

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 (d) of the provisional agenda

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

Meaning and Application of the Term “Hermetically Sealed”

Transmitted by the International Air Transport Association (IATA)

Introduction

1. At the recent meeting of the ICAO Dangerous Goods Panel Working Group Meeting of the Whole (DGP-WG) there was discussion of the application of the term “hermetically sealed” in the context of the relaxation on the application of orientation on combination packagings containing certain “hermetically sealed” inner packagings as set out in paragraph 5.2.1.7.2(f) in the Model Regulations.
2. The issue was raised at the ICAO DGP-WG because of some questions raised by some consignors as to the actual meaning of “hermetically sealed” with respect to the requirement in air transport that inner packagings containing liquids must be able to withstand a 95 kPa pressure differential. This requirement was being seen by some consignors as the inner packaging would be considered as “hermetically sealed”.
3. Other questions were also raised regarding operator acceptance personnel and regulatory personnel being able to determine conformance with the regulations where a package containing liquid dangerous goods did not have orientation arrows marked on the outside of the package.
4. IATA understands the background, and supports the adoption for the exception from application of orientation arrows on packages containing certain dangerous goods that are packaged in inner packagings where the orientation of inner packaging need not be specified. However, IATA believes that the use of “hermetically sealed” to describe the condition of these inner packagings is problematic.
5. The term “hermetically sealed” is not defined in the Model Regulations and in the absence of a definition the dictionary definition is taken to apply. The Concise Oxford Dictionary, 9th edition, defines “hermetic seal” as “an airtight seal”.
6. The term “hermetically sealed” is used in a number of places in the Model Regulations, primarily in packing instructions. In looking at the usage and application of the term, at least three examples appear to not meet the intent of the relaxation in 5.2.1.7.2(f):
 - (a) P001, PP31 states “For UN 1131, packagings shall be **hermetically sealed.**” UN 1131 is CARBON DISULPHIDE, Class 3 (6.1), PG I.;

- (b) P400 (3) contains the requirement “each with **hermetically sealed** inner metal cans not more than 4 litre capacity each, with threaded closures fitted with gaskets.” P400 applies to certain Division 4.2 liquids in PG I;
- (c) P601 opening paragraph contains the requirement “...and the packagings are **hermetically sealed.**” P601 applies to a number of Division 6.1 liquids in PG I, including a number of toxic by inhalation liquids, e.g. UN 3381, UN 3383, and UN 3385.

7. IATA does not believe that it is intended that the relaxation from the application of orientation arrows on packages apply to substances assigned to these particular packing instructions, but in the absence of any other definition or limitation it could be argued that orientation arrows are not required when the inner packagings contain no more than 500 ml.

Proposal

8. The Subcommittee is invited to reconsider the use of the term “hermetically sealed” within the relaxation in paragraph 5.2.1.7.2(f) to develop an alternative wording. This could be by the removal of the term hermetically sealed from 5.2.1.7.2(f) and replacing it with wording such as “inner packagings in any form but typically tubes and vials that are opened by breaking or puncturing and once opened can only be resealed by an alternative or secondary closure (typically a screw cap)”.

9. Alternatively the Subcommittee is invited to consider if there is a need to review the use of the term “hermetically sealed” to better apply the term in a way that has a consistent application and that there are no unintended consequences, perhaps with adoption of a definition in the Model Regulations.
