

**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

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

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**ISSUES RELATING TO THE GLOBALLY HARMONIZED SYSTEM OF
CLASSIFICATION AND LABELLING OF CHEMICALS (GHS)**

Classification of Aerosols

Transmitted by the expert from the United Kingdom

Issue

1. At its 16th session (December 2008) the Sub-Committee agreed, following discussion of documents ST/SG/AC.10/C.4/2008/25 and UN/SCEGHS/16/INF.11, to include in Chapter 2.3 (Flammable Aerosols), an additional note to paragraph 2.3.2.1 clarifying that '*Flammable aerosols do not fall additionally within the scope of chapters 2.2 (flammable gases), 2.6 (flammable liquids) or 2.7 (flammable solids)*'.
2. INF.11 included an additional proposal to exempt flammable aerosols from the scope of chapter 2.5 (gases under pressure), however this was not agreed.
3. As a result this leaves the status of aerosols in relation to classification in Chapter 2.5 (Gases under Pressure) unclear. A proposal is made in this paper to clarify that aerosols do not fall within the scope of this chapter.

Explanation

4. The classification criteria for gases under pressure in GHS mirror those in the UN Model Regulations on Transport of Dangerous Goods. In the Model Regulations, Class 2, "gases", includes four groups for classifying gases under pressure - compressed gas, liquefied gas, refrigerated liquefied gas and dissolved gas. Aerosols are listed in 2.2.1.3 as a separate category, so would not be understood to fall within the four previous categories. They are also

subject to separate classification considerations on the grounds of the lower level of risk they present, given in Special Provision 63.

5. The GHS adopts the same four groups of gases under pressure in Chapter 2.5 as the Model Regulations. The definition of a gas under pressure in **2.5.1** of the GHS reads:

"Gases under pressure are gases which are contained in a receptacle at a pressure of 200kPa (gauge) or more, or which are liquefied or liquefied and refrigerated.

They comprise compressed gases, liquefied gases, dissolved gases and refrigerated liquefied gases. "

6. Subsequently **Table 2.5.1** gives classification criteria for the same four groups of gases: Compressed gas, Liquefied gas, Refrigerated liquefied gas, Dissolved gas:

Table 2.5.1: Criteria for gases under pressure

Group	Criteria
Compressed Gas	A gas which when packaged under pressure is entirely gaseous at -50°C; including all gases with a critical temperature \leq -50°C.
Liquefied Gas	A gas which when packaged under pressure, is partially liquid at temperatures above -50°C. A distinction is made between: (a) High pressure liquefied gas: a gas with a critical temperature between -50°C and +65°C; and (b) Low pressure liquefied gas: a gas with a critical temperature above +65°C.
Refrigerated liquefied gas	A gas which when packaged is made partially liquid because of its low temperature.
Dissolved gas	A gas which when packaged under pressure is dissolved in a liquid phase solvent.

7. No specific mention of aerosols is included in Chapter 2.5. However aerosols dispensers may contain gases at pressures of greater than 200kPa and therefore may fall within scope of the definition.

8. As a result the scope of chapter 2.5 is currently unclear. Aerosols could be interpreted as falling within scope on the grounds that they contain gases at sufficient pressures and may meet the criteria in Table 2.5.1. On the other hand, consistency with the Model Regulations dictates that aerosols form an additional group outside the four groups mentioned in chapter 2.5 and therefore do not fall within scope of the classification criteria.

9. If aerosols were also classified as gases under pressure then labelling requirements for GHS, for flammability alone (labelling for toxic, harmful or corrosive contents may also be required for certain aerosols) would be as follows:

For extremely flammable aerosols:

**Current and proposed
labelling**

Danger
Extremely flammable aerosol

→

**Labelling if aerosols are
gases under pressure**

Danger
Extremely flammable aerosol
Warning
Contains gas under
pressure; may explode if
heated

For flammable aerosols::



Warning
Flammable aerosol

→



Warning
Flammable aerosol
Contains gas under
pressure; may explode if
heated

For non-flammable aerosols:

None

→



Warning
Contains gas under
pressure; may explode if
heated

10. Generally, there seems little reason to require the gases under pressure pictogram for aerosols or the accompanying hazard statement. The primary function of this pictogram is to alert users to the risk of cryogenic burns or explosion when heated. However unlike other pressurized gases, which are supplied in canisters ranging from ~0.4l to 45l, aerosols have a maximum capacity of 1 litre and are packaged in such a way that they are much more likely to rupture than explode.

11. It is therefore proposed to amend the GHS text so that it is clear that aerosols are exempt from classification under the hazard class "gases under pressure" (Chapter 2.5), in line with the Model Regulations, and therefore not subject to the above labelling requirements.

Proposal

12. Add a note at the end of paragraph 2.5.1 Definition:

"NOTE: aerosols do not fall within the scope of this chapter. "

13. The expert from the United Kingdom welcomes comments before submitting a working paper.
