

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 5 (a) of the provisional agenda

Miscellaneous proposals of amendments to the Model Regulations on the Transport of Dangerous Goods: packagings

Comments on ST/SG/AC.10/C.3/2011/11- Packagings exceeding 450 Litres

Transmitted by the Dangerous Goods Advisory Council (DGAC)

1. DGAC welcomes ST/SG/AC.10/C.3/2011/11, the joint paper by the experts from Austria and Germany, concerning the relevance of the 450 litres limit to packagings intended for solids and articles.
2. The text in 6.1.1.1 dates back to 1983 without substantial change. It existed long before provisions for Intermediate Bulk Containers and the more recent provisions for Large Packagings were introduced. The introduction of these two types of packagings has led to confusion over the understanding of the limits in 6.1.1.1, particularly 6.1.1.1(d) as it pertains to packagings intended for solids and articles. While appreciating the basis for the confusion, it is the opinion and recollection of DGAC members, that the 450 litres limit in 6.1.1.1(d) was only intended to apply to packagings suitable for liquids and not to packagings intended for solids and articles. This view is reinforced by the fact that boxes and bag type packagings that are used exclusively for solids (including inner packagings and articles) are only assigned a gross mass limit in kilograms (see the limits for boxes in 6.1.4.9.4, 6.1.4.10.2, 6.1.4.11.4, 6.1.4.12.5, 6.1.4.13.7, and 6.1.4.14.4 and for bags in 6.1.4.15.4, 6.1.4.16.5, 6.1.4.17.2, and 6.1.4.18.3).
3. The confusion over the meaning of the text in 6.1.1.1 has led to practical problems. In the case of light weight articles, it is not uncommon for UN 4G boxes larger than 450 litres to have a net mass substantially less than 400kg. With the advent of large packaging provisions, questions have been raised as to whether these packagings should be treated as large packagings or whether they should continue to be treated as UN4G packagings.
4. We note that continuing to treat packagings with a volume larger than 450 litres but with a net mass of 400 kg or less as packagings subject to Chapter 6.1 leads to a higher level of safety, particularly as their integrity is demonstrated through drop testing. For example, under Chapter 6.1 boxes are subject to drop tests in 5 orientations (top, bottom, long side short side, corner) from a height of 1.2m (for PG II) whereas large packagings are only subject to one drop from the same height (on the bottom on the most vulnerable location).
5. Treating large volume (greater than 450 litre) packagings with a net mass less than 400kg as large packagings would lead to the following:

(a) additional amendments would need to be made to the dangerous goods list to provide for use of large packagings for substances/articles not already authorized for transport in large packagings;

(b) Some existing fibreboard packagings would need to be redesigned and retested. A requirement for rigid fibreboard large packagings in 6.6.4.4.2 is that the fibreboard must meet a 15 J puncture resistance – a requirement not applicable to UN4G boxes up to 400 kg net. There is no safety rationale for applying this provision to light weight large volume packagings; and

(c) Possible reduced packaging integrity due to less severe drop test requirements.

6. DGAC supports the first alternative proposed by the experts of Austria and Germany which would limit the applicability of the 450 litre limit to single packagings intended for liquids. This approach provides the highest level of safety without disrupting current practices.

7. We note that the second alternative approach of treating all packagings (i.e., including those less than 450 litres in volume) designed for mechanical handling as large packagings could lead to additional disruption as follows:

(a) In that there are packagings of less than 450 litre capacity that are fitted for mechanical handling (e.g., fork lift pockets), this alternative would mean that these packagings which are currently treated as Chapter 6.1 boxes would need to be treated as large packagings. These include, for example, some military packagings certified as UN 4A or UN 4B that fitted with fork lift pockets. This would require retesting and recertification of some existing packagings as large packagings.

(b) Additional articles would need to be authorized for transport in large packagings through amendment of the dangerous goods list.
