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**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-sixth session**

held in Geneva from 5 to 7 December 2018

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## I. Attendance

1. The Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals held its thirty-sixth session from 5 to 7 (a.m.) December 2018, 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: Australia, Austria, Belgium, Brazil, Canada, China, France, Germany, Italy, Japan, Netherlands, Norway, Poland, Republic of Korea, Russian Federation, Sweden, United Kingdom and United States of America.
3. Under rule 72 of the rules of procedure of the Economic and Social Council, observers from Switzerland and Thailand also took part.
4. A representative of the International Maritime Organization (IMO) was also present.
5. The following intergovernmental organization was also represented: European Union and Organisation for Economic Cooperation and Development (OECD).
6. Representatives of the following non-governmental organizations took part in the discussion of items of concern to their organizations: Australian Explosives Industry and Safety Group Incorporated (AEISG); Compressed Gas Association (CGA); Croplife International; Dangerous Goods Advisory Council (DGAC); European Chemical Industry Council (CEFIC); Federation of European Aerosol Associations (FEA); International Association for Soaps, Detergents and Maintenance Products (AISE); International Council on Mining and Metals (ICMM); Industrial Federation Paints and Coats of Mercosur (IFPCM); International Industrial Gases Association (EIGA); 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.4/71 (Provisional agenda)  
ST/SG/AC.10/C.4/71/Add.1 (List of documents and annotations)
- Informal documents:* INF.1, INF.2 (List of documents)  
INF.13 (Provisional timetable)

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.47/Rev.1.

## III. Recommendations made by the Sub-Committee at its thirty-third, thirty-fourth and thirty-fifth sessions (agenda item 2)

- Document:* ST/SG/AC.10/C.4/2018/18 (Secretariat)

8. The Sub-Committee confirmed the amendments in document ST/SG/AC.10/C.4/2018/18.

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

### **A. Work of the Sub-Committee of Experts on the transport of Dangerous Goods (TDG) on matters of interest to the GHS Sub-Committee**

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

*Part II, Sections 20-28 and Test Series H and Part III, sections 30 to 37 and 38.1 and 38.2*

*Documents:* ST/SG/AC.10/C.4/2018/15, ST/SG/AC.10/C.4/2018/16 and ST/SG/AC.10/C.4/2018/26 (Chairman of the Working Group on Explosives of the TDG Sub-Committee)

*Informal documents:* INF.3, INF.4 and INF.5 (Chairman of the Working Group on Explosives of the TDG Sub-Committee), INF.34 (Report of the Working Group on Explosives of the TDG Sub-Committee) and INF.36 (Secretariat)

9. The Sub-Committee noted that this issue had been discussed in the Working Group on Explosives of the TDG Sub-Committee (see informal document INF.34).

10. The Sub-Committee noted with satisfaction that the Working Group on Explosives of the TDG Sub-Committee had completed the revision of the Manual of Tests and Criteria in the context of GHS and that the TDG Sub-Committee had adopted the amendments to the Manual of Tests and Criteria in documents ST/SG/AC.10/C.4/2018/15, ST/SG/AC.10/C.4/2018/16 and ST/SG/AC.10/C.4/2018/26 as modified in annex 6 of informal document INF.34 and concurred with this decision.

*Alignment of the wording of “shall be considered” and “shall be categorised” in the Manual of tests and Criteria*

*Informal documents:* INF.11 (Germany), INF.34 (Report of the Working Group on Explosives of the TDG Sub-Committee) and INF.36 (Secretariat)

11. Germany withdrew informal document INF.11 and may present a new proposal concerning the use of these terms at a later session in the light of the on-going review of Chapter 2.1.

#### **2. Improvement of the 8 (c) test for UN 3375 Ammonium nitrate explosives candidates**

*Document:* ST/SG/AC.10/C.4/2018/17 (Canada and IME)

*Informal documents:* INF.12 (Canada and IME), INF.34 (Report of the Working Group on Explosives of the TDG Sub-Committee) and INF.36 (Secretariat)

12. The Sub-Committee noted that the TDG Sub-Committee had agreed to amend the Manual of Tests and Criteria in accordance with the proposals in document ST/SG/AC.10/C.4/2018/17 as modified in annex 3 of informal document INF.34 and concurred with this decision.

13. The Sub-Committee adopted the consequential amendment to the GHS in accordance with ST/SG/AC.10/C.4/2018/17 as modified in annex 4 of informal document INF.34 (see annex I).

14. The expert from Sweden indicated that these changes will be considered in the context of the revision of Chapter 2.1.

### 3. Classification criteria for flammable liquids in Chapter 2.6 of the GHS

*Document:* ST/SG/AC.10/C.4/2018/22 (IPPIC)

*Informal documents:* INF.29 (IPPIC) and INF.36 (Secretariat)

15. The representative of IPPIC indicated that the proposal in ST/SG/AC.10/C.4/2018/22 was modified in informal document INF.29 to address the comments raised by Germany at the thirty-second session.

16. Some experts expressed concerns about placing the text of the note into classification criteria text since the risks were different in transport versus other sectors. They considered the changes proposed could raise safety issues in supply and use. Others acknowledged there may be merit in addressing the inconsistency signalled in paragraph 2 of informal document INF.29.

17. The Sub-Committee did not support the amendments proposed.

### 4. Testing of oxidizing substances

*Document:* ST/SG/AC.10/C.4/2018/24 (France)

*Informal documents:* INF.22 (France), INF.23 (France) and INF.36 (Secretariat)

18. The Sub-Committee noted that the TDG Sub-Committee had agreed to amend the Manual of Tests and Criteria in accordance with the proposals in document ST/SG/AC.10/C.4/2018/24. After discussion, the Sub-Committee concurred with this decision.

19. The Sub-Committee adopted the proposal in paragraph 22 of ST/SG/AC.10/C.4/2018/24 and in informal document INF.22 for continuation of the work on this issue (see annex II).

### 5. Classification of aerosols and chemicals under pressure

*Documents:* ST/SG/AC.10/C.4/2018/23 (FEA) and  
ST/SG/AC.10/C.4/2018/25 (CEFIC)

*Informal documents:* INF.36 (Secretariat), INF.39 (United States of America),  
INF.40 (Sweden) and INF.42 (CEFIC, EIGA)

20. Some delegations did not support referring to the cut-off value of 50% in the definition of chemicals under pressure. After discussion, the proposal in ST/SG/AC.10/C.4/2018/25 was modified to remove the references to the cut-off value.

21. The Sub-Committee adopted the proposal in ST/SG/AC.10/C.4/2018/25 as modified and with the additional consequential amendments in INF.42 with two additional modifications (see annex I).

22. The Sub-Committee also adopted the corresponding consequential amendments proposed in ST/SG/AC.10/C.4/2018/23 (see annex I).

## 6. Other matters of interest

*Informal document:* INF.36 (Secretariat)

23. The Sub-Committee noted that the TDG Sub-Committee had adopted amendments to 2.8.3.2 of the Model Regulations to take into account the revised OECD Test Guideline 431 allowing sub-categorization for skin corrosion (see ST/SG/AC.10/C.3/108, paragraph 129).

## B. Review of Chapter 2.1

### 1. Criteria for an amended classification system for explosives in the GHS

*Documents:* ST/SG/AC.10/C.4/2018/19 (Sweden) and ST/SG/AC.10/C.4/2018/20 (Sweden and Chairman of the Working Group on Explosives of the TDG Sub-Committee)

*Informal documents:* INF.10 (United States of America, IME, SAAMI), INF.18 (IME, SAAMI), INF.19 (Sweden), INF.34 (Report of the Working Group on Explosives of the TDG Sub-Committee), INF.36 (Secretariat), INF.43/Rev.1 (Sweden) and INF.46 (Sweden)

24. The Sub-Committee welcomed the progress achieved by the informal correspondence group since the last session. It was also noted that the group had met in parallel to the fifty-fourth session of the TDG Sub-Committee, jointly with the Working Group on Explosives after which the informal correspondence group met again in the margins of the GHS Sub-Committee session.

25. The expert from Sweden presented the outcome of the discussions in these meetings. He pointed out the work had been especially focused on the criteria for the sub-categories within Category 2 and that many examples of classifications as well as details on the tests used had been given (see informal document INF.18). He pointed to the comments made by the Working Group on Explosives (see paragraph 10 in informal document INF.34) and showed the consequentially amended criteria flowcharts (see informal document INF.46). He also emphasised that the immediate container would still play a role in the classification result at the sub-category level.

26. The Sub-Committee noted with satisfaction that the informal correspondence group had accomplished its mandate to formulate the technical criteria for assignment of explosives to sub-categories 2A, 2B and 2C in the GHS as well as for the scope of the hazard class Explosives, without consequential changes to the current classification system in transport.

27. The Sub-Committee noted that the next step would be to develop a corresponding proposal for amendment to Chapter 2.1 of the GHS. To complete the task, however, the work would have to be continued into the next biennium.

28. After discussion, the Sub-Committee agreed to the programme of work for the next biennium proposed in informal document INF.43/Rev.1 (see annex II).

29. The Sub-Committee noted that the Working Group on Explosives of the TDG Sub-Committee would continue to provide technical advice and support to the GHS Sub-Committee and its informal correspondence group on the review of Chapter 2.1, if needed. The expert from Sweden invited delegations who wished to participate in this work to contact him.

### 2. Use of the expression “manufactured with a view to producing a practical explosive or pyrotechnic effect”

*Document:* ST/SG/AC.10/C.4/2018/19 (Sweden)

*Informal documents:* INF.34 (Report of the Working Group on Explosives of the TDG Sub-Committee) and INF.36 (Secretariat)

30. The Sub-Committee noted that the TDG Sub-Committee adopted the first proposal to amend 2.1.3.3.1 in the Model Regulations. The second proposal which contained consequential amendments to the GHS was not adopted by TDG Sub-Committee. Hence the consequential amendments to GHS were not considered.

### **C. Dust explosion hazards**

31. As no document had been submitted under this agenda item, no discussion took place on this subject.

### **D. Use of non-animal testing methods for classification of health hazards**

*Document:* ST/SG/AC.10/C.4/2018/29 (Netherlands and United Kingdom)

*Informal documents:* INF.6/Rev.1, INF.27/Rev.1 and INF.28 (Netherlands and United Kingdom)

32. The experts from the Netherlands and the United Kingdom informed the Sub-Committee that, during its meeting on Wednesday 5 December, the informal correspondence group had confirmed the proposals of amendments in ST/SG/AC.10/C.4/2018/29 as modified in INF.6/Rev.1 and considered items for its programme of work for the next biennium.

33. The Sub-Committee adopted the amendments in ST/SG/AC.10/C.4/2018/29 as modified in INF.6/Rev.1 with additional editorial modifications (see annex I).

34. The Sub-Committee also agreed to the terms of reference for the continuation of this work as modified in informal document INF.27/Rev.1 (see annex II). The informal working group will discuss early in the biennium how it will prioritize its work.

### **E. Practical classification issues**

*Document:* ST/SG/AC.10/C.4/2018/28 (United States of America)

*Informal document:* INF.38/Rev.1 (United States of America)

35. The expert from the United States of America informed the Sub-Committee that, during its meeting on Tuesday 4 December, the informal correspondence group had confirmed the proposals of amendments in ST/SG/AC.10/C.4/2018/28 and considered items for its programme of work for the next biennium.

36. The informal working group recommended dropping items (a) and (d) from their current programme of work (see informal document INF.39 of the thirty-second session). Item (a), concerning the inclusion of additivity approach for Chapters 3.2 and 3.3 in the interpolation within one hazard category bridging principle, was not retained for the next biennium as this issue was complex and the informal working group could not reach consensus. This item might be reconsidered at a later stage if deemed necessary. For item (d), the informal working group decided that no updates were needed to the GHS.

37. The Sub-Committee adopted the amendments to chapters 3.8 and 3.9 and to paragraph 1.3.2.3 as proposed in ST/SG/AC.10/C.4/2018/28 (see annex I).

38. The Sub-Committee agreed to the terms of reference for the informal correspondence group contained in informal document INF.38/Rev.1 (see annex II).



## F. Aspiration hazard

*Document:* ST/SG/AC.10/C.4/2018/34 (IPPIC)

*Informal document:* INF.37 (IPPIC)

39. Some delegations indicated that the additional supporting data in informal document INF.37 was circulated late and that they needed more time to review it and expressed concerns about how the alternate criteria would be applied to petroleum hydrocarbons.

40. Some experts agreed there was a need to provide an alternative method to determine the kinematic viscosity for substances and mixtures for which the measurement at 40 °C was not possible. The Sub-Committee supported the continuation of this work in the next biennium.

## G. Nanomaterials

*Informal document:* INF.35 (France)

41. The expert from France informed the Sub-Committee about ongoing work on nanomaterials at OECD level and under the Nordic Chemical Group.

42. The Sub-Committee noted the information and agreed to keep this item in the programme of work for the next biennium with the current terms of reference (see annex II).

## H. Other issues

### Addressing risk management in the GHS

*Document:* ST/SG/AC.10/C.4/2018/33 (United States of America and Australia)

43. The Sub-Committee adopted the proposal in ST/SG/AC.10/C.4/2018/33 as modified orally by the expert from Sweden (see annex I).

## V. Hazard communication (agenda item 4)

### A. Labelling of small packagings

*Informal documents:* INF.12 from the thirty-fifth session (annex 7 example), INF.14 (AISE, RPMASA), INF.15 (CEFIC), INF.30 (IPPIC), INF.32 (China) and INF.47/Rev.1 (CEFIC)

44. The informal working group discussed possible next steps for the work on labelling of small packagings and the preparation of the work programme for the next biennium.

45. After discussion, it was agreed to rename the group as the informal working group on practical labelling issues and to extend its scope as indicated in informal document INF.47/Rev.1.

46. The Sub-Committee agreed that the informal working group should work in accordance with the terms of reference and work programme in informal document INF.47/Rev.1 (see annex II).

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

### **1. Work of the informal working group**

*Informal documents:* INF.16 (AISE, RPMASA), INF.25 (United Kingdom) and INF.26 (United Kingdom)

47. The expert from the United Kingdom informed the Sub-Committee that the informal working group had reviewed the documents in the agenda for this session and had considered its programme of work for the next biennium based on informal document INF.25.

48. The informal working group also discussed the proposals for additions to its work programme in informal document INF.16. It concluded that the proposed activities related to precautionary pictograms were already included in its work programme. The informal working group did not support adding the proposed activities for health hazard pictograms as it is outside their mandate.

49. The Sub-Committee agreed the programme of work for the informal working group in informal document INF.25 (see annex II).

### **2. Proposed changes to Annex 3 to improve medical response precautionary statements (P310 to P315)**

*Document:* ST/SG/AC.10/C.4/2018/30 (United Kingdom)

*Informal documents:* INF.7 (United Kingdom), INF.26 (United Kingdom)

50. The Sub-Committee agreed the proposed changes improved the medical response statements and adopted the amendments proposed in ST/SG/AC.10/C.4/2018/30 as reflected in informal document INF.7 (see annex I).

### **3. Proposed changes to P201 and P202**

*Document:* ST/SG/AC.10/C.4/2018/31 (United Kingdom)

*Informal documents:* INF.8 (United Kingdom) and INF.26 (United Kingdom)

51. After careful review, some delegates were concerned that the P203 statement “Read and follow all safety instructions” proposed in ST/SG/AC.10/C.4/2018/31 did not capture that people exposed to these highly hazardous chemicals might need to seek out all safety information as in P201. Therefore, the working group recommended to update the statement to read “Obtain, read and follow all safety instructions before use”.

52. The Sub-Committee adopted the amendments proposed in ST/SG/AC.10/C.4/2018/31 as reflected in informal document INF.8 with the modifications proposed by the informal working group (see annex I).

**4. Proposed changes to Sections 2 to 4 of Annex 3**

*Document:* ST/SG/AC.10/C.4/2018/32 (United Kingdom)

*Informal documents:* INF.9 (United Kingdom) and INF.26 (United Kingdom)

53. The Sub-Committee adopted the amendments proposed in ST/SG/AC.10/C.4/2018/32 as reflected in informal document INF.9 except the proposal in paragraph 6 (d) (iii) of ST/SG/AC.10/C.4/2018/32 as the working group felt that the retention of the original source of the precautionary statements provided important context (see annex I).

**5. Proposal for the programme of work for the next biennium: review of precautionary pictograms related to existing precautionary statements and review of existing health hazard pictograms for comprehensibility on consumer products**

*Informal document:* INF.16 (AISE, RPMASA)

54. The Sub-Committee discussed the proposal to review of health hazard pictograms for comprehensibility as an item for the program of work. The Sub-Committee decided not to add this to the program of work but indicated that experts can present new studies or proposals at any time during the biennium.

**C. Use of “proportion ranges”: review of paragraph A4.3.3.2.3 in Annex 4**

*Informal document:* INF.20 (CEFIC)

55. Although it was recognised that A4.3.3.2.3 as drafted could lead to different interpretations, the Sub-Committee did not support the alternative text proposed in informal document INF.20 but agreed to keep this on the programme of work for the next biennium (see annex II).

56. Some delegations indicated the text proposed could conflict with the way in which they handle confidential business information in their countries, but others expressed support for continuing the discussion.

**D. Other issues****Corrections to Annex 4 Section 9**

*Document:* ST/SG/AC.10/C.4/2018/27 (Germany)

*Informal document:* INF.44 (Germany and Sweden)

57. After discussion, the Sub-Committee adopted the proposal to modify the presentation of the equations in Annex 4, Section 9, as revised in informal document INF.44 with some additional modifications (see annex I).

**VI. Implementation of the GHS (agenda item 5)****A. Development of a list of chemicals classified in accordance with the GHS**

58. As no document had been submitted under this agenda item, no discussion took place on this subject.

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

### **1. Implementation of the GHS**

#### *Colombia and Mexico*

*Informal document:* INF.24 (Secretariat)

59. The Sub-Committee noted the information about the implementation of the sixth revised edition of the GHS for chemicals used in the workplace in Colombia.

60. The Sub-Committee noted the information about the entry into force in Mexico of the Harmonized system for the identification and communication of hazards and risks from hazardous chemicals in the workplace, based on the fifth revised edition of the GHS.

#### *South Africa*

61. The representative of RPMASA informed the Sub-Committee that the South African Department of Labour had published the draft Regulations for Hazardous Chemical Agents in September 2018 and that the comment period would end in mid-December 2018 with a view to achieve implementation by 2020 in accordance with the agreement of the member states of the Southern African Development Community (SADC).

### **2. Information on the status of implementation of the GHS**

*Informal document:* INF.31 (CEFIC)

62. The Sub-Committee welcomed the offer from CEFIC to share their template for the gathering of data related to the implementation of GHS in different countries at the next session.

## **C. Cooperation with other bodies or international organizations**

*Informal document:* INF.41 (Secretariat)

63. The Sub-Committee noted with interest the decision of the Conference of Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal to revise Annex III of the Convention and the willingness to consider GHS provisions in this revision process.

64. The expert working group on the review of the Annexes I, III and IV and related aspects of Annex IX to the Basel Convention established by the Conference of Parties is expected to present a report on its discussions on the review of Annexes I and III for consideration of the Conference of the Parties at its fourteenth meeting (29 April-10 May 2019). Further information will be provided at the next session depending on the outcome of the Conference of Parties.

## **D. Miscellaneous**

65. As no document had been submitted under this agenda item, no discussion took place on this subject.

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

*Informal document:* INF.33 (IPIECA)

66. The Sub-Committee took note of the draft 2018 version of the IPIECA “Guidance on the application of Globally Harmonized System (GHS) Criteria to petroleum substances”.

67. The representative of the European Union informed the Sub-Committee about ongoing discussions at the European level on the approach to classify petroleum substances.

68. Issues under discussion include among others:

- the use of known carcinogenic, mutagenic and reprotoxic properties of individual constituent versus the use of data on specific petroleum UVCB (Unknown or Variable composition, Complex reaction products or Biological materials) substances; and
- the possible application of additivity for certain human health hazards which is also currently being discussed by the informal working group on practical classification issues.

69. The representative of the European Union invited IPIECA to take the outcome of these discussions into consideration for the finalisation or further update of the guidance as appropriate.

## VIII. Capacity building (agenda item 7)

70. The Sub-Committee took note of the GHS capacity-building and awareness raising activities undertaken by UNITAR.

71. As part of the national project in Uzbekistan, the development of the national GHS implementation strategy is to be finalized in December 2018. Training workshops took place with a UNITAR Russian-speaking expert in November 2018, and several domestic training sessions have also happened in the last six months.

72. In the Republic of Guinea, a UNITAR French-speaking expert conducted training in November 2018, providing capacity building and awareness raising opportunities. The national implementation strategy is also in its final stage and should be finalised early this month.

73. The Sub-Committee also noted that two capacity building workshops would take place in Ghana and Côte d’Ivoire in January and February 2019, and that that a new session of the UNITAR’s e-Learning course on the GHS would take place from March to May 2019.

## IX. Programme of work for the biennium 2019-2020 (agenda item 8)

*Document:* ST/SG/AC.10/C.4/2018/21 (Germany)

*Informal documents:* INF.17 (AISE), INF.36, item 9 (Secretariat) and INF.45/Rev.1 (Secretariat)

74. The Sub-Committee adopted the new item for the programme of work proposed in ST/SG/AC.10/C.4/2018/21 with a modification to task 3 to read:

“Task 3:

3.1 Considering the results of tasks 1 and 2, work out a recommendation for the Sub-Committee on whether and how a systematic approach for combinations of physical hazards can be developed for the GHS.

3.2 On the basis of the results of task 3.1, evaluate how provisions/information could be added to the GHS, e.g. as guidance and/or within the individual hazard classes and propose amendments to the GHS, as appropriate.”.

75. Based on the proposals discussed and approved under this and other agenda items during this and previous sessions, the Sub-Committee agreed to the programme of work for 2019-2020 reproduced in annex II.

76. The Sub-Committee noted that the experts from Canada and the United States of America will finalize their work programme for item 3 (a) (Assessing the possible development of a list of chemicals classified in accordance with the GHS) at the next session.

## **X. Draft resolution 2019/... of the Economic and Social Council (agenda item 9)**

*Informal document:* INF.21 (Secretariat)

77. The Sub-Committee adopted part B of the proposed draft resolution to be submitted to the Economic and Social Council for consideration at its 2019 session.

## **XI. Election of officers for the biennium 2019-2020 (agenda item 10)**

78. Mr. Robin Foster, Vice-Chair of the Sub-Committee since 2014, informed the Sub-Committee that he would not be able to continue performing his duties as Vice-Chairman during the next biennium (see also paragraph 80).

79. On a proposal by the experts from Canada (for the Chairperson) and United Kingdom (for the Vice-Chairperson), the Sub-Committee re-elected by acclamation Ms. Maureen Ruskin (United States of America) as Chairperson and elected by acclamation Mr. Paul Taylor (Australia) as Vice-Chairperson.

## **XII. Other business (agenda item 11)**

### **A. Tribute to Robin Foster (United Kingdom) and Pierre Wolfs (EIGA)**

80. The Sub-Committee was informed that Mr. Robin Foster, who had been participating in the sessions of the Sub-Committee as the head of the delegation of the United Kingdom since 2005 and as vice-chair of the Sub-Committee since July 2014, was attending a session of the Sub-Committee for the last time as he would be retiring soon. The Sub-Committee expressed its appreciation for his contribution to the development of the GHS and his dedication and work as chair of the joint session of the TDG and GHS Sub-Committees on corrosivity, as leader of the informal working group on the improvement of annexes 1 to 3 and as co-chair of the working group on non-animal testing over the last five years and wished him a long and happy retirement.

81. The Sub-Committee was also informed that Pierre Wolfs, who represented EIGA since 1989 at the TDG Sub-Committee and since 2005 at the GHS Sub-Committee was also attending the session for the last time as he would be retiring soon and thanked him for his hard work and dedication.

## **B. Thirty-seventh session**

82. The Sub-Committee noted the deadlines for submission of documents for its next session (8-10 July 2019), as follows:

- documents submitted for consideration by both sub-committees (TDG and GHS): 5 April 2019
- documents for the thirty-seventh session of the GHS Sub-Committee: 12 April 2019

## **XIII. Adoption of the report (agenda item 12)**

83. In accordance with the established practice, the Sub-Committee adopted the report on its thirty-sixth session based on a draft prepared by the secretariat.

## Annex I

### **Draft amendments to the seventh revised edition of the GHS (ST/SG/AC.10/30/Rev.7)**

#### **Chapter 1.1**

1.1.2.6.1 After the first sentence, insert the following two new sentences: “However, information on risk management is occasionally provided in the GHS on a case-by-case basis for guidance purposes. Competent authorities are best placed to determine in regulations or standards the appropriate risk assessment procedures and risk management measures.”.

*(Reference document: ST/SG/AC.10/C.4/2018/33, as amended)*

#### **Chapter 1.3**

**Document ST/SG/AC.10/C.4/2018/28 adopted.**

#### **Chapter 2.1**

Figure 2.1.4 Add a new box with the following text:

“Did the Koenen Test reaction time exceed 60 seconds, and does the substance/mixture have >14% water?”

*(Reference document: ST/SG/AC.10/C.4/2018/17 as amended by informal document INF.34, Annex 4, Amendment 1)*

Figure 2.1.4 Add a new box with the following text:

“Test 8(e)

MBP Test

Does the substance/mixture have an MBP <5.6 MPa?”

*(Reference document: ST/SG/AC.10/C.4/2018/17 as amended by informal document INF.34, Annex 4, Amendment 1)*

#### **Chapter 2.3**

**Document ST/SG/AC.10/C.4/2018/23 adopted.**

**Document ST/SG/AC.10/C.4/2018/25 as amended by informal document INF.42 adopted with the following modifications:**

Decision logic 2.3.2 Amend the text of the first box to read as follows “Mixture containing liquids or solids (i.e., pastes or powders) and gases, in pressure receptacles other than an aerosol dispenser, which is not classified as a gas under pressure”. Amend the text of the second box to read as follows “Does the mixture contain liquids and/or solids and is the pressure in the receptacle higher than 200 kPa at 20 °C?”.



## Chapter 2.5

Consequential amendments in document ST/SG/AC.10/C.4/2018/25 adopted.

## Chapter 3.2

Document ST/SG/AC.10/C.4/2018/29 as amended by informal document INF.6/Rev.1 adopted with the following modifications:

Table 3.2.2 Delete “after patch removal” in the entry for “Mild irritation”.

3.2.2.3.4.1 Amend to read as follows:

“3.2.2.3.4.1 Where classification for corrosivity can be excluded and where tests have been undertaken in accordance with OECD Test Guideline 439, a substance should be considered for classification as skin irritant in category 2 based on the criteria in Table 3.2.7.”.

Figure 3.2.1 In the box for “Tier 3” insert “existing” between “other” and “animal”.

3.2.3.1.1 At the end of the first sentence, add “and 3.2.3.1.2 and 3.2.3.1.3 below”.

3.2.3.1.3 Amend to read as follows:

“3.2.3.1.3 In the absence of any other information, a mixture is considered corrosive (Skin Category 1) if it has a  $\text{pH} \leq 2$  or a  $\text{pH} \geq 11.5$ . However, if consideration of acid/alkaline reserve suggests the mixture” may not be corrosive despite the low or high pH value, this needs to be confirmed by other data, preferably from an appropriate validated *in vitro/ex vivo* test.”.

## Chapter 3.8

Document ST/SG/AC.10/C.4/2018/28 adopted.

## Chapter 3.9

Document ST/SG/AC.10/C.4/2018/28 adopted.

## Annex 1, Table A1.3

Consequential amendments in document ST/SG/AC.10/C.4/2018/25 adopted.

## Annex 3, Section 1, Table A3.1.1

Consequential amendments in document ST/SG/AC.10/C.4/2018/25 as amended by informal document INF.42 adopted.

## Annex 3, Section 2, Section 3 and Section 4

Document ST/SG/AC.10/C.4/2018/32 and informal document INF.9 adopted except the deletion of the second sentence in A3.3.1.5 (renumbered A3.2.1.7).

## Annex 3, Section 2, Table A3.2.1 and Table A3.2.2

**Document ST/SG/AC.10/C.4/2018/31 and informal document INF.8 adopted with the following modifications:**

Replace all instances of “P203 Read and follow all safety instructions before use” by “P203 Obtain, read and follow all safety instructions before use”.

Table A3.2.2 In column (1), remove the strikethrough of “P201” and “P202” in the first 2 rows, respectively.

**Annex 3, Section 2, Table A3.2.2, Table A3.2.3 and Table A3.2.4**

**Consequential amendments in document ST/SG/AC.10/C.4/2018/25 adopted.**

**Annex 3, Section 2, A3.2.3.5, A3.2.3.9 and Table A3.2.3**

**Document ST/SG/AC.10/C.4/2018/30 and informal document INF.7 adopted.**

**Annex 3, Section 3**

**Document ST/SG/AC.10/C.4/2018/23 adopted.**

**Consequential amendments in document ST/SG/AC.10/C.4/2018/25 adopted.**

**Document ST/SG/AC.10/C.4/2018/30 and informal document INF.7 adopted with the following modification:**

A3.3.2.4.1 In (a) replace “P316” by “P317”.

**Document ST/SG/AC.10/C.4/2018/31 and informal document INF.8 adopted with the following modifications:**

Replace all instances of “P203 Read and follow all safety instructions before use” by “P203 Obtain, read and follow all safety instructions before use”.

**Annex 4, Table A4.3.9.1**

In the entry for “Vapour pressure”, amend the last item of the list to read as follows:

“- the saturated vapour concentration (*SVC*) in ml/m<sup>3</sup> or in g/m<sup>3</sup> (=mg/l) may be indicated in addition. The saturated vapour concentration can be estimated as follows:

$$SVC \text{ in ml/m}^3: \quad SVC = VP \cdot c_1$$

$$SVC \text{ in g/m}^3: \quad SVC = VP \cdot MW \cdot c_2$$

where

- *VP* is the vapour pressure in hPa (=mbar)
- *MW* is the molecular weight in g/mol and
- *c*<sub>1</sub> and *c*<sub>2</sub> are conversion factors where  $c_1 = 987.2 \frac{\text{ml}}{\text{m}^3 \cdot \text{hPa}}$  and  $c_2 = 0.0412 \frac{\text{mol}}{\text{m}^3 \cdot \text{hPa}}$ ”

(Reference document: ST/SG/AC.10/C.4/2018/27 as amended by informal document INF.44, as amended)

In the entry for “Relative vapour density”, amend the last item of the list to read as follows:

“- for liquids, the relative density ( $D_m$ ) of the vapour/air-mixture at 20 °C (air = 1) may be indicated in addition. It can be calculated as follows:

$$D_m = 1 + (VP_{20} \cdot (MW - MW_{air}) \cdot c_3)$$

where

- $VP_{20}$  is the vapour pressure at 20 °C in hPa (=mbar)
- $MW$  is the molecular weight in g/mol
- $MW_{air}$  is the molecular weight of air,  $MW_{air} = 29$  g/mol
- $c_3$  is a conversion factor,  $c_3 = 34 \cdot 10^{-6} \frac{\text{mol}}{\text{g-hPa}}$ ,

(Reference document: ST/SG/AC.10/C.4/2018/27 as amended by informal document INF.44, as amended)

#### **Annex 4, Table A4.3.9.2**

In the third column of the entry for “2.8”, amend the first item of the list to read as follows:

“- for the SADT (self-accelerating decomposition temperature), see the entry for the decomposition temperature in Table A4.3.9.1”

(Reference document: ST/SG/AC.10/C.4/2018/27 as amended by informal document INF.44, as amended)

**Document ST/SG/AC.10/C.4/2018/23 adopted.**

**Consequential amendments in document ST/SG/AC.10/C.4/2018/25 adopted.**

## Annex II

### Programme of work of the Sub-Committee for 2019-2020

#### 1. Classification criteria and related hazard communication, including:

- (a) Review of Chapter 2.1 (Explosives) of the GHS  
Lead country: Sweden  
Mandate/Terms of reference: informal document INF.43/Rev.1 (thirty-sixth session) and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraphs 28 and 29)
- (b) Tests for oxidizing liquids and oxidizing solids  
Lead country: France  
Focal point: TDG Sub-Committee  
Mandate/Terms of reference: informal document INF.22 (thirty-sixth session) and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraph 19)
- (c) Use of non-animal testing methods for classification of health hazards  
Lead countries: Netherlands and United Kingdom  
Mandate/Terms of reference: informal document INF.27/Rev.1 (thirty-sixth session) and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraph 34)
- (d) Practical classification issues  
Lead country: United States of America  
Focal point: Informal correspondence group on practical classification issues  
Mandate/Terms of reference: informal document INF.38/Rev.1 (thirty-sixth session) and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraph 38)
- (e) Aspiration hazard  
Lead organizations: IMO and IPPIC  
Mandate/Terms of reference: informal document INF.33 (thirty-second session), report of the Sub-Committee on its thirty-second session (ST/SG/AC.10/C.4/64, paragraph 67) and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraph 40)
- (f) Nanomaterials  
Lead country: France  
Mandate/Terms of reference: informal document INF.27 (thirty-second session) and report of the Sub-Committee on its thirty-second session (ST/SG/AC.10/C.4/64, paragraph 32) and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraph 42)

- (g) Simultaneous classification in physical hazard classes and precedence of hazards

Lead country: Germany

Mandate/Terms of reference: ST/SG/AC.10/C.4/2018/21, as amended and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraph 74)

**2. Hazard communication issues, including:**

- (a) Practical labelling issues

Lead organization: CEFIC

Mandate/Terms of reference: informal document INF.47/Rev.1 (thirty-sixth session) and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraphs 44-46)

- (b) Improvement of Annexes 1 to 3 and further rationalization of precautionary statements

Lead country: United Kingdom

Mandate/Terms of reference: informal document INF.25 (thirty-sixth session) and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraph 49)

- (c) Review of Annex 4, sub-section A4.3.3.2.3

Lead organization: CEFIC

Mandate/Terms of reference: report of the Sub-Committee on its thirty-second session (ST/SG/AC.10/C.4/64, paragraph 48) and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraph 55)

**3. Implementation issues, including:**

- (a) Assessing the possible development of a list of chemicals classified in accordance with the GHS

Lead country: Canada and United States of America

Mandate/Terms of reference: informal document INF.40 (thirty-second session) and report of the Sub-Committee on its thirty-second session (ST/SG/AC.10/C.4/64, paragraph 53)

- (b) Facilitate the coordinated implementation of the GHS in countries and monitor the status of implementation of the GHS

- (c) Cooperate with other bodies or international organizations responsible for the administration of international agreements and conventions dealing with the management of chemicals to give effect to the GHS through such instruments

**4. Guidance on the application of the GHS criteria, including:**

- (a) Development of examples illustrating application of criteria and any related hazard communication issues, as needed

Lead country: United States of America

Focal point: Informal correspondence group on practical classification issues

Mandate/Terms of reference: informal document INF.38/Rev.1 (thirty-sixth session) and report of the Sub-Committee on its thirty-sixth session (ST/SG/AC.10/C.4/72, paragraph 38)

- (b) Alignment of guidance in Annex 9 (section A9.7) and Annex 10 of the GHS with the criteria in Chapter 4.1

Lead organization: ICMM

Mandate/Terms of reference: informal document INF.25 (twenty-fourth session) and report of the Sub-Committee on its thirty-second session (ST/SG/AC.10/C.4/64, paragraph 66)

**5. Capacity building, including:**

- (a) Review reports on training and capacity-building activities
- (b) Provide assistance to United Nations programmes and specialized agencies involved in training and capacity-building activities, such as UNITAR, ILO, FAO and WHO/IPCS through the development of guidance materials, advice with respect to their training programmes and identification of available expertise and resources

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