UN/SCETDG/64/INF.57
UN/SCEGHS/46/INF.16

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

25 June 2024

Sub-Committee of Experts on the Transport of Dangerous Goods

Sixty-fourth session
Geneva, 24 June- 3 July 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-sixth session
Geneva, 3-5 July 2024
Item 2 (j) of the provisional agenda
Other matters

Proposal for clarification to the aerosol category 3 criteria

Transmitted by the expert from the United States of America

Introduction

1. At its thirty-fifth session the GHS Sub-Committee adopted amendments to convert the decision logics into text language[1]. This was based on the proposal as shown in INF.32 (thirty-fifth session) from (FEA) consolidating the amendments from the following documents:

(a) ST/SG/AC.10/C.4/2018/9 - (Canada, FEA) Proposed amendments to chapter 2.3 to convert decision logics into text language.

(b) ST/SG/AC.10/C.4/2018/11-ST/SG/AC.10/C.3/2018/60 - (FEA) Aerosols – Consequential amendments from proposals in ST/SG/AC.10/C.3/2018/5 - ST/SG/AC.10/C.4/2018/3 and ST/SG/AC.10/C.4/2018/9.

(c) INF.17 (GHS, 35th session) - NF.51 (TDG, 53rd session)- (Germany) Amendments to chemicals under pressure and aerosols

(d) INF.26 (GHS, 35th session)- (United States of America) Revisions to proposed amendments to Chapter 2.3 to convert decision logics into text language.

Issue

2. In 2020, the U.S. Occupational Safety and Health Administration (OSHA) published a proposal to align its Hazard Communication Standard with Revision 7 of the GHS. However, it also requested comment on whether OSHA should adopt the converted text for the aerosol hazard class adopted for Revision 8 of the GHS.

3. OSHA preliminarily concluded that the converted text was equivalent to its proposed text. However, the National institute for Occupational Safety and Health (NIOSH), the federal institute responsible for conducting research and making recommendations for the prevention of work-related injury and illness, questioned OSHA's conclusion.

4. NIOSH pointed out that a close reading of table 2.3.1 of the GHS Revision 8 allows certain aerosols with a heat of combustion ≥ 20 kilojoules per gram (kJ/g) to be classified in

[1] ***Note by the secretariat*** : *Refer to the report of the GHS Sub-Committee on its thirty-fifth session (ST/SG/AC.10/C.4/70, paragraph 44 and annex I).*

Category 3, while in category 2 all aerosols that dispense a spray requires aerosols with a heat of combustion ≥ 20 kJ/g to be classified in Category 1 or 2.

5. The U.S. did a retrospective review of the converted text and the long-standing decision logics. The U.S. agrees that for aerosols that dispense a spray, in the decision logic, if an aerosol that dispenses a spray has a heat of combustion is ≥ 20 kJ/g then it is classified as a category 2 flammable aerosol. Only aerosols that dispense a spray with a heat of combustion < 20kJ/g are then subject to ignition distance test and enclosed space ignition test criteria.

6. This is also captured in the converted text criteria for Category 2 where criteria (1)(a) specifically states as a condition for category 2 that any aerosol that dispenses a spray with "a heat of combustion of > 20 kJ/g" is considered a Category 2 flammable aerosol.

Proposal

7. The U.S. believes that at the very least there is an inconsistency between Category 2 criteria and Category 3 criteria which could create confusion for the classifier. Therefore, the U.S. recommends better delineating the criteria in Category 3 to differentiate between aerosols that dispense a spray and aerosols that dispense a foam similar to criteria in Category 2.

Action requested

8. The U.S. would like the Sub-Committee to consider and provide feedback on the proposed clarification to the converted text for Category 3 in the annex to this document. Existing (unchanged) text is shown in black, deleted text in ~~blue and strikethrough~~ and new text in red and underlined. The U.S. will develop a working document for the forty-seventh session based on this informal document and will incorporate feedback from this (forty-sixth) session.

Annex

Table 2.3.1: Criteria for aerosols

Category	Criteria
1	1) Any aerosol that contains ≥ 85% flammable components (by mass) and has a heat of combustion of ≥30 kJ/g; or 2) Any aerosol that dispenses a spray that, in the ignition distance test, has an ignition distance of ≥75 cm; or 3) Any aerosol that dispenses a foam that, in the foam flammability test, has a) a flame height of ≥ 20 cm and a flame duration of ≥ 2 s, or b) a flame height of ≥ 4 cm and a flame duration of ≥ 7 s
2	1) Any aerosol that dispenses a spray that, based on the results of the ignition distance test, does not meet the criteria for Category 1, and which has (a) a heat of combustion of ≥ 20 kJ/g, or (b) a heat of combustion of < 20 kJ/g along with an ignition distance of ≥ 15 cm, or (c) a heat of combustion of < 20 kJ/g and an ignition distance of < 15 cm along with either, in the enclosed space ignition test, - a time equivalent of ≤ 300 s/m^3, or - a deflagration density of ≤ 300 g/m^3; or 2) Any aerosol that dispenses a foam that, based on the results of the aerosol foam flammability test, does not meet the criteria for Category 1, and which has a flame height of ≥ 4 cm and a flame duration of ≥ 2 s.
3	1) Any aerosol that contains ≤ 1% flammable components (by mass) and that has a heat of combustion < 20 kJ/g; or 2) Any aerosol that dispenses a spray that contains > 1% (by mass) flammable components ~~or~~ and which has a heat of combustion of < ≥ 20 kJ/g but which, based on the results of the ignition distance test~~,~~ or the enclosed space ignition test, ~~or the aerosol foam flammability test,~~ does not meet the criteria for Category 1 or Category 2. 3) Any aerosol that dispenses a foam but which, based on the results of the aerosol foam flammability test, does not meet the criteria of Category 1 or Category 2.