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| **UN/SCETDG/50/INF.15**  **UN/SCEGHS/32/INF.11** |
| **Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals** |

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| **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** |
| **Fiftieth session** | **Thirty-second session** |
| Geneva, 28 – 6 December 2016  Item 7 (c) of the provisional agenda  **Issues relating to the Globally Harmonized System of Classification and Labelling of Chemicals: classification criteria for flammable gases** | Geneva, 7– 9 (morning) December 2016  Item 2 (b) of the provisional agenda  **Classification criteria and related hazard communication: work of the TDG Sub-Committee on matters of interest to the GHS Sub-Committee** |

Comments on document ST/SG/AC.10/C.3/2016/58-ST/SG/AC.10/C.4/2016/12

Note by the secretariat

This document contains proposals for editorial corrections to the proposal in document in ST/SG/AC.10/C.3/2016/58−ST/SG/AC.10/C.4/2016/12 for consideration of both sub-committees.

Proposed editorial corrections

Table 2.2.1

Place the cells with letters A and B (currently under the heading “Criteria”) under the heading “Category”.

*Justification:*

*Letters A and B are not criteria but two different sub-categories within the hazard category 1A chemically unstable gases. Keeping them under the heading “criteria” may create confusion with letters (a) and (b) used to designate different criteria applicable to the classification of flammable gases (categories 1A and 1B).*

*This correction will also align table 2.2.1 with the layout of table A1.2 as proposed in document ST/SG/AC.10/C.3/2016/58-ST/SG/AC.10/C.4/2016/12, where A and B appear under the heading “Hazard category”.*

Proposal

Replace table 2.2.1

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | | **Criteria** | |
| **1A** | **Flammable gas** | Gases, which at 20 °C and a standard pressure of 101.3 kPa:  (a) are ignitable when in a mixture of 13% or less by volume in air; or  (b) have a flammable range with air of at least 12 percentage points regardless of the lower flammability limit.  unless data shows them to meet the criteria of category 1B | |
| **Pyrophoric gas** | Flammable gases that ignite spontaneously in air at a temperature of 54 ºC or below | |
| **Chemically**  **unstable gas** | A | Flammable gases which are chemically unstable at 20°C and a standard pressure of 101.3 kPa |
| B | Flammable gases which are chemically unstable at a temperature greater than 20°C and/or a pressure greater than 101.3 kPa |
| **1B** | **Flammable gas** | Gases which meet the flammability criteria for Category 1A, but which are not pyrophoric, nor chemically unstable, and which have at least either:   1. A lower flammability limit of more than 6% by volume in air; or 2. A fundamental burning velocity of less than 10 cm/s; | |
| 2 | **Flammable gas** | Gases, other than those of Category 1A or 1B, which, at 20 °C and a standard pressure of 101.3 kPa, have a flammable range while mixed in air. | |

With the following (*changes are highlighted*)

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | | | **Criteria** |
| **1A** | **Flammable gas** | | Gases, which at 20 °C and a standard pressure of 101.3 kPa:  (a) are ignitable when in a mixture of 13% or less by volume in air; or  (b) have a flammable range with air of at least 12 percentage points regardless of the lower flammability limit.  unless data shows them to meet the criteria of category 1B |
| **Pyrophoric gas** | | Flammable gases that ignite spontaneously in air at a temperature of 54 ºC or below |
| **Chemically unstable gas** | **A** | Flammable gases which are chemically unstable at 20°C and a standard pressure of 101.3 kPa |
| **B** | Flammable gases which are chemically unstable at a temperature greater than 20°C and/or a pressure greater than 101.3 kPa |
| **1B** | **Flammable gas** | | Gases which meet the flammability criteria for Category 1A, but which are not pyrophoric, nor chemically unstable, and which have at least either:  (a) A lower flammability limit of more than 6% by volume in air; or  (c) A fundamental burning velocity of less than 10 cm/s; |
| 2 | **Flammable gas** | | Gases, other than those of Category 1A or 1B, which, at 20 °C and a standard pressure of 101.3 kPa, have a flammable range while mixed in air. |

Decision logic 2.2

Split the decision logic so that it fits within the margins of the document and avoid overlapping of text boxes.

Insert the missing reference to footnote 1 in the decision logic, at the end of the question “Does the flammable gas or gas mixture ignite spontaneously in air at a temperature of 54°C or below?”

Consider the editorial amendments to the text of some of the decision logic *(this will allow gaining some extra space)*.

Proposal

Replace:With the following, as amended *(proposed changes are indicated)*: Footnote [[1]](#footnote-1)

Category 1A

Danger



Not classified as a flammable gas



Category 1A

Chemically Unstable Gas B

Danger

Category 2

*No Symbol* Warning



Category 1A

Pyrophoric Gas and

Chemically Unstable Gas A

Danger



Category 1A

Pyrophoric Gas and

Chemically Unstable Gas B

Danger



Category 1A

Pyrophoric Gas

Danger



Category 1A

Chemically Unstable Gas A

Danger

Category 1B

Danger



No

Yes

No

Yes

Yes

Yes

No or Unknown

The substance/mixture is a gas

Does it have a flammable range with air at 20°C

and a standard pressure of 101.3 kPa?

Does the flammable gas or gas mixture ignite

spontaneously in air at a temperature of 54 ºC or below?

Is it chemically unstable at 20 °C temperature and a

standard pressure of 101.3 kPa?

Is it chemically unstable at a temperature greater than

20 °C and/or a pressure greater than 101.3 kPa?

Is it chemically unstable at 20 °C temperature and a

standard pressure of 101.3 kPa?

Is it chemically unstable at a temperature greater than

20 °C and/or a pressure greater than 101.3 kPa?

At 20 °C and a standard pressure of 101.3 kPa, does it:

(a) ignite when in a mixture of 13% or less by volume in air?; or

(b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit?

Does it have a LFL>6% by volume in air, and/or

does it have a FBV < 10 cm /s?

Yes

No

Yes

No

No

No

No

Yes

Yes

*1 In the absence of data on its pyrophoricity, a flammable gas mixture should be classified as a pyrophoric gas if it contains more than 1% (by volume) of pyrophoric component(s).*

The substance/mixture is a gas

Not classified   
as a flammable gas

No

Does it have a flammable range with air at 20°C and   
a standard pressure of 101.3 kPa ?

Yes

No

Does it ignite spontaneously in air at 54 C or below? 1

Category 1A

Pyrophoric gas and chemically unstable gas A  
**signs04n**

Danger

Yes

Is it chemically unstable at 20°C and   
a standard pressure of 101.3 kPa ?

Yes

No

Category 1A

Pyrophoric gas and chemically unstable gas B  
**signs04n**

Danger

Is it chemically unstable at a temperature greater than 20°C and/or a pressure greater than 101.3 kPa ?

Yes

No

Category 1A

Pyrophoric gas   
**signs04n**

Danger

Category 1A

Chemically unstable gas A  
**signs04n**

Danger

Is it chemically unstable at 20°C and a standard pressure of 101.3 kPa ?

Yes

No

Is it chemically unstable at a temperature greater than 20°C and/or a pressure greater than101.3 kPa ?

Yes

Category 1A

Chemically unstable gas B  
signs04n

Danger

No

Yes

No

At 20 °C and a standard pressure of 101.3 kPa, does it:

(a) ignite when in a mixture of 13% or less by volume in air?; or

(b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit?

No

Category 2   
*No symbol*

Warning

Category 1A

signs04n

Danger

Yes

Does it have a LFL > 6% by volume in air, and/or   
does it have a FBV < 10 cm/s ?

No or unknown

Category 1B

signs04n

Danger

Table A1.2

Under the heading “Hazard category” the use of the word “category” before 1A, 1B and 2 is redundant

Proposal

Under the heading “Hazard category”, replace “category 1A”, “category 1B” and “category 2” with “1A”, “1B” and “2” as shown below (changes are indicated).

| **Classification** | | | |
| --- | --- | --- | --- |
| **Hazard class** | **Hazard category** | | |
|
|  |
| **Flammable gases** | **1A** | **Flammable gas** | |
| **Pyrophoric gas** | |
| **Chemically unstable gas** | **A** |
| **B** |
| **1B** | | |
| **2** | | |

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

1. *In the absence of data on its pyrophoricity, a flammable gas mixture should be classified as a pyrophoric gas if it contains more than 1% (by volume) of pyrophoric component(s).*  [↑](#footnote-ref-1)