

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

29 November 2019

**Sub-Committee of Experts on the
Transport of Dangerous Goods**

Fifty-sixth session

Geneva, 4-10 December 2019

Item 10 (e) of the provisional agenda

**Issues relating to the Globally Harmonized System
of Classification and Labelling of Chemicals:
simultaneous classification in physical hazards and
precedence of hazards**

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

Thirty-eight session

Geneva, 11-13 December 2019

Item 2 (g) of the provisional agenda

**Classification criteria and related hazard
communication: simultaneous classification in physical
hazard classes and precedence of hazards**

**Informal Working Group on combinations of physical
hazards: Status of work and agenda for the working group
meeting on 11 December 2019**

**Transmitted by the expert from Germany on behalf of the informal
working group**

1. This informal document provides information on the status of work of the Informal Working Group and an agenda for the meeting on 11 December 2019.
2. The report of last meeting of the group in the margins of the July session was made available as informal document INF.27/Rev.1 (37th session).
3. Input by the experts with their assessment on possible and impossible combinations for individual physical hazard classes will be collected in a single Excel-file. This file will be used as a "living document" which is supposed to be amended constantly with the input into the group and the findings of the group.
4. Based on the discussions during the last meeting, a draft thought starter on Task 1.3 was prepared and distributed in the group (see the Annex to this document).
5. All experts are invited to the informal meeting of the group on December 11, 2019. Experts who are interested to be put on the distribution list of the group are requested to contact cordula.wilrich(at)bam.de.

Draft agenda for the meeting on 11 December 2019

Meeting time: 11 December 2019, 10:00 to 10:45, Meeting place: Room IV

1. Welcome and adoption of the agenda
2. Discussion of the thought starter on principles for Task 1.3 (Annex to this document)
3. Way forward

Annex

IWG on combinations of physical hazards: Thought starter on Task 1.3 Draft thought starter on task 1.3

Task 1.3 (according to ST/SG/AC.10/C.3/2018/93–ST/SG/AC.10/C.4/2018/21 as amended in ST/SG/AC.10/C.4/72, paragraph 74):

“Work out further criteria/principles that can be used to analyse the remaining combinations regarding simultaneous assignment, taking into account e.g. safety of testing personnel, limitations with regard to conduct and interpretation of test results, redundancy of hazard communication etc.”

Criteria

1. Safety of testing personnel

Safety of testing personnel has to be considered always (as part of the "normal" workers protection). The question therefore is whether testing might become more hazardous (than expected) if substances with certain properties are tested or whether testing might even become so hazardous that it rather should be recommended to not perform them in certain cases.

Example: Testing for corrosive to metals requires heating of the test substance to 55 °C for 1 week. This should not be done with energetic/unstable substances such as self-reactives (which are thermally unstable) because unforeseen violent reactions might result.

Should such tests be required nevertheless, at least in those cases where the properties of the substance are known insofar that the test can be performed safely? And if so, should it be required to obtain or generate such data?

2. Classification tests cannot be carried out

Example 1: Liquids cannot be tested in Test N.4 for self-heating substances and mixtures because that test foresees heating of the test sample in a mesh container.

Example 2: Pyrophoric liquids cannot be tested for their flash point because ignition occurs (more or less) immediately anyway.

Such combinations cannot be classified based on testing.

3. Classification tests cannot be interpreted correctly

Example: If a flammable solid is tested in Test O.1 or O.3 for oxidizing solids, it is not known whether the burning time (or rate) is associated to the burning of the test substance/flammable solid (false-positive result) or to the reaction of the test substance/flammable solid with the cellulose (or both).

Such combinations would always bear the risk of incorrect classifications.

4. Redundancy of hazard communication

Are there combinations where the labelling is redundant? This question might be answered differently and probably would have to be considered carefully for any combination for which this principle might be taken into account.

5. Hazard communication would result in a "wrong" message

Example: Some explosives burn normally when ignited and might have a burning rate which meets the criterion for classification as flammable solids. However, other explosives do not burn normally but would rather react violently so that a burning rate cannot be determined.

As a result, some explosives might be classified additionally as flammable solids whereas others (namely the more hazardous ones) would not be classified additionally as flammable solids. It has to be discussed, in how far this is acceptable or would be perceived as giving the "wrong" message.

Further considerations

Maybe the above criteria would not work as stand-alone criteria to preclude certain combinations of physical hazards. They probably should rather be considered together and weighed carefully in order to conclude whether a certain combination of physical hazard classes should generally be precluded or not.

If a criterion related to testing is applied, it should also be considered whether other possibilities for classification exist, such as screening tests or experience.

Before a certain combination is precluded it should also be considered whether that preclusion is valid only for "one direction": The above example of explosive and flammable solid would work only from the direction of the explosive whereas the conclusion that a substance is not an explosive simply because it has a burning rate meeting the criterion for classification as flammable solid should absolutely be avoided.

Possible path forward

It is suggested to investigate the more "technical" criteria (Point 1 to 3 above) first and to assess them with regard to their usefulness and possible application.
