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| **UN/SCEGHS/36/INF.39** |
| **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 5 December 2018**  **Thirty-sixth session**  Geneva, 5-7 December 2018  Item 3 (a) of the provisional agenda  **Classification criteria and related hazard communication: work of the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG) on matters of interest to the GHS Sub-Committee** |

Comments on ST/SG/AC.10/C.4/2018/25 - Proposal to classify chemicals under pressure within Chapter 2.3 of the GHS and in SP362 of the Model Regulations

Transmitted by the expert from the United States of America

1. In order to facilitate a solution for this biennium the US proposes to modify the new section 2.3.2 in ST/SG/AC.10/C.4/2018/25 to read as follows:

“**2.3.2 Chemicals under pressure**

**2.3.2.1 *Definition***

*Chemicals under pressure* are liquid or solids (e.g., pastes or powders), pressurized with a propellant which meets the definition of a gas, in pressure receptacles other than aerosol dispensers, at a pressure of 200 kPa (gauge) or more at 20 °C. The gas can be a compressed, liquefied or dissolved gas under pressure.

**2.3.2.2 *Classification criteria***

2.3.2.2.1 Chemicals under pressure are classified in one of three categories of this hazard class, according to Table 2.3.2, depending on their content of flammable components and their heat of combustion (see 2.3.2.4.1).

2.3.2.2.2 Flammable components are components which are classified as flammable according to the GHS criteria, i.e.:

– Flammable gases (see Chapter 2.2);

– Flammable liquids (see Chapter 2.6);

– Flammable solids (see Chapter 2.7).

**Table 2.3.2 Criteria for chemicals under pressure**

|  |  |
| --- | --- |
| **Category** | **Criteria** |
| **1** | Any chemical under pressure that  a) contains ≥ 85% flammable components (by mass) and  b) has a heat of combustion of ≥ 20 kJ/g. |
| **2** | Any chemical under pressure that  a) contains > 1 % flammable components (by mass) and  b) has a heat of combustion < 20 kJ/g  or that  a) contains < 85 % flammable components (by mass) and  b) has a heat of combustion ≥ 20 kJ/g. |
| **3** | Any chemical under pressure that  a) contains ≤ 1% flammable components (by mass) and  b) has a heat of combustion of < 20 kJ/g." |

***NOTE 1:*** *The flammable components in a chemical under pressure do not include pyrophoric, self-heating or water-reactive, substances and mixtures because such components are not allowed in chemicals under pressure according to the Recommendations on the Transport of Dangerous Goods, Model Regulations.*

***NOTE 2:*** *Chemicals under pressure do not fall additionally within the scope of section 2.3.1 (aerosols), chapters 2.2 (flammable gases), 2.5 (gases under pressure), 2.6 (flammable liquids) and 2.7 (flammable solids). Depending on their contents, chemicals under pressure may however fall within the scope of other hazard classes, including their labelling elements.*

**2.3.2.3  *Hazard communication***

General and specific considerations concerning labelling requirements are provided in *Hazard communication: Labelling* (Chapter 1.4). Annex 1 contains summary tables about classification and labelling. Annex 3 contains examples of precautionary statements and pictograms which can be used where allowed by the competent authority.

**Table 2.3.2.1: Label elements for chemicals under pressure**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Category 1** | **Category 2** | **Category 3** |
| **Symbol** | Flame  Gas cylinder | Flame  Gas cylinder | Gas cylinder |
| **Signal word** | Danger | Warning | Warning |
| **Hazard statement** | Extremely flammable  chemical under pressure: May explode if heated | Flammable  chemical under pressure: May explode if heated | Chemical under pressure: May explode if heated |

**2.3.2.4 *Decision logic***

The decision logic 2.3.2 has been provided as additional guidance. It is strongly recommended that the person responsible for classification studies the criteria before and during use of the decision logic.

2.3.2.4.1 *Decision logic*

To classify a mixture as chemicals under pressure, data on its pressure, its flammable components, and on its specific heat of combustion are required. Classification should be made according to decision logic 2.3.2.

***Decision logic 2.3.2***

No

Does the mixture contain liquids and/or solids and

is the pressure in the receptacle higher than 200 kPa at 20 °C?

Mixture containing liquids or solids (i.e., pastes or powders) and gases, in pressure receptacles other than an aerosol dispenser

Not classified   
as chemical under pressure\*

No

Category 3



Warning

Does the mixture contain ≤1% flammable components   
(by mass) and does it have a heat of combustion < 20 kJ/g?

Does the mixture contain ≥ 85% flammable components (by mass) and does it have a heat of combustion ≥ 20 kJ/g?

Yes

Yes

No

Category 1

 

Danger

Yes

Category 2

 

Warning

\*should be considered for classification in other physical hazard classes as appropriate”.

2.3.4.2 (as amended in ST/SG/AC.10/C.4/70, Annex I) is renumbered as 2.3.3.

2. In the consequential amendments, the United States of America also propose to add the following:

Annex 3, Section 2, Table A3.2.3

Insert the following rows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Code (1)** | **Response precautionary statement (2)** | **Hazard class  (3)** | **Hazard category**  **(4)** | **Conditions for use  (5)** |
| P381 | In case of leakage, eliminate all ignition sources. | Chemicals under pressure (chapter 2.3) | 1,2 |  |
| P376 | Stop leak if safe to do so. | Chemicals under pressure (chapter 2.3) | 1, 2, 3 |  |
| P370 | In case of fire: | Chemicals under pressure (chapter 2.3) | 1,2 |  |
| P378 | Use ... to extinguish. | Chemicals under pressure (chapter 2.3) | 1,2 |  |
| P370  +  P378 | In case of fire, use …. to extinguish. | Chemicals under pressure (chapter 2.3) | 1, 2 | Manufacturer/supplier or the competent authority to specify appropriate media. |

Annex 3, Section 2, Table A3.2.4

Insert the following rows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Code   (1)** | **Storage precautionary statement   (2)** | **Hazard class   (3)** | **Hazard  Category  (4)** | **Conditions for use   (5)** |
| P403 | Store in a well-ventilated place. | Chemicals under pressure (chapter 2.3) | 1, 2, 3 |  |
| P410 | Protect from sunlight. | Chemicals under pressure (chapter 2.3) | 1, 2, 3 | *May be omitted for chemicals under pressure filled in transportable cylinders in accordance with packing instruction P200 of the UN*  *Recommendations on the Transport of Dangerous Goods, Model Regulations, unless those chemicals under pressure are subject to (slow)*  *decomposition or polymerization, or the competent authority provides otherwise.* |
| [P412 | Do not expose to temperatures exceeding 50 °C/ 122 °F. | Chemicals under pressure (chapter 2.3) | 1, 2, 3 | *P412 may be omitted for chemicals under pressure filled in transportable cylinders in accordance with packing instruction P200 of the UN*  *Recommendations on the Transport of Dangerous Goods, Model Regulations, unless those chemicals under pressure are subject to (slow)*  *decomposition or polymerization, or the competent authority provides otherwise.]* |
| P410  +  P403 | Protect from sunlight. Store in a well-ventilated place. | Chemicals under pressure (chapter 2.3) | 1, 2, 3 | *P410 may be omitted for chemicals under pressure filled in transportable cylinders in accordance with packing instruction P200 of the UN*  *Recommendations on the Transport of Dangerous Goods, Model Regulations, unless those chemicals under pressure are subject to (slow)*  *decomposition or polymerization, or the competent authority provides otherwise.* |