**United Nations** 





Distr.: General 21 July 2016

Original: English

## **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

# **Report of the Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals on its thirty-first session**

held in Geneva from 5 to 8 July 2016

# Contents

			Par	agraphs	Page
I.	Atte	endar	1ce	1–6	3
II.	Ado	optio	n of the agenda (agenda item 1)	7	3
III.	Joint work with the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee) (agenda item 2)				3
IV.	Cla	ssific	ation criteria and related hazard communication (agenda item 3)	9–27	4
	А.	Wo	ork of the TDG Sub-Committee on matters of interest to the GHS Sub-Committee	9–14	4
		1.	Clarification of the scope of the GHS as regards physical hazards	9–12	4
		2.	Corrosivity criteria (revision of Chapter 2.8 of the United Nations Recommendations on the Transport of Dangerous Goods, Model Regulations)	13	4
		3.	Clarification relating to the test method for readily combustible solids (Test N.I	) 14	4
	B.	Du	st explosion hazards	15	5
	C.	Pra	ctical classification issues	16–19	5
		1.	Work of the informal correspondence group on practical classification issues	16–18	5
		2.	Revision of the hazard category "effects on or via lactation"	19	5
	D.	Asj	piration hazard: viscosity criterion for classification of mixtures	20-21	5
	E.	Na	nomaterials	22	6
	F.	Mi	scellaneous	23–27	6
		1.	Clarification of the classification criteria for desensitized explosives in the GHS	<b>S</b> 23	6

		2. Proposal for a new chapter for chemicals under pressure	24-25	6	
		3. Use of non-animal testing methods for the classification of health hazards	26	6	
		4. Revision of Chapter 2.1 of the GHS	27	6	
V.	Haz	ard communication issues (agenda item 4)	28-35	7	
	A.	Labelling of small packagings	28	7	
	В.	Improvement of annexes 1 to 3 and further rationalization of precautionary statements	29–33	7	
		1. Amendment to P280 regarding hearing protection and other personal protective equipment	29	7	
		2. Precautionary statements on medical advice or attention	30-32	7	
		3. Work of the informal correspondence group on improvement of annexes 1 to 3	33	7	
	C.	Miscellaneous	34–35	8	
		Hazard communication for flammable gases	34–35	8	
VI.	Imp	lementation of the GHS (agenda item 5)	36–44	8	
	A.	Development of a list of chemicals classified in accordance with the GHS	36–37	8	
	B.	Reports on the status of implementation	38–42	9	
		1. Canada	38	9	
		2. European Union	39–41	10	
		3. Argentina	42	10	
	C.	Cooperation with other bodies or international organizations	43	10	
	D.	Miscellaneous	44	10	
VII.	Dev	45	10		
VIII.	Capacity building (agenda item 7)				
IX.	Other business (agenda item 8)				
Х.	Ado	50	11		

## Annexes

I.	Draft amendments to the sixth revised edition of the GHS (ST/SG/AC.10/30/Rev.6)			
II.	Report of the TDG and GHS sub-committees on their second joint session			
	A. Test and criteria for oxidizing liquids (Test O.2) and oxidizing solids (Test O.3)			
	В.	Classification of flammable gases	14	
	C.	Revision of Chapter 2.1 of the GHS	15	
	D.	Use of the Manual of Tests and Criteria in the context of the GHS	15	
	E.	Information regarding transport in bulk in section 14.7 of the Safety Data Sheet	16	

## I. Attendance

1. The Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals held its thirty-first session from 5 to 8 July 2016, with Ms. Maureen Ruskin (United States of America) as Chairperson and Mr. Robin Foster (United Kingdom) as Vice-Chairperson.

2. Experts from the following countries took part in the session: Argentina, Australia, Belgium, Brazil, Canada, China, Finland, France, Germany, Italy, Japan, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Russian Federation, South Africa, Sweden, United Kingdom and United States of America.

3. Under rule 72 of the rules of procedure of the Economic and Social Council, an observer from Switzerland also took part.

4. Representatives of the International Maritime Organization (IMO) and the United Nations Institute for Training and Research (UNITAR) were also present.

5. The following intergovernmental organization was also represented: European Union.

6. Representatives of the following non-governmental organizations took part in the discussion of items of concern to their organizations: American Cleaning Institute (ACI); Australian Explosives Industry and Safety Group Incorporated (AEISG); Compressed Gas Association (CGA); Croplife International; Dangerous Goods Advisory Council (DGAC); European Chemical Industry Council (CEFIC); European Industrial Gases Association (EIGA); Federation of European Aerosol Associations (FEA); Grain and Feed Trade Association (GAFTA); International Association for Soaps, Detergents and Maintenance Products (AISE); International Bulk Terminals Association (IBTA); International Council of Chemical Associations (ICCA); International Council of Mining and Metals (ICMM); International Dangerous Goods and Containers Association (IDGCA); International Paint and Printing Ink Council (IPPIC); International Petroleum Industry Environmental Conservation Association (IPIECA); Institute of Makers of Explosives (IME); Responsible Packaging Management Association of Southern Africa (RPMASA); and Sporting Arms and Ammunition Manufacturers' Institute (SAAMI).

## **II.** Adoption of the agenda (agenda item 1)

Documents:	ST/SG/AC.10/C.4/61 and Add.1 (Secretariat)			
Informal documents:	INF.1, INF.2 and INF.6 (Secretariat)			

7. The Sub-Committee adopted the provisional agenda prepared by the secretariat after amending it to take account of informal documents INF.1 to INF.29.

# III. Joint work with the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee) (agenda item 2)

8. All documents under this agenda item were considered during the second joint session of the TDG and the GHS sub-committees held on the afternoon of 5 July. The report of the joint session is reproduced in annex II.

# IV. Classification criteria and related hazard communication (agenda item 3)

# A. Work of the TDG Sub-Committee on matters of interest to the GHS Sub-Committee

#### 1. Clarification on the scope of the GHS as regards physical hazards

Informal document: INF.22 (Chairman of the Working group on Explosives of the TDG Sub-Committee)

9. It was discussed that for some physical hazards, classification at some stages of the life cycle of a chemical may depend not only on intrinsic properties but also on other parameters, such as quantity, configuration, packaging and confinement. Since these parameters may be subject to change, the related classification and hazard communication may also vary.

10. However, there were reservations about introducing a very general statement to limit the scope for physical hazards in Part 1 of the GHS. The Sub-Committee felt that the issues raised were not relevant to all hazard classes and therefore considered that the need for scope limitations could be better addressed on a case-by-case basis.

11. The Sub-Committee expressed support for identifying specific issues, e.g. cases when classification and testing conditions are tied to packaging, so that guidance can be developed to address them.

12. Proposals on this issue should be submitted for consideration by the TDG and the GHS sub-committees.

# 2. Corrosivity criteria (revision of Chapter 2.8 of the United Nations Recommendations on the Transport of Dangerous Goods, Model Regulations)

Informal document: INF.25, section 11 (Secretariat)

13. The Sub-Committee noted with satisfaction that the TDG Sub-Committee had tentatively agreed on the proposal for revision of Chapter 2.8 of the Model Regulations in informal document INF.65/Corr.1. The proposal introduces alternative methods for classification and packing group assignment, in line with the GHS additivity method and bridging principles, and achieves better alignment of corrosivity definitions between the Model Regulations and the GHS. It was noted that the TDG Sub-Committee is expected to confirm the adoption of the proposed texts at its December 2016 session for inclusion in the 20th revised edition of the United Nations Recommendations on the Transport of Dangerous Goods, Model Regulations.

#### 3. Clarification relating to the test method for readily combustible solids (Test N.1)

Informal document: INF.25, section 10 (Secretariat)

14. The Sub-Committee noted that the TDG Sub-Committee had provisionally adopted a clarification to the test method for readily combustible solids (Test N.1) in section 33.2 of the Manual of Tests and Criteria, pending evaluation of some of the proposed text (e.g. length of the sample). Confirmation of the decision is expected at its December 2016 session. In case of adoption of the proposed amendments to paragraph 33.2.1.4.4.1 of the Manual of Tests and Criteria, paragraph 2.7.2.2 of the GHS would have to be amended accordingly.

## **B.** Dust explosion hazards

Informal document: INF.15 (United States of America)

15. The Sub-Committee noted that the informal correspondence group was currently working on the development of an annex addressing dust explosion hazards, to be included in the GHS as guidance. Subject to the progress achieved in the forthcoming months, the group will consider whether the work can be completed during this biennium or whether it needs to be carried over to the early part of the next biennium.

### C. Practical classification issues

#### 1. Work of the informal correspondence group on practical classification issues

Document:ST/SG/AC.10/C.4/2016/9 (United States of America)Informal document:INF.26 (United States of America)

16. The Sub-Committee adopted the proposals in document ST/SG/AC.10/C.4/2016/9 as amended by informal document INF.26 with one additional modification to paragraph 3.1.2.3 (see annex I).

17. The expert from the United States of America indicated that the group had also addressed item (c) of its programme of work<sup>1</sup> and had concluded that it was not necessary to include a definition for the term "Substances of unknown or variable compositions, complex reaction products and biological materials (UVCBs)" in the GHS. The representative of IPIECA may wish to consider coming back to this issue to seek clarity on consistent use of the terms "complex substance" and "complex mixture" in the GHS.

18. The Sub-Committee noted that the informal correspondence group intended to address item (i) of its programme of work before the December 2016 session.

#### 2. Revision of the hazard category "effects on or via lactation"

Informal document: INF.8 (United States of America)

19. Most of the experts who spoke were not convinced of the need for a new hazard statement and raised concerns about the availability of data allowing differentiation for effects *on* or *via* lactation. However, as there was no opposition voiced to the parts of the proposal concerning improvement to the criteria, the Sub-Committee agreed to entrust consideration of this matter to the informal correspondence group on practical classification issues, on the understanding that a new hazard statement should only be suggested if it was considered to bring added value.

## D. Aspiration hazard: viscosity criterion for classification of mixtures

20. The Sub-Committee noted that IPPIC intended to submit a proposal for the next session on this matter.

21. The representative of IMO invited experts interested in participating in the work addressing the issue raised at the last Sub-Committee session in document ST/SG/AC.10/C.4/2015/8 to contact her, and indicated that she intends to provide a progress report at the December 2016 session.

<sup>&</sup>lt;sup>1</sup> Refer to informal document INF.35 (GHS Sub-Committee, 28th session)

## E. Nanomaterials

22. As no document had been submitted, this sub-item was not discussed.

#### F. Miscellaneous

#### 1. Clarification of the classification criteria for desensitized explosives in the GHS

Document:	ST/SG/AC.10/C.4/2016/6 (AEISG, SAAMI)
Informal document:	INF.25, section 9 (Secretariat)

23. The Sub-Committee adopted the proposal in document ST/SG/AC.10/C.4/2016/6 as amended in the annex to informal document INF.25 (see annex I).

#### 2. Proposal for a new chapter for chemicals under pressure

#### *Informal document:* INF.11 (EIGA, CEFIC)

24. Some experts recognized there was a potential gap. However more information was needed before an informed decision could be taken on the development of a new hazard class. This would include for instance: assessment of the need for a new hazard class *versus* the possibility of accommodating these products into existing hazard classes; examples of "over" or "under" classification when applying current classification criteria; indication of the number of substances/mixtures expected to be covered by the new hazard class, and justification for the cut-off values applied to the proposed new hazard class.

25. The authors of the proposal volunteered to provide this information at the next session of the Sub-Committee and invited interested experts to cooperate with them in the development of a suitable solution for the classification and labelling of these products.

#### 3. Use of non-animal testing methods for the classification of health hazards

Document:	ST/SG/AC.10/C.4/2016/7 (Netherlands, United Kingdom)
Informal documents:	INF.27 (United States of America) INF.27/Rev.1 and 2 (Netherlands, United Kingdom)

26. The Sub-Committee agreed to entrust consideration of this issue to an informal correspondence group led by the Netherlands and the United Kingdom, in accordance with the terms of reference in informal document INF.27/Rev.2.

#### 4. Revision of Chapter 2.1 of the GHS<sup>2</sup>

27. The expert from Sweden informed the Sub-Committee about the outcome of the meeting of the informal group on the revision of Chapter 2.1 held on Wednesday 6 July. The Sub-Committee noted that the group had examined a proposal for labelling of explosives that included introducing categories for classification and generalisation of the hazard communication elements. The expert from Sweden indicated that the group intends to further explore and develop this approach taking into account the comments made during the discussion.

<sup>&</sup>lt;sup>2</sup> This item was also considered during the joint session of the TDG and GHS sub-committees on Tuesday 5 July 2016 (refer to the report of the TDG and GHS sub-committees on their second joint session in Annex II, section C).

# V. Hazard communication issues (agenda item 4)

## A. Labelling of small packagings

Document:ST/SG/AC.10/C.4/2016/8 (CEFIC)Informal documents:INF.13 (United States of America) and INF.14 (CEFIC)

28. The Sub-Committee noted that the informal correspondence group on labelling of small packagings had reached agreement on an example for fold-out labels on the basis of the proposal in ST/SG/AC.10/C.4/2016/8 and in informal document INF.13, and that a formal document would be submitted for consideration by the Sub-Committee at the December 2016 session. It was also noted that the group would continue working on the development of examples for sets or kits.

# **B.** Improvement of annexes 1 to 3 and further rationalization of precautionary statements

# 1. Amendments to P280 regarding hearing protection and other personal protective equipment

*Document:* ST/SG/AC.10/C.4/2016/1 (Sweden)

29. The proposals in paragraphs 6 and 7 of the document were adopted without modifications (see annex I).

### 2. Precautionary statements on medical advice or attention

Informal document: INF.19 (European Union)

30. The Sub-Committee noted the questions raised in informal document INF.19 on the purpose and translation of "medical advice/attention" in the precautionary statements. Several experts felt that this question could be addressed during the next biennium by the informal correspondence group on the improvement of annexes 1 to 3 within the framework of a detailed evaluation of all medical precautionary statements in the GHS.

31. A member of the secretariat indicated that it was important to address the issues identified in informal document INF.19 as soon as possible, so that the existing inconsistencies among the different linguistic versions of P313, P314 and P315 and the related conditions for use could be resolved.

32. Sub-Committee experts could not identify a rationale for the distinction between "medical advice" and "medical attention" during the session. They were invited to provide feedback to the representative of the European Union and to the secretariat on the questions in informal document INF.19 so that a proposal for the December 2016 session could be prepared.

#### 3. Work of the informal correspondence group on the improvement of annexes 1 to 3

Informal document: INF.29 (United Kingdom)

33. The Sub-Committee took note of the progress of the work of the informal correspondence group on the issues listed in paragraphs 2 to 9 of informal document INF.29. The expert from the United Kingdom indicated that the group intended to submit an official document for the December 2016 session containing the proposals agreed by the group so far.

## C. Miscellaneous

#### Hazard communication for flammable gases<sup>3</sup>

Document:	ST/SG/AC.10/C.4/2016/4 (Belgium and Japan)
Informal documents:	INF.9 (Belgium and Japan) INF.23 (United States of America) INF.28 (Belgium/Japan)

34. There were different views on the hazard communication elements for 1B flammable gases. After consideration in the plenary of the proposal in informal document INF.23, discussion of the remaining issues was deferred to a group of experts who met during the lunch break. The group informed the Sub-Committee that they had reached consensus on the following:

- (a) The proposal in ST/SG/AC.10/C.4/2016/4, as amended by informal document INF.23, with the additional modifications needed to address the questions raised during the discussion;
- (b) Hazard communication elements for 1B flammable gases:
  - symbol: flame
  - signal word: danger
  - hazard statement: flammable gas
  - hazard statement code: H221

35. The experts from Belgium and Japan volunteered to prepare a revised proposal which will be circulated to all interested parties for comments before its submission to the December 2016 session.

## VI. Implementation of the GHS (agenda item 5)

# A. Development of a list of chemicals classified in accordance with the GHS

Informal document: INF.21 and Add.1 and 2 (United States of America)

36. The expert from the United States of America provided a review of the progress of the pilot classification project and noted that it is expected that the OECD will submit its report and final draft classifications soon. He summarised the discussions, findings and achievements of the informal group to date, as follows:

- (a) The participants in the OECD process had achieved consensus on each of the three classifications of the chemicals in the pilot project;
- (b) The group had noted that classifications adopted by the GHS might have implications for regulations or recommendations prepared by other bodies, e.g. the Sub-Committee of Experts on the Transport of Dangerous Goods or IMO.

<sup>&</sup>lt;sup>3</sup> The part of the proposals addressing classification of flammable gases was considered during the joint session of the TDG and GHS sub-committees on Tuesday 5 July 2016 (refer to the report of the TDG and GHS sub-committees on their second joint session in Annex II, section B).

Representatives of the European Union, IMO as well as some national experts participating in the work of the TDG Sub-Committee and the secretariat had provided information on the ways international and intergovernmental bodies considered the data supporting classification, and adoption/revisions of their existing classifications.

A member of the Secretariat had noted that for dicyclopentadiene (DCPD), one of the chemicals in the pilot project, the agreed acute toxicity classification might warrant a reclassification in transport regulations, from flammable liquid packing group III without subsidiary hazard, to toxic by inhalation packing group II with subsidiary hazard of flammable liquid. This would have considerable downstream effects. He had also noted that additional information called for under paragraph 3.1.2.6.3 in the GHS might assist in making that determination.

There had been concerns expressed that the Sub-Committee should not consider downstream effects in reaching its decisions about how to classify according to its criteria, but there was nonetheless a desire to find ways to communicate to other international bodies the Sub-Committee's intent to adopt a classification and allow an opportunity for comment. The Sub-Committee would take the final decision on classification.

To examine these concerns further, the group had agreed on including a mock exercise in the final phase of the pilot project. The exercise would simulate the process the Sub-Committee might follow in adopting a classification based on the OECD report. This would involve submitting the classification and assessment report for DCPD by way of a formal document to both subcommittees (TDG and GHS), perhaps to be discussed at the next TDG-GHS joint session. As regards public consultation, the group had considered that given the opportunity for public consultation within the OECD process, an additional public consultation was not necessary at Sub-Committee level;

(c) The group had also briefly considered the European Union - Japan classification comparison list in informal document INF.21/Add.2.

37. The Sub-Committee noted that the group intended to schedule a teleconference to further consider the classification comparison list and develop a proposal for the programme of work for the biennium 2017-2018.

### **B.** Reports on the status of implementation

#### Canada

Informal document: INF.18 (Canada)

38. The Sub-Committee noted that following the alignment of the Workplace Hazardous Materials Information System (WHMIS) with the GHS in 2015, Canada was developing technical guidance for its implementation. It was noted that phase I of the technical guidance (addressing classification principles, hazard communication and provisions for the protection of confidential business information) has already been released. Release of phase II (addressing physical and health hazards classification) was expected during the fourth quarter of 2016.

#### **European Union**

Informal document: INF.20 (European Union)

39. The Sub-Committee noted that the 5th revised edition of the GHS has been implemented in the European Union through the 8th adaptation to technical progress<sup>4</sup> (ATP) to the Classification, Labelling and Packaging Regulation (CLP Regulation)<sup>5</sup>. The new rules entered into force on 4 July 2016 and will become mandatory from 1 February 2018.

40. The Sub-Committee also noted the update of the list of "harmonized classification and labelling of hazardous substances" contained in Annex VI to the CLP Regulation. This last update, issued as the 7th  $ATP^6$  to the CLP Regulation, includes 32 new or revised harmonized classifications and will become applicable on 1 January 2017.

41. Finally, it was also noted that Safety Data Sheets provisions in Annex II to the Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals  $(REACH)^7$  have been aligned with the 5th revised edition of the GHS.

#### Argentina

42. The Sub-Committee noted that the Ministry of Labour, Employment and Social Security had published Resolution N° 801/2015 of 10 April 2015 approving GHS implementation in the workplace. The transitional periods for implementation are defined by Resolution No. 155/2016 as follows:

- For substances and mixtures listed in Resolutions SRT Nos. 310/03 (carcinogens), 497/03 (polychlorinated biphenyls) and products not mentioned in Resolution 743/03 (major industrial accidents): from 15 April 2016 for substances and from 1 January 2017 for mixtures
- For substances and mixtures not listed in Resolutions SRT Nos. 310/03, 497/03 and products not mentioned in Resolution 743/03: from 1 January 2017 for substances and from 1 June 2016 for mixtures

## C. Cooperation with other bodies or international organizations

43. As no document had been submitted, this sub-item was not discussed.

## D. Miscellaneous

44. As no document had been submitted, this sub-item was not discussed.

# VII. Development of guidance on the application of GHS criteria (agenda item 6)

45. As no document had been submitted, this item was not discussed.

<sup>&</sup>lt;sup>4</sup> Commission Regulation (EU) 2018/918

<sup>&</sup>lt;sup>5</sup> Regulation (EC) No 1272/2008

<sup>&</sup>lt;sup>6</sup> Commission Regulation (EU) 2015/1221

<sup>&</sup>lt;sup>7</sup> Regulation (EC) No 1907/2006

# VIII. Capacity building (agenda item 7)

Informal documents: INF.16 (UNITAR) and INF.24 (RPMASA)

46. The representative of UNITAR informed the Sub-Committee that a government decree to implement the GHS had been adopted in Kyrgyzstan and that Tajikistan had agreed on actions to mainstream the GHS into national legislation as part of the National Strategy on Sustainable Development.

47. The Sub-Committee noted the various projects, capacity-building and awareness raising activities related to the implementation of the GHS conducted between January and June 2016 in Bolivia, Burundi, Chile, Colombia, Democratic Republic of Congo, Guatemala, Haiti, Mexico, Tunisia and South Africa as indicated in informal documents INF.16 and INF.24. Additionally, the Sub-Committee noted that the 6th edition of the UNITAR GHS e-learning course was currently ongoing.

48. The representative of RPMASA indicated that a revised National Standard on the GHS based on the 4th revised edition of the GHS was expected to be released before the end of 2016 and that a revision to this standard for alignment with the 6th revised edition of the GHS was foreseen.

## IX. Other business (agenda item 8)

49. The Sub-Committee noted the deadlines for submission of documents for the December 2016 sessions, as follows:

- documents submitted for consideration by both sub-committees (TDG and GHS): 2 September 2016
- documents for the thirty-second session of the GHS Sub-Committee: 13 September 2016
- documents for the eight session of the Committee of Experts on the TDG and on the GHS: 15 September 2016

## X. Adoption of the report (agenda item 9)

50. In accordance with established practice, the Sub-Committee adopted the report on its thirty-first session on the basis of a draft prepared by the secretariat.

## Annex I

# Draft amendments to the sixth revised edition of the GHS (ST/SG/AC.10/30/Rev.6)

Document ST/SG/AC.10/C.4/2016/1: adopted without modifications.

**Document ST/SG/AC.10/C.4/2016/9:** adopted as amended by informal document INF.26, with one additional modification to paragraph 3.1.2.3, as follows:

#### Chapter 1.2

Delete the definitions of "Skin corrosion", "Skin irritation", "Serious eye damage", "Eye irritation", "Dermal corrosion" and "Dermal irritation".

In the definition of "Respiratory sensitizer", replace (twice) "a substance" with "a substance or mixture".

In the definition of "Skin sensitizer", replace "a substance" with "a substance or mixture".

(Reference document: Informal document INF.26)

#### Chapter 3.1

3.1.2 Amend table 3.1.1 to read as follows:

### "Table 3.1.1: Acute toxicity estimate (ATE) values and criteria for acute toxicity hazard categories

Exposure route	Category 1	Category 2	Category 3	Category 4	Category 5
<b>Oral</b> (mg/kg bodyweight) See notes (a) and (b)	$ATE \leq 5$	$5 < ATE \le 50$	$50 < ATE \le 300$	$300 < ATE \le 2000$	2000 < ATE ≤ 5000 See detailed
<b>Dermal</b> (mg/kg bodyweight) See notes (a) and (b)	$ATE \leq 50$	$50 < ATE \le 200$	$200 < ATE \le 1000$	$1000 < ATE \le 2000$	criteria in Note (g)
Gases (ppmV) See notes (a), (b) and (c)	$ATE \le 100$	$100 < ATE \le 500$	$500 < ATE \le 2500$	$2500 < ATE \le 20000$	
<b>Vapours</b> (mg/l) See notes (a), (b), (c), (d) and (e)	$ATE \le 0.5$	$0.5 \leq ATE \leq 2.0$	$2.0 < ATE \le 10.0$	$10.0 < ATE \le 20.0$	See detailed criteria in Note (g)
<b>Dusts and Mists</b> (mg/l) See notes (a), (b), (c) and (f)	$ATE \le 0.05$	$0.05 < ATE \le 0.5$	$0.5 \le ATE \le 1.0$	$1.0 < ATE \le 5.0$	(8)

*Note:* Gas concentrations are expressed in parts per million per volume (ppmV).".

(*Reference document: ST/SG/AC.10/C.3/2016/9 as amended by informal document INF.26*)

3.1.2.3 Add the following new sentence at the end of the paragraph:

"In cases where data from human experience (i.e. occupational data, data from accident databases, epidemiology studies, clinical reports) is also available, it should be considered in a weight of evidence approach consistent with the principles described in section 1.3.2.4.9. ".

(Reference document: ST/SG/AC.10/C.3/2016/9 as amended)

**Document ST/SG/AC.10/C.4/2016/6:** adopted as amended by informal document INF.25, as follows:

### Chapter 2.17

2.17.2.1 Amend the text before sub-paragraphs (a) and (b) to read as follows: "Any explosive while in a desensitized state shall be considered in this class unless, in that state:".

2.17.2.1 (a)	Amend to read as follows:
	"(a) It is intended to produce a practical explosive or pyrotechnic effect;".
2.17.2.1 (b)	Replace "their corrected burning rate" with "the corrected burning rate".
2.17.2.1 (c)	Replace "Their exothermic decomposition" with "The exothermic decomposition".
In NOTE 1, aft	er "which meet the criterion (a) or (b)" insert "in their desensitized

state".

(Reference document: Informal document INF.25, Annex)

## Annex II

# **Report of the TDG and GHS sub-committees on their second** joint session

1. The TDG and GHS sub-committees held their second joint session<sup>8</sup> on 5 July with Mr. Duane Pfund (Chairperson of the TDG Sub-Committee) as Chairman. During the joint meeting, the sub-committees addressed items A to E below.

# A. Test and criteria for oxidizing liquids (Test O.2) and oxidizing solids (Test O.3)

*Document:* ST/SG/AC.10/C.4/2016/3 - ST/SG/AC.10/C.3/2016/12 (France)

Informal document: TDG/INF.47 (France)

2. The sub-committees welcomed the information on the results of the round robin test provided by the expert from France and reiterated the need to find a suitable fuel material as soon as possible. Some experts indicated that its worldwide availability should be considered during the selection process. Others raised some questions as regards the specifications for the different cellulose types contained in proposals 1, 2 and 3 of the document (e.g. apparent density, grain size).

3. Experts were invited to consider the final report on the round robin test in informal document INF.47 (circulated during the 49th session of the TDG Sub-Committee)<sup>9</sup> and to provide comments on the proposals in document ST/SG/AC.10/C.4/2016/3 to the expert from France so that he could prepare a revised version for the next session. Comments should be sent to the "Institut National de l'Environnement Industriel et des Risques" (INERIS) (Christian.michot@ineris.fr; lionel.aufauvre@ineris.fr).

### **B.** Classification of flammable gases

*Documents:* ST/SG/AC.10/C.4/2016/4 - ST/SG/AC.10/C.3/2016/17 (Belgium, Japan)

ST/SG/AC.10/C.4/2016/5 - ST/SG/AC.10/C.3/2016/27 (Germany, EIGA, CEFIC)

Informal documents: GHS/INF.9 – TDG/INF.31 (Belgium, Japan) GHS/INF.17 – TDG/INF.62 (CGA) GHS/INF.23 – TDG/INF.78 (USA)

4. The sub-committees agreed to address only the questions related to classification criteria during the joint session, and deferred consideration of the amendments proposed in informal document INF.23 and all questions relating to hazard communication to the GHS Sub-Committee session on Thursday 7 July (refer to the report of the GHS Sub-Committee, paragraphs 34 and 35).

<sup>&</sup>lt;sup>8</sup> See the report of the GHS Sub-Committee on its twenty-ninth and thirtieth sessions, (documents ST/SG/AC.10/58, (par. 29 and 30) and ST/SG/AC.10/60 (paras 53 and 54)

<sup>&</sup>lt;sup>9</sup> Available at: http://www.unece.org/fileadmin/DAM/trans/doc/2016/dgac10c3/UN-SCETDG-49-INF47e.pdf

5. As regards classification criteria, both sub-committees concurred that the proposal in document ST/SG/AC.10/C.4/2016/4 offered a suitable solution for the classification of flammable gases in sectors other than transport, with minimum impact on downstream legislation and no consequences for transport regulations.

6. Views were divided on the proposal in document ST/SG/AC.10/C.4/2016/5. Some experts considered that it provided a more rationalised and simple approach to classification of flammable gases (including pyrophoric and chemically unstable gases). Others expressed concern about possible unintended consequences of the proposed changes as well as the impact they might have in downstream legislation (e.g. building codes), and considered that more time was needed to consider them.

7. In the light of the opinions expressed, the sub-committees concurred that the proposal in document ST/SG/AC.10/C.4/2016/4 should be given priority at this stage and should be used by the GHS Sub-Committee as the basis for discussion of hazard communication elements. This would not prevent future consideration of the proposal in document ST/SG/AC.10/C.4/2016/5, once experts concluded evaluation of the impact of the proposed changes.

## C. Revision of Chapter 2.1 of the GHS

Documents:	ST/SG/AC.10/C.4/2016/2 - ST/SG/AC.10/C.3/2016/7 (AEISG) ST/SG/AC.10/C.4/2016/10 - ST/SG/AC.10/C.3/2016/47 (SAAMI)
Informal documents:	GHS/INF.5 – TDG/INF.15 (AEISG)
	GHS/INF.12 – TDG/INF.45 (Canada)
	GHS/INF.10 – TDG/INF.37 (Sweden)
	GHS/INF.25, section 7 (Secretariat)

8. The Sub-Committee noted the outcome of the discussions of the Working Group on Explosives of the TDG Sub-Committee and of the informal correspondence group on the revision of Chapter 2.1 led by Sweden<sup>10</sup>. As work on the revision of Chapter 2.1 is ongoing the authors of the documents invited comments from experts and indicated that they may come back with proposals for the next session.

9. The Chairman of the Working Group on Explosives mentioned that the group had identified a need for additional guidance as regards the applicability of the GHS to some stages of the life cycle of explosives (e.g. manufacturing). He indicated that to facilitate the discussions on this issue he had submitted an informal document (INF.22) to be considered under item 3 (a) of the agenda of the GHS Sub-Committee (refer to the report of the GHS Sub-Committee, paragraphs 9 to 12). The representative of CEFIC pointed out that the issue was not only relevant for explosives but for physical hazards in general.

## D. Use of the Manual of Tests and Criteria in the context of the GHS

*Informal documents*: GHS/INF.3 – TDG/INF.4 and Adds.1 to 5 (Chairman of the Working Group on Explosives of the TDG Sub-Committee) GHS/INF.4 – TDG/INF.6 (Canada, FEA) GHS/INF.25, section 8 (Secretariat)

<sup>&</sup>lt;sup>10</sup> See also the report of the GHS Sub-Committee, paragraph 27.

10. The Sub-Committee noted the outcome of the discussions of the Working Group on Explosives of the TDG Sub-Committee. The Chairman of the Working Group indicated that the group expected to complete the revision during the current biennium and that proposals to this end would be submitted for the next session.

# E. Information regarding transport in bulk in section 14.7 of the Safety Data Sheet

Informal document: GHS/INF.7 – TDG/INF.28 (ICMM)

11. There was general support for the proposal. However, some experts considered that the text needed further refinement to clarify that only maritime bulk transport in accordance with the relevant IMO transport instruments is addressed. The representative of ICMM invited comments from experts with a view to submitting a revised proposal for the next session.