

**Committee of Experts on the Transport of Dangerous Goods
and on the Globally Harmonized System of Classification
and Labelling of Chemicals**

2 October 2023

**Sub-Committee of Experts on the
Transport of Dangerous Goods**

Sixty-third session

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Item 10 (b) of the provisional agenda

**Issues relating to the Globally Harmonized System:
Simultaneous classification in physical hazards and
possible combination of hazards**

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

Forty-fifth session

Geneva, 6-8 December 2023

Item 2 (b) of the provisional agenda

**Work on the Globally Harmonized System of
Classification and Labelling of Chemicals:
Simultaneous classification in physical hazards and
precedence of hazards**

**Aerosols – Alignment of special provision 63 with special
provision 362**

Submitted by the European Aerosol Federation (FEA)

Introduction

1. At its sixty-first session, the Sub-Committee of Experts on the Transport of Dangerous Goods discussed some issues arising from the GHS work on combinations of physical hazards from document ST/SG/AC.10/C.3/2022/48-ST/SG/AC.10/C.4/2022/9 (Germany).
2. The Sub-Committee of Experts on the Transport of Dangerous Goods recommended that special provision 63 be aligned with the text of special provision 362.
3. As a follow-up to this recommendation, FEA circulated a discussion paper with a proposal for the informal working group on combinations of physical hazards. The proposal could facilitate discussions within this informal working group over certain notes in the GHS. However, it is not in the terms of reference of this informal working group to consider proposals to amend the Model Regulations.
4. Consequently, FEA decided to submit a proposal to the Sub-Committee of Experts on the Transport of Dangerous Goods and to inform the GHS Sub-Committee accordingly. The proposal has been prepared in cooperation with the Household and Commercial Products Association (HCPA).

Discussion

5. Although ‘Aerosol dispensers’ and ‘Chemicals under pressure’ are covered under the same chapter 2.3 of the GHS, and often have similar contents, they are distinct products that serve different markets. About 80 % of the aerosol dispensers sold annually are consumer products which is reflected by distinct approaches to their definition, classification schemes and container construction standards. In particular there are constraints on aerosol dispensers which means that they must not be refilled, are restricted to a maximum total capacity of 1 litre and a maximum internal pressure at 50 °C of 12 bar, 13.2 bar or 15 bar depending on the propellant gas which is used to dispense the product.
6. There are some substances classified as explosive and solid desensitized explosives used as minor components in aerosol dispensers (e.g. nitroglycerin spray for medical use or industrial nitrocellulose as binder in spray lacquers). FEA proposes that this is formally

managed by requiring that the classification as aerosol dispenser (contents as a whole) must not additionally meet the criteria for classification as an explosive or desensitized explosive.

7. Some oxidizing substances from Division 5.1 Oxidizing substances are used in aerosol dispensers. FEA proposes that flammable gases must not be used in combination with oxidising gases (mixtures of flammable gases and oxidizing gases – meeting the criteria of the respective hazard classes) as these could behave as chemically unstable gases.

8. Substances with hazard classifications other than explosive, desensitized explosive and oxidizing substances, i.e.: self-reactive substances; substances liable to spontaneous combustion; substances which, in contact with water, emit flammable gases; organic peroxides; infectious substances; and radioactive material (restricted for chemicals under pressure under special provision 362), have not been identified as ‘components’ of aerosol dispensers. However, FEA proposes aligning the requirements for aerosol dispensers with chemicals under pressure and that an aerosol dispenser (contents as a whole) must not additionally meet the classification criteria for these other hazard classes.

9. FEA wishes to highlight this main difference in approach with special provision 362 for chemicals under pressure, which currently prohibits the use of certain ‘components’ (substances) for transport, which is not appropriate for aerosol dispensers.

Proposal

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

"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) Where the contents other than the propellant of aerosol dispensers to be ejected are classified as Division 6.1 packing groups II or III or Class 8 packing groups II or III, the aerosol shall have a subsidiary hazard of Division 6.1 or Class 8;
- (f) Aerosols ~~with contents~~ **additionally** meeting the **assignment** criteria for **Division 6.1**, packing group I for toxicity or **Class 8, packing group I** corrosivity shall be prohibited from transport;
- (g) **Aerosols additionally meeting the classification criteria of Class 1, explosives; Class 3, liquid desensitized explosives; Division 4.1, self-reactive substances and solid desensitized explosives; Division 4.2, substances liable to spontaneous combustion; Division 4.3, substances which, in contact with water, emit flammable gases; Division 5.2, organic peroxides; Division 6.2, infectious substances; or Class 7, radioactive material, shall be prohibited from transports**
- (h) **Aerosols with a mixture of propellant gases simultaneously meeting the classification criteria of Division 2.1, flammable gases and Division 2.2, oxidizing gases, shall be prohibited from transport;**
- (i) 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 of combustion shall be determined by one of the following methods ASTM D 240, ISO/FDIS 13943: 1999 (E/F) 86.1 to 86.3 or NFPA 30B."
