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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-fifth session
Geneva, 25 November-3 December 2024
Item 10 (c) of the provisional agenda
Issues relating to the Globally Harmonized System of Classification and Labelling of Chemicals: Miscellaneous

Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals

Forty-seventh session
Geneva, 4-6 December 2024
Item 2 (b) of the provisional agenda
Work on the Globally Harmonized System of Classification and Labelling of Chemicals: Work of the Sub-Committee of Experts on the Transport of Dangerous Goods on matters of interest to the Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals

Aerosols – Alignment of special provision 63 with special provision 362

Transmitted by the European Aerosol Federation (FEA)*

I. Introduction

1. At its sixty-fourth session, the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee) noted general support on the amendments to the *Manual of Tests and Criteria*, proposed in paragraph 7 of document ST/SG/AC.10/C.3/2024/6 (FEA). On the proposal in paragraph 6, the Sub-Committee expressed support in principle but considered that additional clarification was needed on the text before it could be considered for adoption.

2. The updated proposal below has been prepared in cooperation with the Household and Commercial Products Association (HCPA) of the United States of America.

II. Discussion

3. FEA would like to remind that the aerosol industry does not use most of the components covered by the prohibitions but agreed to address the legal gap.

4. It is proposed to replace the wording “Class 3, liquid desensitized explosives” by “Liquid desensitized explosives of Class 3” in chapter 2.0, paragraph 2.0.3.1 of the *Model*

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

Regulations. However FEA notes that "Class 3, liquid desensitized explosives" is the wording currently used under special provision 362.

5. It has been clarified at previous sessions that the proposed prohibitions will be related to the contents/mixtures and not to individual components/substances which will be the main difference with special provision 362. However several delegations pointed out that the scope of the special provision 63 would become unclear, as it regards classification based on the overall contents of the aerosol (including the propellant gas) or on contents other than the propellant gas.

6. FEA has no one-fit-all answer to this question because it will depend on the type of technology (conventional vs compartmented aerosols), the type of propellant gas (liquefied vs compressed gas), the hazard class (physical, health or environment), specific provisions in a hazard class, relevance and feasibility of testing, and the application of bridging principles or calculation method.

7. FEA proposes to use the wording "Where the contents other than the propellant gas" in (e) for Division 6.1 (Toxic substances) and Class 8 (Corrosive substances) and merging (e) and (f) because dealing with the same hazard division and class. Concerning the other prohibitions, it is proposed to use "Where the contents" which covers the contents/mixtures, not individual components/substances. However it is not considered appropriate to detail when and how the propellant gas must or not be taken into account as explained above. The consignor remains responsible of the correct classification of its dangerous goods.

8. It is proposed to use the term "classification criteria" which is usually used throughout the *Model Regulations*, instead of the term "assignment criteria".

9. For a clearer reading, it is proposed to list the division and classes which are prohibited.

10. ISO Standard 13943 only provides definitions but no methods. It is proposed to replace the outdated text related to the methods to determine heats of combustion by "The chemical heats of combustion shall be determined either by reference to published scientific literature, calculation or by using suitable tests (e.g., ASTM D 240 and NFPA 30B)".

11. The changes in special provision 63 should then be reflected in the *Manual of Tests and Criteria*. It is proposed to align the definition of flammable components under section 31, paragraph 31.1.3 as well as paragraph 31.3.3 addressing the heat of combustion.

III. Proposal for the Model Regulations

12. FEA proposes to amend special provision 63 in the *Model Regulations* as follows (new text is shown in **bold, underlined**, deleted text is marked as ~~strikethrough~~):

> "63 The division of Class 2 and the subsidiary hazards depend on the nature of the contents of the aerosol dispenser. The following provisions shall apply:
>
> (a) Division 2.1 applies if the contents include 85 % by mass or more flammable components and the chemical heat of combustion is 30 kJ/g or more;
>
> (b) Division 2.2 applies if the contents contain 1 % by mass or less flammable components and the heat of combustion is less than 20 kJ/g;
>
> (c) Otherwise the product shall be classified as tested by the tests described in the *Manual of Tests and Criteria*, part III, section 31. Extremely flammable and flammable aerosols shall be classified in Division 2.1; non-flammable in Division 2.2;
>
> (d) Gases of Division 2.3 shall not be used as a propellant in an aerosol dispenser;
>
> (e) **The aerosol shall have a subsidiary hazard of Division 6.1 or Class 8 w**~~W~~here the contents**,** other than the propellant of aerosol dispensers**,** ~~to be ejected~~ are classified as**:**
>
> **(i)** Division 6.1 packing groups II or III or

(ii) Class 8 packing groups II or III~~, the aerosol shall have a subsidiary hazard of Division 6.1 or Class 8;~~**.**

The aerosol shall be prohibited from transport where the contents, other than the propellant of aerosol dispensers, are classified as:

(i) Division 6.1, packing group I or

(ii) Class 8, packing group I;

(f) ~~Aerosols with contents meeting the criteria for packing group I for toxicity or corrosivity shall be prohibited from transport;~~ **The aerosol shall be prohibited from transport where the contents additionally meet the classification criteria of:**

(i) Class 1, explosives;

(ii) Liquid desensitized explosives of Class 3;

(iii) Division 4.1, self-reactive substances and solid desensitized explosives;

(iv) Division 4.2, substances liable to spontaneous combustion;

(v) Division 4.3, substances which, in contact with water, emit flammable gases;

(vi) Division 5.2, organic peroxides;

(vii) Division 6.2, infectious substances; or

(viii) Class 7, radioactive material;

(g) Subsidiary hazard labels may be required for air transport.

Flammable components are flammable liquids, flammable solids or flammable gases and gas mixtures as defined in notes 1 to 3 of sub-section 31.1.3 of part III of the *Manual of Tests and Criteria*. ~~This designation does not cover pyrophoric, self-heating or water-reactive substances.~~ The chemical heat**s** of combustion shall be determined **either by reference to published scientific literature, calculation or** by **using suitable tests** ~~one of the following methods~~ **(e.g.,** ASTM D 240 **and** ~~, ISO/FDIS 13943: 1999 (E/F) 86.1 to 86.3 or~~ NFPA 30B**)**."

IV. Proposals for the Manual of Test and Criteria

13. It is proposed to align the definition of flammable components under section 31, paragraph 31.1.3 in the *Manual of Tests and Criteria* as follows (new text is shown **bold, underlined**, deleted text is marked as ~~strikethrough~~):

"Flammable components are flammable liquids, flammable solids or flammable gases and gas mixtures. ~~This designation does not cover pyrophoric, self-heating or water-reactive substances.~~"

14. It is proposed to align paragraph 31.3.3 related to heat of combustion in the *Manual of Tests and Criteria* as follows (new text is shown **bold, underlined**, deleted text is marked as ~~strikethrough~~):

"The chemical heat**s** of combustion shall be determined **either by reference to published scientific literature, calculation or by using suitable tests** ~~following one of the methods described in the following standards:~~ **(e.g.,** ASTM D 240~~, ISO/FDIS 13943:1999 (E/F) 86.1 to 86.3~~ and NFPA 30B**)**."