2: 450 litres, 3H1, 3H2: 60 litres" to "For jerricans intended for liquids the maximum capacity shall be 60 litres. For drums intended for liquids the maximum capacity shall be 450 litres."

The wording in paragraph 6.1.4.8.9 should be changed from maximum net mass for drums and jerricans: 1H1, 1H2: 400 kg, 3H1, 3H2: 120 kg” to “For jerricans intended for solids the maximum net mass shall be 120 kg. For drums intended for solids the maximum net mass shall be 400 kg.”

In 6.1.4 it is proposed to add a clarifying note as follows:

Note: In each case where a maximum capacity of a packaging is specified, the maximum capacity applies to packagings marked and used for the transport of liquids. In each case where a maximum net mass is specified, the maximum net mass applies to packagings marked and used for the transport of solids or for combination packagings in which case the net mass is the combined mass of inner packagings and the contents.
