United Nations ST/SG/AC.10/C.4/42

Secretariat

Distr.: General
15 July 2011

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 twenty-first session

held in Geneva from 27 to 29 June 2011

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Annex

Report

I. Attendance

1. The Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals held its twenty-first session from 27 to 29 June 2011, with Ms. Kim Headrick (Canada) as Chairperson and Ms. Elsie Snyman and Mr. Thomas Gebel (Germany) as vice-chairpersons.

2. Experts from the following countries took part in the session: Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Norway, Poland, Portugal, Qatar, Republic of Korea, Russian Federation, South Africa, Spain, Sweden, United Kingdom of Great Britain and Northern Ireland, United States of America and Zambia.

3. Under rule 72 of the rules of procedure of the Economic and Social Council, observers from the following countries also took part: Philippines, Switzerland and Thailand.

4. Representatives of the United Nations Institute for Training and Research (UNITAR) and of the following specialized agencies were present: 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; European Chemical Industry Council (CEFIC); Dangerous Goods Advisory Council (DGAC); Industrial Federation of Paints and Coats of Mercosul (IFPCM); International Association for Soaps, Detergents and Maintenance Products (AISE); International Council of Chemical Associations (ICCA); International Council on Mining and Metals (ICMM); 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 Soap and Detergent Association (SDA).

II. Adoption of the agenda (agenda item 1)

Documents: ST/SG/AC.10/C.4/40 (Secretariat)
ST/SG/AC.10/C.4/40/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.22).

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

A. Physical hazards

1. Work of the Sub-Committee of Experts on the Transport of Dangerous Goods on its thirty-ninth session

Informal document: INF.20 (Secretariat)

8. The Sub-Committee took note of the work of the TDG Sub-Committee on classification and testing of explosives, corrosivity criteria and on the improvement of the requirements concerning specifications of the marks, labels and placards prescribed by transport regulations.

9. On the difficulty in carrying out some of the tests in the Manual of Tests and Criteria, as described in paragraphs 10 to 15 of INF.20, the Sub-Committee endorsed the recommendation made by the TDG Sub-Committee to review the tests in Parts I and II (in particular Tests Series 6 and 8). Sub-Committee experts were invited to participate in that work either by contacting directly the chairperson of the TDG Working Group on Explosives (Mr. De Jong: ed.dejong[at]tno.nl) or through their counterparts in the TDG Sub-Committee.

2. Substances and mixtures with explosive properties which are exempted from classification as explosives

Informal documents: INF.11 (Germany/United States of America)
INF.20, paragraph 16 (Secretariat)

10. There was general agreement on the need to address the issue raised in INF.11 and on the fact that the note in INF.11, with some additional amendments, could provide a short-term solution to the problem. However, some experts considered that being at the beginning of its biennium of work, the Sub-Committee still had time to work on a long-term solution before adopting the proposal in INF.11.

11. Some experts thought that the TDG Sub-Committee, as the focal point for physical hazards, should be mandated to develop a proposal suitable for all sectors while others considered that this was not appropriate given that the issue raised in INF.11 was not a problem for the transport sector.

12. The expert from Germany welcomed feedback from other experts on how to improve the note. She said that she intended to submit a revised proposal to the next session of the Sub-Committee on the understanding that, if adopted, the Sub-Committee would be able to reconsider its decision if a long-term solution was developed before the end of the current biennium.

3. Self-acceleration decomposition temperature (SADT)

Informal document: INF.18 (China)

13. Some experts considered that the SADT should not be used to define the production conditions of a substance or mixture but as a valid measure to ascertain its thermal stability and to determine the need for control temperature provisions during storage and transport.

14. Others considered that the GHS was not intended to define the production conditions for any chemical and therefore thought that the issue was outside the scope of the GHS. Some others on the contrary were of the opinion that the use of the SADT for that purpose

could be considered on condition that test data were provided and deemed appropriate to address this issue in the Safety Data Sheet.

15. The expert from China was invited to further define the scope of the proposal and to reconsider it on the basis of the comments made during the discussion.

4. Dust explosion hazards

Informal document: INF.12 (United States of America on behalf of the correspondence group)

16. On the discussions regarding options 1, 2 and 3 in INF.12, the expert from the United States informed the Sub-Committee that the group appeared to be most in favour of option 2, i.e. to provide guidance on how to communicate dust explosion hazards in section A4.3.2.3 of the Safety Data Sheet (Annex 4 of the GHS) and said that the group would start to work on its development.

17. She noted, however, that some experts were in favour of creating a separate chapter in the GHS containing more detailed information on the conditions under which a dust explosion hazard could be encountered and indicated that work in this direction will be progressed.

B. Health hazards

Skin corrosion/irritation and serious eye damage: Guidance on evaluation of data from studies with more than three animals

Document: ST/SG/AC.10/C.4/2011/2 (Germany)

18. In view of the comments made by some experts on the proposal in paragraphs 8 and 9 of the document, the Sub-Committee requested the expert from Germany to bring the comments to the attention of the correspondence group and to come back with a revised text before the end of the session. The revised text proposed by the group (concerning amendments to new section 3.3.5) was adopted by the Sub-Committee (see annex).

19. On the follow-up to the work of the group, the expert from Germany indicated that an informal document consolidating all the proposals already agreed by the group would be submitted to the next session of the Sub-Committee prior to its submission as a formal document to the June 2012 session. He also said that the group had identified the need for the deletion of a testing requirement in chapters 3.2 and 3.3 but considering that changes to the criteria were outside the scope of its mandate, the group had agreed to include that proposal in a separate formal document to be submitted for consideration by the Sub-Committee at its December 2011 session.

C. Environmental hazards

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

Informal document: INF.4 (ICMM)

20. The Sub-Committee took note of the request for nominations for the informal correspondence group led by ICMM and noted that ICMM intended to organize a written technical discussion round starting on 1 September 2011.

D. Annexes

Improvement of Annexes 1, 2 and 3 of the GHS

Informal document: INF.8 (United Kingdom on behalf of the correspondence group)

21. The expert from the United Kingdom informed the Sub-Committee that the group would continue work on the rationalization of precautionary statements and would start addressing the development of guiding principles for their selection (e.g. precedence rules, conditions for use) and the improvement of precautionary statements related to physical hazards. He invited experts on physical hazards who are not yet involved to contribute to the work.

22. On the improvement of the presentation of Annexes 1, 2 and 3 in the GHS, he said that the group would start considering proposals to address this work stream during the current biennium.

E. Miscellaneous proposals

1. Correction to paragraph 1.3.2.4.6 of the GHS

Document: ST/SG/AC.10/C.4/2011/1 (Germany)

23. The correction to paragraph 1.3.2.4.6 proposed by Germany was adopted with some additional amendments (see annex).

24. Some experts proposed further corrections to the last sentence of the paragraph but the Sub-Committee considered that more time was needed to consider their implications and requested the secretariat to prepare a formal document for the next session.

2. Assessment of alloys and other inorganic matrix-type substances

Informal document: INF.5 (ICMM)

25. Some experts questioned the need to develop specific guidance for alloys arguing that the GHS does not currently include any guidance for any other types of mixtures. Others did not see where the boundaries would be between hazard and risk assessment approaches and requested that this be taken into account during the discussions.

26. The representative of ICMM explained that alloys do not behave like simple mixtures given that the release of metal ions differs from one alloy to another depending on composition and therefore classification cannot be derived from constituents, as is the case for other mixtures. He suggested that the work could start with the assessment of hazards for environmental endpoints, for which guidance has been developed based on already validated protocols, leaving health hazards for a later stage.

27. The Sub-Committee considered, however, that more information about the exact scope of the work was needed before a decision could be made.

IV. Hazard communication issues (agenda item 3)

A. Fire extinguishers

Informal document: INF.3 (Argentina)

28. Several experts were of the view that fire extinguishers were already covered under Chapter 2.5 of the GHS (Gases under pressure) and therefore they did not see the need for additional labelling provisions. They also noted that fire extinguishers were transported under a specific UN number (UN 1044) and that they were currently exempted from inland transport regulations (at least in Europe) under certain conditions. It was also noted that the requirement for additional labelling was not justified from a safety point of view since no problems had been reported with the current situation.

29. Others on the contrary thought that the proposal needed to be considered further and that it could be useful to have some information on the extinguisher itself indicating, for example, that it should not be stored under high temperatures.

30. The Sub-Committee invited the expert from Argentina to consider developing his proposal further taking into account the comments received.

B. Hazard communication in the supply/use sector for substances and mixtures “Corrosive to metals”

Informal document: INF.10 (AISE)

31. The representative of AISE informed the Sub-Committee about the outcome of the discussions of the group on the options detailed in annex 1 of INF.10.

32. Regarding option 2 most experts considered that the discussions on the applicability of the hazard class “corrosive to metals” were outside the scope of the mandate given to the group and therefore agreed to avoid revisiting the rationale behind the inclusion of chapter 2.16 in the GHS. Some experts favoured option 3 (proposing separate pictograms for skin corrosion and metal corrosion), on condition that if this option was further developed, experts from the transport sector should be involved in the work and some precedence rules for the selection of pictograms should be developed to avoid unnecessary multiplication of pictograms. However, several experts were concerned about the impact that the adoption of option 3 might have on hazard communication for other hazard classes, on the grounds that the same argument used to justify the need for a separate pictogram for two different types of corrosion could be used for other hazard classes currently sharing the same pictogram (e.g. exclamation mark or health hazard pictograms). Finally, she said that option 4 (proposing a separate pictogram for serious eye damage Category 1) had very little support. There was a concern about the new suggested pictogram which could be misleading for users and it was recognized that the development of any new pictograms should not be undertaken without a comprehensibility testing study, and that it was unnecessary given that the different types of corrosion hazards (to metals/skin/eyes) were already duly conveyed through the appropriate hazard statements.

33. The group could not reach consensus and considered that further discussions were needed. The representative of AISE said that she intended to organize a conference call in the weeks following the Sub-Committee session.

C. Labelling of small packagings

Informal document: INF.14 (CEFIC on behalf of the correspondence group)

34. The representative of CEFIC said that she intended to submit to the next session of the Sub-Committee a revised version of the document which would include more information about the rationale for the solutions proposed in its annex, as requested by the correspondence group during its last meeting.

D. Safety Data Sheets (SDS): Revision of section 9

Informal document: INF.7 (Germany on behalf of the correspondence group)

35. The expert from Germany said that the group had discussed and provisionally agreed on some specific entries on physico-chemical properties and safety characteristics for physical hazards to be included in section 9 and that work to achieve consensus on other entries would continue. She explained that the final proposal from the group would also include proposals for consequential amendments to other parts of the text, as deemed necessary.

V. Implementation of the GHS (agenda item 4)

A. Implementation issues

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

Informal document: INF.13 (United States of America on behalf of the correspondence group)

36. The expert from the United States of America reported on the outcome of the discussions of the group on: (a) terminology issues; (b) possible options for the incorporation of the specific items required by IMO SDS for MARPOL Annex I cargoes and marine fuel oils, in accordance with IMO Resolution MSC286 (86); and (c) examples illustrating the conditions for the application of bridging principles using *in vitro* data.

37. On (a), the group agreed that the term “toxicity category” should be replaced by “hazard category”. A formal document will be submitted to the Sub-Committee for its consideration.

38. On (b), concerns were raised about the fact that if the information required by Resolution MSC 286(86) was presented in the GHS-SDS in a different order than that prescribed by IMO Resolution MSC286 (86), maritime authorities might consider it non-compliant. Regarding the question on how to acknowledge the requirements of the IMO Resolution in the GHS, the group could not reach consensus. While some experts thought that the best solution could be to insert a general reference in Chapter 1.5, others felt that more detailed guidance could be developed and be incorporated in the GHS as an appendix to Annex 4. Therefore, the group concluded that both options should be included in future proposals. There was general consensus that, irrespective of the option chosen, the GHS should only make reference to the requirements of the IMO Resolution and not reproduce them, and that changes to the minimum information for an SDS in Table 1.5.2 of the GHS should be minimized to the maximum extent possible.

39. On (c), the group adopted without modification the example illustrating the application of the interpolation within one category using skin/corrosion/irritation *in vitro* data and agreed that the example using serious eye damage/eye irritation *in vitro* data

should be revised to show classification of a mixture following the tiered approach in Chapter 3.3.

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

Informal document: INF.17 (United States of America on behalf of the correspondence group)

40. The expert from the United States of America informed the Sub-Committee that the group had reviewed a set of potential guiding principles for the development of the list from the survey conducted by the expert from Australia and had suggested a few additions to it, which included: process to be clear and transparent; data used for classification to be accessible; stakeholder input to be allowed; mechanism for expert review to be granted; and all GHS hazard classes and categories to be included.

41. Several experts pointed out that one factor of utmost importance for the development of the classification list was the accuracy of the description of the substance identity for each entry and pointed out that this should also be taken into account when comparing classification results for chemicals for which different GHS results are available in lists already issued by the industry or a national competent authority. The group generally agreed on this approach.

42. On when the harmonized list should be developed, views were divided. While some experts considered that it was urgent to start its development to avoid proliferation of lists including different results for the same chemical, others thought that the development should proceed cautiously given the complexity and number of the issues to be considered.

43. Views were also divided on the possible options for its development. Some experts considered that the first chemicals to be included in the list should be those for which the GHS classification in existing lists was already harmonized, and should proceed afterwards with those having different classifications. Others on the contrary thought that the process should start with the classification on a case-by-case basis of a few chemicals, the selection process being based on factors such as those chemicals belonging to the group of those most commonly transported, high production volume chemicals, or those posing health hazards of great concern (e.g. carcinogens, mutagens or toxic to reproduction).

44. The expert from the United States of America concluded that the group intended to continue working on the issues mentioned above and that an information document would be submitted to the next session of the Sub-Committee, including the list of potential guiding principles agreed by the group, a request to countries which have already developed a list of chemicals classified in accordance to the GHS to share their experiences in the development process, and options for moving forward.

45. The Sub-Committee noted the information regarding the web-portal developed by the Occupational Safety and Health Administration (OSHA) to facilitate the exchange of documents for the work of the correspondence group.

B. Reports on the status of implementation

1. Brazil

Informal document: INF.22 (Brazil)

46. The expert from Brazil informed the Sub-Committee about the publication on 24 May 2011 of a revised edition of the Health and Safety Labour Standard No. 26. He explained that the Standard contained provisions requiring that chemicals in the workplace be classified and labelled and that Safety Data Sheets be prepared in accordance with the

provisions of the GHS as provided for in Brazilian Technical Standard NRB 14.275. He added that this Technical Standard was currently based on the first edition of the GHS, but was being revised in accordance with the provisions of the third revised edition.

47. On the transitional periods for implementation, he noted that both standards had the same implementation timeline (February 2011 for substances and June 2015 for mixtures) although they could be applied before those dates on a voluntary basis.

2. European Union

48. The Sub-Committee noted that the second adaptation to technical progress (ATP) to Regulation (EC) No 1272/2008 (CLP Regulation) entered into force on 19 April 2011. Its provisions will apply to substances from 1 December 2012 and to mixtures from 1 June 2015, but may be voluntarily applied before those dates. Transitional provisions are foreseen for substances/mixtures already on the market.

49. The second ATP incorporates into the CLP Regulation the changes introduced by the third revision of the GHS (e.g. new sub-categories for respiratory and skin sensitization; the revision of the classification criteria for long-term hazards (chronic toxicity) to the aquatic environment; a new hazard class for substances and mixtures hazardous to the ozone layer; and labelling provisions to protect individuals already sensitized to a specific chemical that may elicit a response at very low concentration).

50. Detailed information about the CLP Regulation, as well as an unofficial consolidated version of the CLP legal text including the provisions of the ATPs, is available on the European Commission website[1].

3. United States of America

51. The expert from the United States of America said that the Occupational Safety and Health Administration (OSHA) was finalizing the alignment of the Hazard Communication Standard with the third revised edition of the GHS and that the publication of the final rule was expected before the end of 2011.

4. Australia

52. The expert from Australia said that the target date for the implementation of the GHS in the workplace was 1 January 2012, with a 5-year transitional period (still under discussion) for full implementation.

5. Zambia

53. The expert from Zambia briefly updated the Sub-Committee on a number of capacity building and training activities held in his country since 2002. He said that a National Standard based on the first edition of the GHS had already been published and was being updated to reflect the provisions of the third revised edition. Similarly, the National Standard on the Transport of Dangerous Goods was being updated in accordance with the sixteenth revised edition of the UN Model Regulations on the Transport of Dangerous Goods.

[1] http://ec.europa.eu/enterprise/sectors/chemicals/documents/classification/index_en.htm (accessed on 14 July 2011).

6. South Africa

54. The expert from South Africa informed the Sub-Committee that national standards for the classification and labelling of chemicals were aligned with the provisions of the GHS and that the process for the promulgation of regional legislation implementing the GHS in member countries of the Southern African Development Community (SADC) was ongoing.

7. Philippines

55. The observer from the Philippines said that the revision of guidance on chemicals for implementation of the GHS for industrial and consumer chemicals was ongoing while the revision of guidance for chemicals in the workplace had already been completed.

8. Updating of the information on the UNECE webpage on the status of implementation of the GHS

56. The representative of CEFIC noted that the UNECE webpage[2] on the status of implementation of the GHS maintained by the secretariat was a very useful source of information and invited members of the Sub-Committee to provide updates to the secretariat on any progress in GHS implementation in their countries, so that the information could be kept up-to-date and made available through that page.

C. Cooperation with other bodies or international organizations

Work of the joint (TDG-GHS) correspondence group on corrosivity criteria

Informal document: INF.6 (United Kingdom)

57. The Sub-Committee endorsed the proposed steps for the work of the correspondence group detailed in paragraphs 10, 19 and 28 of Annex II to INF.6.

58. The expert from the United Kingdom said that he intended to convene a face-to face meeting of the group in December 2011 between the sessions of the TDG and the GHS sub-committees at a date still to be determined.

VI. Development of guidance on the application of GHS criteria (agenda item 5)

59. There was no discussion under this agenda item.

VII. Capacity building (agenda item 6)

Informal document: INF.21 (UNITAR)

60. The representative of UNITAR updated the Sub-Committee about UNITAR/ILO GHS programme activities, including: current national projects in Jamaica (supported by the Swiss Government); national projects in Barbados, Gambia and Zambia and new projects in Bolivia, Chile, Colombia, Guatemala, Kyrgyzstan, Mexico, Republic of Congo and Tajikistan to be initiated before the end of 2011 (supported by the Strategic Approach to International Chemicals Management (SAICM) Quick Start Programme Trust Fund);

[2] http://unece.org/trans/danger/publi/ghs/implementation_e.html (accessed on 14 July 2011)

and capacity building activities in China, Indonesia, Malaysia, Philippines and Thailand supported by the European Union.

61. At the regional level, she mentioned that Moldova would host a regional GHS workshop for Central and Eastern European countries during the first quarter of 2012 and that a sub-regional conference for the Caribbean would be hosted by Jamaica.

62. Regarding guidance materials, she indicated that UNITAR/ILO and the Secretariat of the Rotterdam Convention were finalizing the "Guidance document on the linkages between the GHS and the other international chemicals conventions"; and that the Basic GHS training course had been finalized while the advanced GHS training course would be pilot tested in Asia in September-October 2011.

VIII. Other business (agenda item 7)

A. Information on new or updated OECD Test Guidelines

Informal document: INF.15 (OECD)

63. The Sub-Committee took note of the OECD Guidelines which have been developed or revised since the adoption of the first edition of the GHS. It was noted that no changes to the references to OECD guidelines in the GHS text were necessary.

B. Transport of dangerous goods conference and GHS training, March 2011, South Africa

Informal document: INF.17 (RPMASA)

64. The Sub-Committee took note of the information provided by the representative of RPMASA.

C. Tributes

65. The Sub-Committee was informed that Mr. Henk Roelfzema (Netherlands) would be retiring soon. It expressed its appreciation for all the efforts he had devoted to the development of the GHS and its implementation and wished him all the best in his future endeavours.

IX. Adoption of the report (agenda item 8)

66. The Sub-Committee adopted the report on its twenty-first session and its annex on the basis of a draft prepared by the secretariat.

Annex

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

Document ST/SG/AC.10/C.4/2011/2 adopted with the following modifications:

In the proposed new section 3.3.5.3, in paragraph 9 of the document, replace the text of paragraphs 3.3.5.3.3 (a) (i), 3.3.5.3.4 (a) (i) and 3.3.5.3.5 (a) (i) with the following:

"at least in one animal effects on the cornea, iris or conjunctiva that are not expected to reverse or have not fully reversed within an observation period of normally 21 days; and/or".

B. Correction to the fourth revised edition of the GHS

1.3.2.4.6 Replace current text with the following:

"1.3.2.4.6 *Animal welfare*

The welfare of experimental animals is a concern. This ethical concern includes not only the alleviation of stress and suffering but also, in some countries, the use and consumption of test animals. Where possible and appropriate, tests and experiments that do not require the use of live animals are preferred to those using sentient live experimental animals. To that end, for certain hazards, non-animal observations/measurements are included as part of the classification system. For other hazards, such as acute toxicity, alternative animal tests, using fewer animals or causing less suffering are internationally accepted and should be preferred to the conventional LD_{50} test."

(Ref. Doc: ST/SG/AC.10/C.4/2011/1 as amended)