



**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 twentieth session**

held in Geneva from 7 to 9 December 2010

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Report

I. Attendance

1. The Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals held its twentieth session from 7 to 9 December 2010, with Ms. Kim Headrick (Canada) as Chairperson and Mr. Thomas Gebel (Germany) as Vice-Chairperson.
2. Experts from the following countries took part in the session: Argentina, Australia, Austria, Belgium, Canada, China, Finland, France, Germany, Italy, Japan, Netherlands, Norway, Poland, Portugal, Republic of Korea, Russian Federation, Serbia, South Africa, Sweden, United Kingdom of Great Britain and Northern Ireland and United States of America.
3. Under rule 72 of the rules of procedure of the Economic and Social Council, observers from the following countries also took part: Gambia, Malaysia, Switzerland and Thailand.
4. Representatives of the United Nations Institute for Training and Research (UNITAR) and of the following specialized agencies were present: International Atomic Energy Agency (IAEA), International Labour Organization (ILO), International Maritime Organization (IMO) and World Health Organization (WHO).
5. The following intergovernmental organizations were also represented: Council of Europe, European Union and Organisation for Economic Co-operation 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); European Cosmetic, Toiletry and Perfumery Association (COLIPA); European Industrial Gases Association (EIGA); Federation of European Aerosol Associations (FEA); Fuel Cell and Hydrogen Energy Association (FCHEA); International Association for Soaps, Detergents and Maintenance Products (AISE); International Council of Chemical Associations (ICCA); International Council on Mining and Metals (ICMM); Industrial Federation of Paints and Coats of Mercosul (IFPCM); International Confederation of Plastics Packaging Manufacturers (ICPP); International Paint and Printing Ink Council (IPPIC); International Petroleum Industry Environmental Conservation Association (IPIECA); Responsible Packaging Management Association of Southern Africa (RPMASA); Soap and Detergent Association (SDA); and Sporting Arms and Ammunition Manufacturers' Institute (SAAMI).

II. Adoption of the agenda (agenda item 1)

Documents: ST/SG/AC.10/C.4/39 (Secretariat)
ST/SG/AC.10/C.4/39/Add.1 (Secretariat)

Informal documents: INF.1, INF.2 and INF.9 (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.43).

III. Updating of the third revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) (agenda item 2)

A. Physical and health hazards

1. Chemically unstable gases and gas mixtures

Documents: ST/SG/AC.10/C.4/2010/9 (Germany on behalf of the correspondence group)
ST/SG/AC.10/C.4/2010/10 (Germany on behalf of the correspondence group)

Informal documents: INF.8 and INF.16 (Germany)
INF.31 (United States of America)
INF.36 (Secretariat)
INF.8/Rev.1 (United States of America)

8. Noting that the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee) had agreed to introduce a new test for the determination of the chemical instability of gases and gas mixtures in the Manual of Tests and Criteria, the Sub-Committee decided to endorse that decision and to adopt the related criteria for the classification and labelling of unstable gases and gas mixtures and the consequential amendments to other parts of the GHS, with the additional minor editorial changes listed under paragraph 3 of INF.8/Rev.1.

9. Consequently, the Sub-Committee adopted the proposals in ST/SG/AC.10/C.4/2010/10 (as amended by INF.16, INF.31 and INF.8/Rev.1); ST/SG/AC.10/C.4/2010/9 (as amended by INF.31 and INF.8/Rev.1) as well as the consequential amendments to Annexes 1, 2 and 3 of the GHS listed in INF.8/Rev.1 (see annex I).

2. Test results on UN Test N.5 and classification of substances which in contact with water release toxic gases

Informal documents: INF.19 (Germany)
INF.38 (United States of America)

10. There was general support for pursuing the work on UN Test N.5 during the next biennium (see annex II).

11. The expert from China explained that the test method used in his country was based on the measurement of the volume of the gas released for determining the gas evolution rate and said that this could lead to different results which might not be comparable to those obtained using other test methods. He requested detailed information about the tests performed by the Federal Institute for Material Research and Testing (BAM) described in INF.19 and volunteered to share the experience and data available from Chinese national laboratories on the use of Test N.5.

12. The expert from Germany said that the experts whose contact details were indicated in paragraph 17 of INF.19 could be contacted directly for any additional information about the tests performed by BAM.

13. The experts from Germany and France welcomed any input from national testing laboratories and competent authorities on the use of Test N.5, as well on the test results obtained using this test.

14. Regarding the proposal in INF.38 for the development of criteria for the classification of substances which in contact with water release toxic gases, the Sub-Committee agreed that work should continue over the next biennium (see annex II).

3. Differences in classification and labelling of dichloromethane and ferrosilicon (with 30% or more but not less than 90% silicon)

Informal document: INF.6 (Russian Federation)

15. Several experts were of the view that the problems related to the classification of substances which in contact with water release toxic gases would probably be solved once the work on the improvement of UN Test N.5 and on the development of classification criteria for these substances was completed. In view of the comments made, the Sub-Committee concluded that no action should be taken at this point on this matter, pending the outcome of the work on UN Test N.5 and on the classification of water-reactive substances.

16. There was no support for the proposal to consider the development of a new hazard class or category in the GHS addressing substances which, while burning, release toxic gases, since most experts considered that nearly every chemical would release toxic gases when burning and that this could not only be attributed to their intrinsic properties but also to other factors such as the conditions under which the combustion occurred (e.g. amount of oxygen present during combustion).

17. The Sub-Committee decided to postpone any further decision on this issue until more data were available on these substances, their intrinsic properties and the conditions under which they may release toxic gases while burning.

4. Proposal to address simple asphyxiants in the GHS

Document: ST/SG/AC.10/C.4/2010/16 (United States of America)

18. The expert from the United States withdrew the document and said that she would continue to work on the development of a proposal to address simple asphyxiants in the GHS during the next biennium.

B. Annexes

1. Revision of Annexes 1, 2 and 3: Precautionary statements

Document: ST/SG/AC.10/C.4/2010/12 (United Kingdom)

Informal documents: INF.3 and INF.43 (United Kingdom)

19. The Sub-Committee adopted the proposal in document ST/SG/AC.10/C.4/2010/12 as amended by INF.43 (see annex I) and agreed that work to further improve Annexes 1, 2 and 3 should continue in the next biennium (see annex II).

2. Alignment of Annex 9 (section A9.7) and Annex 10 with the criteria in Chapter 4.1

Informal document: INF.24 (ICCM)

20. There was general support for the proposal to review section A9.7 of Annex 9 and Annex 10 during the next biennium, in accordance with the terms of reference contained in paragraph 16 (first bullet) of INF.24 (see annex II). The representative of ICCM volunteered to lead a correspondence group on this issue and said that he intended to submit a draft proposal for consideration of the Sub-Committee at its twenty-first session.

21. On the contrary, there was no support for the proposal in the second bullet under paragraph 16. The Sub-Committee felt that more information on what has already been done in relation to the hazard assessment of special inorganic matrix type mixtures was necessary in order to evaluate the need for the development of guidance for inclusion in the GHS, and concluded that this decision might be reconsidered at the end of the next biennium in light of the information provided until then.

C. Miscellaneous proposals

1. Amendments to the GHS adopted in principle by the Sub-Committee at its seventeenth session

Document: ST/SG/AC.10/C.4/2010/6 (Secretariat)

Informal document: INF.10 (Sweden)

22. The Sub-Committee formally adopted the amendments to the GHS contained in the document prepared by the secretariat, as amended by INF.10 (see annex I).

2. Amendment to table 1.5.1 (Chapter 1.5)

Informal document: INF.35 (Sweden)

23. The Sub-Committee considered that more time was needed to study the possible implications of the changes proposed in INF.35. The expert from Sweden said that he would consider submitting a revised proposal for consideration of the Sub-Committee during the next biennium.

3. Terminology issues: “toxicity category” versus “hazard category”

Informal document: INF.41 (IPPIC)

24. The Sub-Committee entrusted the consideration of the proposal by IPPIC to the informal correspondence group on practical classification issues for the next biennium.

IV. Hazard communication issues (agenda item 3)

A. Hazard communication for supply and use of aerosols

Document: ST/SG/AC.10/C.4/2010/13 (United Kingdom/FEA)

Informal documents: INF.11 (United Kingdom/FEA)
INF.33 (Australia)
INF.36 (Secretariat)

25. There was general support for the proposal to consolidate the classification of all aerosols (flammable and non-flammable) in the same chapter of the GHS, and to clarify the note related to exemptions (note 2 in paragraph 2.3.2.1) to make it clear that aerosols do not fall additionally within the scope of some hazard classes (i.e. flammable gases, gases under pressure, flammable liquids and flammable solids) but may still fall within the scope of other hazard classes and their labelling elements.

26. Regarding the hazard communication elements, several experts considered that the proposed new hazard statement should include a mention of the aerosol being contained in a pressurized container.

27. After some discussion, the Sub-Committee agreed to the proposals in document ST/SG/AC.10/C.4/2010/13, with the changes to note 2 under paragraph 2.3.2.1 as proposed in INF.33 and to the amendment of hazard statement H229 (see annex I).

B. Revision of precautionary statement P410 for gases in transportable gas cylinders under pressure

Document: ST/SG/AC.10/C.4/2010/14 (United Kingdom, South Africa and RPMASA)

28. The Sub-Committee adopted the proposal to include a condition for use for P410 (“Protect from sunlight”) when applied to gases under pressure, to clarify the conditions under which this statement may be omitted (see annex I).

C. Hazard communication for gases under pressure

Document: ST/SG/AC.10/C.4/2010/18 (EIGA)

29. Several experts concurred with the representative of EIGA that the word “explode” in hazard statement H280 was not technically correct since it was intended to describe the bursting of the receptacle due to the overpressure created by an increase in temperature of its contents, and not the explosion of the gas contained in the pressure receptacle as a result of a chemical reaction. However, while a few experts considered that referring to bursting of the pressure receptacle would be more appropriate, others indicated that the word “burst” in the hazard statement would not adequately convey the nature of the hazard, and that “explode” was the appropriate term. Some others thought that the terms “rupture” or “rupture violently” might be appropriate.

30. After some exchange of views, and recognizing on one hand that it would be difficult for the Sub-Committee to reach an agreement on this issue at the present session and on the other hand that as a result of the implementation of the GHS, the current wording of H280 was already being printed in labels which were expected to be valid for several years, the representative of EIGA withdrew his proposal and indicated that he would take into account the comments received with a view to submitting a new proposal in the future.

D. Information relating to nanomaterials for inclusion in the Safety Data Sheet

Document: ST/SG/AC.10/C.4/2010/19 (Australia)

Informal documents: INF.25 (European Union)
INF.39 (China)

31. The expert from Australia informed the Sub-Committee about the initial findings of a study commissioned by Safe Work Australia on the classification of carbon nanotubes. She said that the results were currently being peer-reviewed and that it was expected that the final report would be available in 2011. She also indicated that the draft “National Code of Practice for the Preparation of Safety Data Sheets” included a proposal to request information on a number of non-mandatory parameters specifically relevant to nanomaterials.

32. The expert from the United States of America reported that the National Institute for Occupational Safety and Health (NIOSH) had released on 2 December 2010 a draft

document on occupational exposure to carbon nanotubes and nanofibers, which would be open for public comment until 3 February 2011.

33. The representative of the European Union said that Annex II to Regulation (EC) No 1907/2006¹ (REACH Regulation), which laid down the requirements for Safety Data Sheets, currently required information on a set of physico-chemical properties which could be relevant to characterize nanomaterials in toxicological testing, as described in paragraph 2 of INF.25. She added that the European Chemicals Agency was developing guidance on the compilation of Safety Data Sheets.

34. Several experts expressed their appreciation for the progress made at both international and national levels on nanomaterials and requested that the Sub-Committee be kept updated on any further progress on this issue.

E. Work of the correspondence group on labelling of small packagings

Informal document: INF.17 (CEFIC on behalf of the informal working group)

35. The Sub-Committee noted the information provided by CEFIC in INF.17 and agreed that the work on the development of examples of labelling of small packagings should continue during the next biennium (see annex II).

V. Implementation of the GHS (agenda item 4)

A. Implementation issues

1. Implementation of the hazard class “Corrosive to metals” in the supply/use sector

Document: ST/SG/AC.10/C.4/2010/7 (AISE, SDA, IPPIC, CEFIC)

Informal documents: INF.21 (AISE, SDA, IPPIC, CEFIC)
INF.22 (France)
INF.32 (Australia)

36. After some discussion, the Sub-Committee agreed to the proposal in paragraphs 8 and 9 of document ST/SG/AC.10/C.4/2010/7, as amended (see annex I).

37. Some delegations expressed concerns about the decision taken by the Sub-Committee since they considered that it only provided a temporary solution to the problem and could prevent delegations from continuing the work to find a long-term and more suitable solution.

38. Following these concerns, it was made clear that work on the development of a proposal to find a long-term solution to the issues raised in document ST/SG/AC.10/C.4/2010/7 should continue during the next biennium (see annex II).

¹ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

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

Document: ST/SG/AC.10/C.4/2010/20 (Australia)

Informal documents: INF.4 (WHO)
INF.5 (Australia)
INF.14 (CropLife)
INF.20 (CEFIC)

39. The Sub-Committee expressed its appreciation for the work done by the expert from Australia on the development of the survey and on the compilation of results. The expert said that she intended to send the survey to the International Labour Organization and asked other experts to help her in identifying national or international labour organizations worldwide which might be also interested in completing the survey.

40. Recognizing that there were still a number of issues related to the possible development of a global list of classified chemicals that needed to be considered further, the Sub-Committee agreed to the proposal by the expert from Australia in paragraph 11 of document ST/SG/AC.10/C.4/2010/20, to entrust the consideration of the first three items listed under paragraph 12 of that document to a small informal group under the leadership of the expert from the United States of America, who had volunteered to perform this task during the next biennium (see annex II).

41. It was agreed that experts from the TDG Sub-Committee should also be involved in the work and that time should be allocated, to the extent possible, during the sessions of both sub-committees to convene face-to-face meetings between experts from both sub-committees in the course of the next biennium. Experts interested in participating in the work of the small informal group on this issue were invited to contact the head of delegation of the United States of America.

3. Work of the informal correspondence group on practical classification issues

Document: ST/SG/AC.10/C.4/2010/15 (United States of America)

Informal documents: INF.12 (Sweden)
INF.40 (United States of America)

42. The Sub-Committee adopted the proposals to amend the GHS and the examples of classification of mixtures (to be included in UNITAR training documents) contained in ST/SG/AC.10/C.4/2010/15, as amended by INF.40 (see annex I).

B. Reports on the status of implementation

1. Russian Federation

Informal document: INF.7 (Russian Federation)

43. The expert from the Russian Federation said that the activities related to the implementation of the GHS in his country had started seven years ago and that ten national standards for classification and labelling of chemicals in accordance with the GHS had been issued so far. However, he pointed out that in the absence of a Federal Law on chemicals, the GHS could not be officially recognized as being implemented at national level in the Russian Federation.

2. Serbia

Informal document: INF.13 (Serbia)

44. The Sub-Committee noted that the legislation implementing the GHS in Serbia had entered into force on 18 September 2010. The expert from Serbia explained that this legislation was fully compliant with Regulation (EC) 1272/2008² and recalled the deadlines for reclassification and relabelling of substances and mixtures (1 October 2011 and 1 June 2015 respectively). She also mentioned that a number of capacity building and awareness raising activities related to the implementation of the GHS had already been undertaken or were planned in the near future.

3. United States of America

Informal document: INF.29 (United States of America)

45. The expert from the United States of America said that the comments received during the period of public consultation on the proposal by the Occupational Safety and Health Administration (OSHA) for the revision of its Hazard Communication Standard in accordance with the GHS, showed that most stakeholders considered that harmonization with the GHS would improve the quality, consistency and efficiency of the standard. She added that OSHA was currently drafting the final rule which was expected to be published in 2011.

4. Australia

46. The expert from Australia informed the Sub-Committee about the release for public consultation on 7 December 2010, of the “Draft Model Work Health and Safety Regulations” and their related “Model Codes of Practice” which, once adopted, would implement the GHS for the workplace. She explained that hazardous chemicals were covered by Chapter 7 of the draft model regulations, and that labelling of workplace hazardous chemicals and preparation of safety data sheets were addressed in two of its related codes of practice. She concluded that implementation of the GHS in Australia for the workplace would take place by direct reference to the GHS criteria in the regulations.

5. Switzerland

47. The observer from Switzerland informed the Sub-Committee that a revision of ordinances SR 813.11 on chemicals and SR 813.12 on biocidal products had entered into force on 1 December 2010. He explained that the revision of the ordinance on chemicals was mainly intended to allow the placing on the market of consumer products classified and labelled in accordance with the GHS and to establish an overall transitional period for reclassification and labelling of substances (until 1 December 2012) and mixtures (until 1 June 2015), in accordance with European Union’s legislation. He further explained that the revision of the ordinance on biocidal products was intended to authorize biocidal products classified and labelled according to the GHS.

6. European Union

48. The representative of the European Union said that the second adaptation to technical progress of Regulation (EC) No 1272/2008, which was intended to align it with the provisions of the third revised edition of the GHS, had received a favourable opinion in

² Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 6 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

the REACH Committee on 18 October 2010, was now subject to approval by the European Parliament and the Council by 9 February 2011, and was expected to be adopted in the first quarter of 2011.

7. World Health Organization

Informal document: INF.30 (WHO)

49. The representative of the World Health Organization informed the Sub-Committee that the GHS principles had been incorporated for the first time in the 2009 revision of the “WHO Recommended Classification of Pesticides by Hazard” and that, as a consequence of the implementation of the GHS, the revised guidelines now incorporated the GHS hazard categories for acute oral and dermal toxicity and no longer made a distinction between liquid and solid pesticides.

50. He added that, subject to the availability of resources, WHO envisaged to incorporate classifications for other GHS hazard classes (e.g. carcinogenicity, mutagenicity, toxic to reproduction and/or specific target organ toxicity) and intended to prioritize, during the next two years, the classification of the most hazardous pesticides to make full GHS health classifications available.

51. Regarding the International Chemical Safety Cards (ICSCs), he said that GHS classifications had been provided as from 2006 for newly prepared or updated cards since then, and mentioned that for the next two years, the creation of ICSCs for the most hazardous pesticides would be given priority in the selection of chemicals for new ICSCs.

VI. Capacity building (agenda item 6)

Informal document: INF.27 (UNITAR)

52. The representative of UNITAR informed the Sub-Committee about UNITAR/ILO GHS programme activities, including current national projects in Jamaica, Gambia, and Zambia, new projects in Barbados, Congo and Chile that would start in 2011 supported by the Strategic Approach to International Chemicals Management (SAICM) Quick Start Programme Trust Fund, and capacity building activities in China, Indonesia, Malaysia, Philippines and Thailand supported by the European Union.

53. At the regional level, he mentioned that China had hosted a workshop in September 2010 for the countries of Southeast, East and Central Asia and that a regional workshop for Central and Eastern Europe would be hosted by Moldova, likely in 2011.

54. Regarding guidance materials, he indicated that they are available on the UNITAR website, and invited the Sub-Committee to provide comments on the full draft of the advanced GHS training course during March 2011.

VII. Programme of work for the biennium 2011–2012 (agenda item 7)

A. Further alignment of corrosivity criteria in Class 8 of the Model Regulations with the GHS criteria

Documents: ST/SG/AC.10/C.4/2010/11 (Netherlands)
ST/SG/AC.10/C.4/2010/17 (Secretariat)

Informal documents: INF.18 (China)

INF.36 (Secretariat)

INF.42 (United Kingdom on behalf of the lunch-time informal working group)

55. There was general support for the establishment of a joint informal working group between the TDG and the GHS sub-committees to deal with the work on further harmonization of corrosivity criteria in transport regulations and the GHS. However, as regards the proposed terms of reference contained in ST/SG/AC.10/C.4/2010/17, several experts considered that they could be further refined and volunteered to submit a revised proposal to the Sub-Committee for its consideration before the end of the session.

56. The expert from the United Kingdom, on behalf of the informal group on the revision of the draft terms of reference for the work on corrosivity criteria, introduced the following recommendations made by the group for consideration by the Sub-Committee:

- (a) that the GHS expert from the United Kingdom coordinate the work of the joint TDG-GHS informal working group on corrosivity criteria during the next biennium;
- (b) that the work should start by compiling information about available databases, OECD guidelines, etc. and that a first report be provided at the next sessions of both sub-committees in June 2011;
- (c) that subject to the approval of the TDG and GHS sub-committees, an agenda for a face-to-face meeting in December 2011 be proposed (the dates of the meeting are still to be determined).

57. The Sub-Committee agreed to the terms of reference for the work on corrosivity criteria contained in document ST/SG/AC.10/C.4/2010/17, as amended by INF.42, and endorsed the recommendations of the informal group in sub-paragraphs (a) to (c) above (see annex II).

58. The representative of the OECD informed the Sub-Committee that the OECD Working Group on corrosion guidelines was considering the need to revise them. The expert from France said that should this be the case, it would be advisable to make the experts from the TDG and the GHS aware of the progress of the work at OECD level, since both the TDG Regulations and the GHS relied on OECD testing guidelines for corrosivity. He suggested that the drafts of the revised OECD guidelines be made available to the members of the joint TDG-GHS informal working group, on the understanding that they should be kept confidential until their declassification by the OECD, if the OECD so requested.

B. Work on dust explosion hazards

Document: ST/SG/AC.10/C.4/2010/8 (United States of America)

59. The Sub-Committee agreed to the terms of reference proposed in paragraph 6 of document ST/SG/AC.10/C.4/2010/8 (see annex II).

C. Aspiration hazards: review of the viscosity criterion for classification of mixtures

Informal document: INF.28 (IPPIC)

60. The Sub-Committee agreed to include this item in its programme of work for the next biennium on the understanding that IPPIC would lead the work.

D. Consolidated programme of work for 2011–2012

Informal document: INF.15 and INF.15/Rev.1 (Secretariat)

61. The Sub-Committee adopted its programme of work for the next biennium (see annex II) on the basis of a draft prepared by the secretariat with some additional amendments.

VIII. Draft resolution 2011/... of the Economic and Social Council (agenda item 8)

Informal document: INF.34 (Secretariat)

62. The Sub-Committee adopted without modifications, the draft ECOSOC resolution 2011/... on the basis of a draft prepared by the secretariat. The final resolution, as adopted by the Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals, is reproduced as annex IV to the report of the Committee on its fifth session (see ST/SG/AC.10/38).

IX. Election of officers for the biennium 2011–2012 (agenda item 9)

63. On a proposal by the United States of America, the Sub-Committee re-elected Mrs. K. Headrick (Canada) as Chairperson, and Mr. T. Gebel (Germany) and Ms. E. Snyman (South Africa) as Vice-Chairpersons.

X. Other business (agenda item 10)

Informal documents: INF.23 (RPMASA)
INF.26 (AEISG)
INF.37 (USFCC)

64. The Sub-Committee noted the information provided by the representative of RPMASA on the second international transport of dangerous goods and environment conference, granted consultative status to AEISG, and noted the change in name of USFCC, from “US Fuel Cell Council” to “Fuel Cell and Hydrogen Energy Association (FCHEA)”.

65. The representative of the OECD announced the release on 6 December 2010 of a new version of the OECD Global Portal to information on Chemical Substances (eChemPortal), which now allowed simultaneous searching of reports and datasets by chemical property and not only by chemical name or number.

66. He explained that four databases currently linked to the eChemPortal contained classifications based on the GHS: two national databases (New Zealand and Japan), the European Chemical Substances Information System (ESIS) and the chemical safety information database from the International Programme on Chemical Safety (IPCS INCHEM database).

67. He invited those countries or organizations having similar databases to contact the OECD secretariat in case they wish to have them linked to the eChemPortal.

68. The expert from the Netherlands welcomed the information provided by the representative of the OECD and requested that information about meetings dealing with

work related to the OECD Test Guidelines be communicated to the experts of the TDG and GHS sub-committees.

XI. Adoption of the report (agenda item 11)

69. The Sub-Committee adopted the report on its twentieth session and its annexes on the basis of a draft prepared by the secretariat.

Annex I

Adopted texts

A. Draft amendments to the third revised edition of the GHS

Document ST/SG/AC.10/C.4/2010/9 adopted as amended by informal documents INF.31 and INF.8/Rev.1 as follows:

2.2.2.2 Delete the square brackets and amend Table 2.2.2 to read as follows:

“Table 2.2.2: Criteria for chemically unstable gases

| Category | Criteria |
|----------|--|
| 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 |

”.

2.2.3 In Table 2.2.3:

(a) Under “Chemically unstable gas”, replace:

- “Additional category 1” and “Additional category 2” with “Category A” and “Category B” respectively; and
- “No symbol” and “No signal word” with “No additional symbol” and “No additional signal word”

(b) Amend the end of the hazard statement for Category B to read: “at elevated pressure and/or temperature”.

2.2.4.2 Amend decision logic 2.2 (b) as follows:

In the second box on the left, amend the text to read: “Is it chemically unstable at 20 °C and a standard pressure of 101.3 kPa?”

In the third box on the left, amend the text to read: “Is it chemically unstable at a temperature greater than 20 °C and/or a pressure greater than 101.3 kPa?”.

In the boxes on the right, replace “Additional category 1” and “Additional category 2” with “Category A” and “Category B” respectively and replace “No symbol No signal word” with “No additional symbol No additional signal word”.

2.2.4.3 Delete “[ST/SG/AC.10/C.4/2010/10 (www.unece.org/trans/main/dgdb/dgsubc4/c42010.html)]” and delete the remaining square brackets.

Document INF.8/Rev.1, consequential amendments to Chapter 1.2 and Annexes 1, 2 and 3 of the GHS: adopted

Document ST/SG/AC.10/C.4/2010/12 adopted as amended by informal document INF.43 as follows:

For **P244**, replace “Keep values” with “Keep valves”

For **P340**, replace “and ensure comfortable breathing” with “keep comfortable for breathing”

For **P363**, in the second paragraph, amend the end to read: “categories 1, 2, 3, 4, Skin irritation (chapter 3.2), category 2, and skin sensitisation (chapter 3.4) 1, 1A, 1B”.

For **P361+P364**, insert “and wash it before reuse” after “clothing”

Replace the amendment for **P308+P313** with the following:

“P308+P311

Add a row under P306 + P360, containing the new combined precautionary statement, P308 + P311, “If exposed or concerned: Call a POISON CENTER/ doctor/...”

Under columns 3 and 4 apply this to specific target organ toxicity, single exposure (chapter 3.8), categories 1 and 2.

Add the condition for use “Manufacturer/supplier or the competent authority to specify the appropriate source of emergency medical advice” to column 5.

Add this combined statement to the entries for Specific target organ toxicity, single exposure (chapter 3.8), categories 1 and 2 in A3.3.5.1, together with the above condition for use.”

Consequential amendment: Delete all references to “P307+P311” and “P309+P311” in the GHS.

Document ST/SG/AC.10/C.4/2010/6 adopted as amended by informal document INF.10 as follows:

2.3.2.2 The amendment should read as follows:

“2.3.2.2 Amend the Note to read as follows:

“NOTE: Aerosols containing more than 1% flammable components or with a heat of combustion of at least 20 kJ/g, which are not submitted to the flammability classification procedures in this chapter, should be classified as Aerosols, Category 1.””

Document ST/SG/AC.10/C.4/2010/13 adopted as amended by informal document INF.33, with some additional modifications, as follows:

2.3.2.1 In Note 2, amend the end of the sentence to read: “...of other hazard classes, including their labelling elements”.

Wherever it appears, amend hazard statement H229 to read: “Pressurized container. May burst if heated.”

Document ST/SG/AC.10/C.4/2010/14 adopted with the following modification:

Table A3.2.4, in the condition for use to be included in column 5, in the French text, at the end, replace “ne se décomposent ou ne se polymérisent (lentement)” with “ne se décomposent (lentement) ou ne se polymérisent”.

Document ST/SG/AC.10/C.4/2010/7 adopted with the following modification:

1.4.10.5.5 Amend the new third paragraph to read as follows:

“Where a substance or mixture is classified as corrosive to metals but not corrosive to skin and/or eyes, the competent authority may choose to allow the hazard pictogram linked to corrosive to metals to be omitted from the label of such substances or mixtures which are in the finished state as packaged for consumer use.”.

Document ST/SG/AC.10/C.4/2010/15 adopted as amended by informal document INF.40 as follows:

3.1.3.6.2.3 The amendment should read: “Insert “relevant” before “ingredient(s)” (first two times) and delete “total” before “percentage”.”

A4.3.2.1.2 In the first sentence, replace “and category” with “and category/subcategory”.

Amend the second sentence to read: “For example, flammable liquid, Category 1 and skin corrosive Category 1A.”

B. Draft amendments to the fifth revised edition of the Manual of Tests and Criteria**Document ST/SG/AC.10/C.4/2010/10 as amended by informal documents INF.16, INF.31 and INF.8/Rev.1, adopted as follows:**

3x.3.1.1 In the first sentence, replace “are considered as chemically stable” with “are not considered as chemically unstable”.

3x.3.2.1 In the third sentence, replace “are considered as chemically stable” with “are not considered as chemically unstable”.

In Table 3x.1:

- wherever it appears, replace “Cat. 1” with “Cat. A” and “Cat. 2” with “Cat. B”;
- For ethylene oxide, replace the text in the last column by the following: “15 mole % for mixtures containing rare gases. 30 mole % for other mixtures”.

In Table 3.x.2, in the entry for 3.0 mol %, insert “200.0” under the heading “CH₄”

3x.4.3.2 (a) In the first paragraph, at the beginning of the first sentence, replace “25°C” with “20°C” and “(101 kPa)” with “(101.3 kPa)”

In the second paragraph, replace “chemically unstable at ambient temperature and pressure” with “chemically unstable at 20 °C and a standard pressure of 101.3 kPa”;

3x.4.3.2 (b) In the second paragraph, replace “chemically unstable at elevated temperature and/or pressure” with “chemically unstable at a temperature greater than 20 °C and/or a pressure greater than 101.3 kPa”;

3x.4.5.1 Wherever it appears, replace:

- “25°C” par “20°C”;
- “chemically unstable at ambient temperature and pressure” with “chemically unstable at 20 °C and a standard pressure of 101.3 kPa”;

- “chemically unstable at elevated temperature and/or pressure” with “chemically unstable at a temperature greater than 20 °C and/or a pressure greater than 101.3 kPa”; and
- “(101 kPa)” with “(101.3 kPa)”

3x.4.5.2 In the Note, replace “Category 1” with “Category A”

Annex II

Programme of work for the biennium 2011–2012

1. Work on classification criteria and implementation classification issues

- (a) Explosives and related matters, including:
Classification of desensitized explosives
Focal point: TDG Sub-Committee
Lead country: Germany
Mandate/Terms of reference: ST/SG/AC.10/C.4/26 (paragraphs 15-17) and ST/SG/AC.10/C.4/38 (paragraph 13)
- (b) Corrosion to metals
Consider pitting corrosion and suitability of Test C.1 for solids
Focal point: TDG Sub-Committee
Lead country: France
Mandate/Terms of reference: INF.16 (16th session)
- (c) Water activated toxicity
Work on Test method N.5 for the assessment of water activated toxicity, in relation to:
- (i) the accurate and precise measurement of gas evolution rates for substances which in contact with water emit flammable or toxic gases;
 - (ii) its possible application to substances which in contact with water emit corrosive gases;
 - (iii) the improvement of the reproducibility of test results; and
 - (iv) its suitability as a new method for the development of classification criteria, as appropriate;
- Focal point: TDG Sub-Committee
Lead country: Germany
Mandate/Terms of reference: ST/SG/AC.10/C.4/2008/19 (paragraph 6), INF.18 (16th session) paragraph 8, INF.19 (20th session), INF. 38 (20th session) and paragraphs 10 and 14 of the present report
- (d) Classification of oxidizing solids
- (i) Improvement of Test method O.1 as regards:
 - the replacement of potassium bromate as the reference substance for the test by a less hazardous substance;
 - the use of a method based on a gravimetric procedure instead of the subjective measurement of the burning time as a more objective means of assessing the results;

- (ii) Interpretation of the concept of “known experience” as used in the context of the UN Model Regulations (Chapter 2.5, paragraph 2.5.2.1.1), the Manual of Tests and Criteria (section 34) and the GHS (Chapter 2.14, paragraph 2.14.4.2);
- (iii) Consideration of other factors that may have an influence on the classification results such as friability and particle size;

Focal point: TDG Sub-Committee

Mandate/Terms of reference: ST/SG/AC.10/C.3/74 (paragraphs 102–106) and ST/SG/AC.10/C.4/38 (paragraph 18)

- (e) Editorial revision of Chapters 3.2 and 3.3 (skin corrosion/irritation)
 - (i) Consider the detailed review documents prepared by the OECD expert groups during the development of Chapters 3.2 and 3.3;
 - (ii) Editorially revise Chapters 3.2 and 3.3 to improve clarity and user-friendliness of the criteria;
 - (iii) Examine whether particular criteria need further alignment/adjustment with respect to the internal consistency of Chapters 3.2 and 3.3 and develop proposals for any minor necessary amendments;
 - (iv) Provide guidance on the evaluation of data on skin and eye irritation from studies conducted with more than three animals;

Lead country: Germany

Mandate/Terms of reference: INF.42 (16th session); ST/SG/AC.10/C.4/2008/22; ST/SG/AC.10/C.4/38 (paragraph 27) and INF.41 (19th session)

- (f) Work of the informal correspondence group on practical classification issues on matters related to the classification of substances and mixtures

Focal point: Informal correspondence group on practical classification issues

Lead country: United States of America

Mandate/Terms of reference: INF.39 (16th session)

- (g) Corrosivity criteria: Further alignment of corrosivity criteria in Class 8 of the UN Model Regulations with the GHS criteria
 - (i) Verify the definition of “skin destruction” as mentioned in the Model Regulations on the transport of dangerous goods complemented with references to the OECD test guidelines. If the definition is not aligned with paragraph 3.2.2.4.1 in Chapter 3.2 of the GHS, propose appropriate improvements;
 - (ii) Identify and analyse the discrepancies between assignment to sub-categories 1A, 1B and 1C, based on in vitro and in vivo testing and alternative approaches (bridging principles, mixtures calculations, pH...);
 - (iii) Identify differences in assignment to categories in lists provided by different regulations and guidance documents for a few representative common substances. Analyse the underlying data and origin of these differences and use these results for the work under sub-paragraphs (i), (ii) and (iv);
 - (iv) Check the way OECD guidelines are referenced and their relevance;
 - (v) Report findings and make recommendations that meet the needs of all sectors with the aim of achieving consistent classification outcomes for skin corrosivity;

Focal point: Joint (TDG-GHS) informal working group on corrosivity criteria

Coordinator: United Kingdom

Mandate/Terms of reference: INF.42 (20th session). See also paragraph 57 of the present report.

- (h) Dust explosion hazards
 - (i) Continue to compile and analyze the dust explosion hazard survey responses received from the heads of delegation of GHS Sub-Committee member countries and NGO representatives;
 - (ii) Identify common themes in the responses and missing information;
 - (iii) Determine the follow-up required to capture any missing information;
 - (iv) Determine what and how information (if any) should be conveyed in the GHS;

Lead country: United States of America

Mandate/Terms of reference: ST/SG/AC.10/C.4/2010/8 and paragraph 59 of the present report

- (i) Aspiration hazard: viscosity criterion for classification of mixtures

Lead organization: IPPIC

Mandate/Terms of reference: INF.28 (20th session) and paragraph 60 of the present report

2. Proposals addressing hazard communication issues

- (a) Revision of section 9 of Annex 4 of the GHS

Lead country: Germany

Mandate/Terms of reference: ST/SG/AC.10/C.4/38 (paragraph 38) and INF.40 (19th session)

- (b) Labelling of small packagings

Development of guidance and/or examples on the application of the general principles for the labelling of small packagings

Lead organization: CEFIC

Mandate/Terms of reference: ST/SG/AC.10/C.4/2008/26 (paragraph 5), as amended by INF.41 (16th session), and paragraph 35 of the present report

- (c) Improvement of Annexes 1, 2 and 3 of the GHS

Pursue work to further improve Annexes 1, 2 and 3 of the GHS, following the workstreams hereafter, with the first two given priority:

- (i) Workstream 1: to develop proposals to rationalize and improve the usability of hazard and precautionary statements, including proposals to eliminate redundancies among these statements;
- (ii) Workstream 2: to adjust as appropriate the precautionary statements for physical hazards, their allocation to hazard classes and categories, and their conditions for use;

- (iii) Workstream 3: to improve the presentation of Annexes 1, 2 and 3 of the GHS, taking into account the intended audiences, uses and purposes of the GHS;

Lead country: United Kingdom

Mandate/Terms of reference: INF.43, Part 2 (20th session) and paragraph 19 of this report.

- (d) “Corrosion to metals” versus “skin/eye corrosion”
- (i) Develop possible permanent solutions to address the identified issues associated with the adoption of the hazard class “corrosive to metals” in the supply/use sector (refer to ST/SG/AC.10/C.4/2010/7);
- (ii) Explore the workability of having different pictograms to distinguish between “corrosive to metals” and “skin/eye corrosion” as proposed in INF.22 (20th session);

Lead organisation: AISE

Mandate/Terms of reference: paragraph 38 of the present report

3. Implementation issues

- (a) Consider any proposal addressing implementation issues, including:
- (i) those resulting from the work of the informal correspondence group on implementation issues

Lead country: Australia

Mandate/Terms of reference: ST/SG/AC.10/C.4/28 (annex II) and ST/SG/AC.10/C.4/32 (paragraph.72).

- (ii) those related to the work of the informal correspondence group on the possible development of a global list of chemicals classified according to the GHS, addressing:
- the principles to guide the development of a global list of GHS classified chemicals, including how priorities should be established;
 - What chemicals should be the focus of work for classification according to the GHS, considering those chemicals possessing hazards of serious health, physical and/or environmental concern; those most commonly used and transported worldwide; and which end-points should be covered;
 - the interim steps such as the development of a proposal on functionalities that would increase the efficacy of the OECD eChemPortal regarding the current GHS classification of chemicals in existing lists;

Lead country: United States of America

Mandate/Terms of reference: ST/SG/AC.10/C.4/2010/20 (paragraph 12) and paragraph 40 of this report

- (iii) Alignment of 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: INF.24 (20th session) paragraph 16, first bullet and paragraph 20 of the present report

- (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 so as to give effect to the GHS through such instruments

4. Development of guidance on the application of the GHS criteria

- (a) Consider any proposal for the development of guidance on the application of GHS criteria
- (b) Work of the informal correspondence group on practical classification issues on matters related to the clarification of the application of the GHS criteria through, for example:
 - (i) development of examples illustrating application of criteria and any related hazard communication issues, as needed, and
 - (ii) development of guidance to address the needs of IMO as regards the information to be included in the SDS

Focal point: Informal correspondence group on practical classification issues

Lead country: United States of America

Terms of reference: INF.39 (16th session) and ST/SG/AC.10/C.4/38 (paragraphs 73–76).

5. Capacity building

- (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
-