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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

#### Sixty-fourth session

Geneva, 24 June-3 July 2024

Item 3 of the provisional agenda

#### Listing, classification and packing

### Packing group II metal packagings for organic peroxides and self-reactive substances

Transmitted by the European Chemical Industry Council (Cefic)\*

## I. Introduction

1. During the thirty-fourth session (December 2008) one aspect of special packing provisions for goods of Class 1 was discussed based on documents ST/SG/AC.10/C.3/2008/26 (Australia), ST/SG/AC.10/C.3/2008/106 (United Kingdom) and informal document INF.56 (secretariat).
2. The Sub-Committee (report ST/SG/AC.10/C.3/68) adopted the proposal of the United Kingdom that metal packagings meeting the test requirements for packing group I may be used for the packing of explosives, for the following reasons:
  - (a) This is permitted for non-metal packagings;
  - (b) Drop tests are not representative of the degree of confinement of a package; and
  - (c) Explosives are classified according to the results of the tests to which they are subjected as packaged.
3. In addition it was concluded that the same reasoning is applicable to organic peroxides and self-reactive substances and consequently the last sentence in paragraph 4.1.7.1.1 “*To avoid unnecessary confinement, metal packagings meeting the test criteria of Packing Group I shall not be used*” was deleted from the *Model Regulations*.
4. In the European Organic Peroxide Safety Group (sector group of Cefic) and in the Organic Peroxide Producers Safety Division of the industry group of American Chemistry Council (ACC) the use of metal packagings of Packing Group (PG) I for organic peroxides was discussed and the conclusion was that, for safety reasons, the sentence, as deleted in 2008, should be reinstated.

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\* A/78/6 (Sect. 20), table 20.5.



## II. Justification

5. Under high degree of confinement organic peroxides and self-reactive substances may show violent decomposition effects. For this reason, according to packing instruction P520, metal packagings are only allowed for Type E (OP7) and Type F (OP8) organic peroxides and self-reactive substances because these types show less severe decomposition behaviour compared to the other types i.e. Type B – Type D.
6. Nevertheless, Type E and Type F products may show a more violent decomposition effect in PG I compared to PG II metal packagings. For this reason, Cefic proposes to reinstate in paragraph 4.1.7.1.1 the old sentence “To avoid unnecessary confinement, metal packagings meeting the test criteria of Packing Group I shall not be used“.
7. The justifications (a) and (c) given for explosives to allow PG I metal packagings (see introduction above), do not apply to organic peroxides and self-reactive substances.
8. Regarding (a), indeed PG I non-metal packagings are allowed but in the case of organic peroxides and self-reactive substances plastic packagings of PG I will weaken or even melt due the temperature increase during the decomposition. So for plastic packagings there is no confinement aspect like with metal packagings. Also cardboard boxes/drums have no high degree of confinement.
9. Regarding (c), for organic peroxides and self-reactive substances Type E and Type F, no tests in packagings are part of the classification procedure.
10. So for safety reasons, metal packagings for Type E and F should have the strength of PG II level and not PG I level.

## III. Proposal

11. Cefic proposes the following amendment to the *Model Regulations*:

Add to 4.1.7.1.1 the following sentence:

“To avoid unnecessary confinement, metal packagings meeting the test criteria of Packing Group I shall not be used.”

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