

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 Globally Harmonized
System of Classification and Labelling of Chemicals

22 November 2017

Thirty-fourth session

Geneva, 6-8 December 2017

Item 2 (h) of the provisional agenda

**Classification criteria and related hazard communication:
other issues**

Clarification on procedure by which the GHS (rev. 3) decision logics for flammable aerosols were converted to text language for the Canadian *Hazardous Products Regulations*

Transmitted by the expert from Canada

Introduction

1. At the thirty-third session, the European Chemical Industry Council (CEFIC) and the European Industrial Gases Association (EIGA) submitted informal document INF.12: "Proposal for a new classification for chemicals under pressure". This document proposed that aerosols and chemicals under pressure could be combined and addressed in the same chapter (2.3) of the GHS, which currently addresses Aerosols.
2. Paragraph 8 of informal document INF.12 highlighted the importance of the decision logic flow charts presented in sections 2.3.1.4.1 and 2.3.2.4.1 of this document. For aerosols and chemicals under pressure, it was suggested that the decision logic flow charts are required to determine the appropriate classification of a chemical, as the decision criteria are not completely described in the "Classification criteria" section. It was proposed that the words "are not part of the harmonized classification system" be deleted from sections 2.3.1.4 and 2.3.2.4 of this document, to emphasize the significance of the decision logic flow charts in clarifying the decision process.
3. During the discussion of informal document INF.12 at the thirty-third session, the expert from Canada informed the Sub-Committee that, in the Canadian *Hazardous Products Regulations* (HPR), no GHS decision logic flow charts were incorporated. It is not possible to include diagrams or flow charts in Canadian legislation and regulations.
4. Therefore, for hazard classes where the decision logics included information that was not completely described in the "Classification criteria" section of the same GHS chapter, the information presented in the decision logics was incorporated in the Regulations using words. For example, in the case of the Flammable Aerosols hazard class, the information presented in the decision logics for Flammable Aerosols in section 2.3.4.1 of the GHS (rev. 3) was converted to text language.

5. The expert from Canada was invited to share the relevant text of the Canadian regulations, so that the Sub-Committee may consider whether the same approach could be adopted for the proposal from CEFIC and EIGA on classification for chemicals under pressure.

6. Considering that other jurisdictions may similarly be required to translate GHS decision logic diagrams into text for the purpose of incorporating the GHS into their respective regulations, the experts from Canada encourage the UNSCEGHS to endeavour to describe all classification criteria in words. While diagrams may be used to supplement the understanding of the text, the diagrams should not replace the words. This approach would avoid the potential for inconsistencies in wording that could result in the scenario where each affected jurisdiction would be required to translate GHS decision logic diagrams into words. In this manner, we will be able to achieve greater consistency in the implementation of the GHS worldwide.

Flammable aerosols section of the Canadian *Hazardous Products Regulations*

7. For the Flammable Aerosols hazard class, Health Canada referred to the “Flammable Aerosols” chapter (2.3) of the GHS (rev. 3), which included decision logic flow charts for flammable aerosols, spray aerosols and foam aerosols (refer to Annex 1). The definitions, classification criteria, decision logics and guidance provided in chapter 2.3 of the GHS (rev. 3) were incorporated in Subpart 3 of Part 7 of the HPR using the following text:

“SUBPART 3

Flammable Aerosols

Definitions

7.3 The following definitions apply in this Subpart.

flammable aerosol means a product that contains one or more flammable components in an aerosol dispenser and that, when dispensed, is liable to ignite, but excludes a product that contains flammable components in an aerosol dispenser at a concentration less than or equal to 1.0% and that has a heat of combustion less than 20 kJ/g.

flammable component means a mixture or substance that is classified in a category or subcategory of a hazard class in Subpart 2, 6 or 7 of this Part.

foam aerosol means the content that is dispensed from an aerosol dispenser having a spray distance of less than 15 cm and that is in the form of a foam, mousse, gel or paste.

spray aerosol means the content that is dispensed from an aerosol dispenser and that is not a foam aerosol.

Classification in a category of the class

Categories

7.3.1 (1) A flammable aerosol is classified in a category of this hazard class in accordance with the following table:

TABLE

Item	Column 1 Category	Column 2 Criteria
1	Flammable Aerosols — Category 1	An aerosol dispenser that <ul style="list-style-type: none"> (a) contains $\geq 85.0\%$ flammable components and that generates an aerosol that has a heat of combustion ≥ 30 kJ/g; (b) generates a spray aerosol that has an ignition distance ≥ 75 cm, based on test results from the ignition distance test for spray aerosols performed in accordance with sub-section 31.4 of Part III of the Manual of Tests and Criteria; or (c) generates a foam aerosol that has, based on test results from the aerosol foam flammability test performed in accordance with sub-section 31.6 of Part III of the Manual of Tests and Criteria, either <ul style="list-style-type: none"> (i) a flame height ≥ 20 cm and a flame duration ≥ 2 s, or (ii) a flame height ≥ 4 cm and a flame duration ≥ 7 s
2	Flammable Aerosols — Category 2	An aerosol dispenser that generates <ul style="list-style-type: none"> (a) a spray aerosol that does not meet the criteria for the category “Flammable Aerosols — Category 1” and that has <ul style="list-style-type: none"> (i) a heat of combustion ≥ 20 kJ/g, (ii) an ignition distance ≥ 15 cm, based on test results from the ignition distance test for spray aerosols performed in accordance with sub-section 31.4 of Part III of the Manual of Tests and Criteria, (iii) a time equivalent ≤ 300 s/m³, based on test results from the enclosed space ignition test performed in accordance with sub-section 31.5 of Part III of the Manual of Tests and Criteria, or (iv) a deflagration density ≤ 300 g/m³, based on test results from the enclosed space ignition test performed in accordance with sub-section 31.5 of Part III of the Manual of Tests and Criteria; or (b) a foam aerosol that does not meet the criteria for the category “Flammable Aerosols — Category 1” and that has a flame height ≥ 4 cm and a flame duration ≥ 2 s, based on test results from the aerosol foam flammability test performed in accordance with sub-section 31.6 of Part III of the Manual of Tests and Criteria

Default category

(2) A product that contains flammable components in an aerosol dispenser for which there are no test results in accordance with subparagraph 2.1(a)(i) and referred to in subsection (1) must be classified in the category “Flammable Aerosols – Category 1”, unless the product contains flammable components at a concentration less than or equal to 1.0% and has a heat of combustion less than 20 kJ/g.”

8. Canada is currently considering aligning with the GHS (rev. 7) and will maintain this same approach to convert new or updated decision logic flow charts, as applicable.

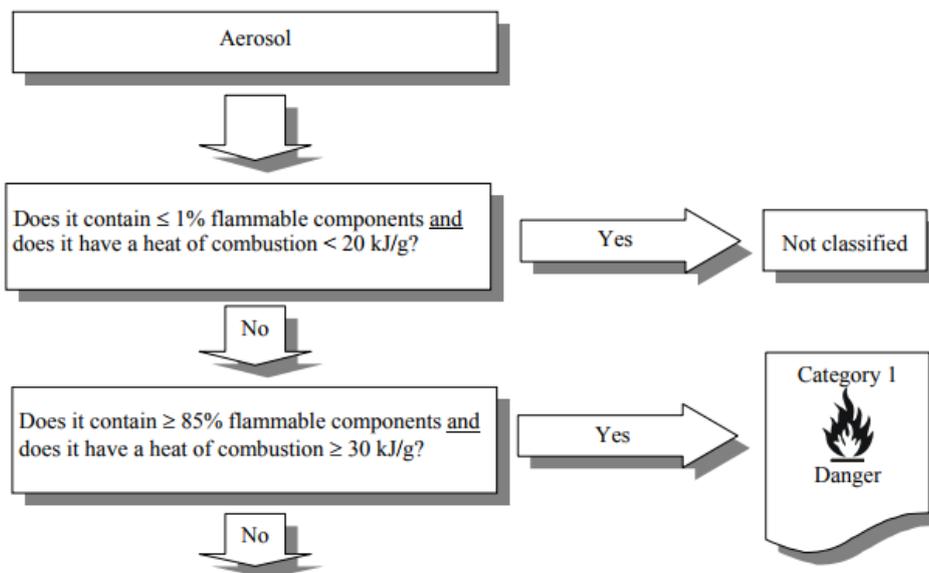
Annex

Decision logic flow charts for flammable aerosols, spray aerosols and foam aerosols, as specified in section 2.3.4.1 of the GHS (rev. 3)

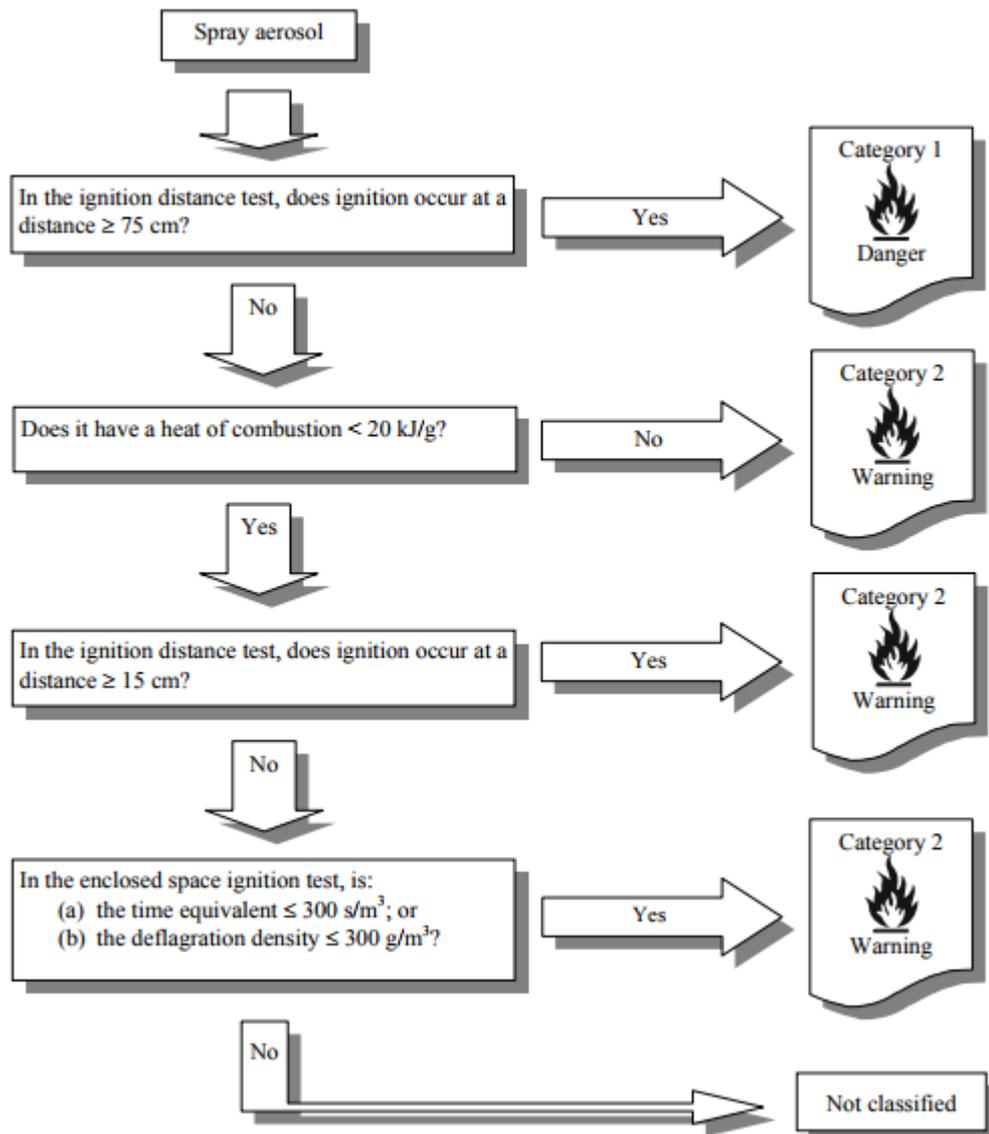
2.3.4.1 *Decision logic*

To classify a flammable aerosol, data on its flammable components, on its chemical heat of combustion and, if applicable, the results of the foam test (for foam aerosols) and of the ignition distance test and enclosed space test (for spray aerosols) are required. Classification should be made according to decision logics 2.3 (a) to 2.3 (c).

Decision logic 2.3 (a) for flammable aerosols



For spray aerosols, go to decision logic 2.3 (b);
For foam aerosols, go to decision logic 2.3 (c);

Decision logic 2.3 (b) for spray aerosols

Decision logic 2.3 (c) for foam aerosols

