



**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-third session**

held in Geneva from 10 to 12 July 2017

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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-third session from 10 to 12 July 2017, with Ms. Maureen Ruskin (United States of America) as Chairperson and Mr. Robin Foster (United Kingdom) as Vice-Chairperson.
2. Experts from the following countries took part in the session: Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Finland, France, Germany, Italy, Japan, Netherlands, New Zealand, Poland, Portugal, Qatar, Republic of Korea, Russian Federation, South Africa, Sweden, United Kingdom and United States of America.
3. Under rule 72 of the rules of procedure of the Economic and Social Council, observers from Romania and Switzerland also took part.
4. Representatives of the World Health Organization (WHO) and the United Nations Institute for Training and Research (UNITAR) were also present.
5. The following intergovernmental organizations were also represented: European Union and Council of Europe.
6. Representatives of the following non-governmental organizations took part in the discussion of items of concern to their organizations: American Cleaning Institute (ACI); Australian Explosives Industry and Safety Group Incorporated (AEISG); Compressed Gas Association (CGA); Croplife International; Dangerous Goods Advisory Council (DGAC); European Chemical Industry Council (CEFIC); European Industrial Gases Association (EIGA); Grain and Feed Trade Association (GAFTA); International Association for Soaps, Detergents and Maintenance Products (AISE); International Bulk Terminals Association (IBTA); International Council of Chemical Associations (ICCA); International 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)

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|----------------------------|--|
| <i>Documents:</i> | ST/SG/AC.10/C.4/65 (Provisional agenda)
ST/SG/AC.10/C.4/65/Add.1 (List of documents and annotations) |
| <i>Informal documents:</i> | INF.1, INF.2 (List of documents)
INF. 8 (Provisional timetable)
INF.5 (Access to the Palais des Nations) |

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.19.

III. Classification criteria and related hazard communication (agenda item 2)

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 the GHS

Informal documents: INF.3 and Add. 1 - 2 (Chairman of the Working Group on Explosives)
INF. 15, item 1 (Secretariat)

8. The Sub-Committee took note of the progress of the work on the revision of the Manual of Tests and Criteria to take account of the GHS as summarised in INF.15, item 1. The Chairman of the Working Group on Explosives informed the Sub-Committee that he would prepare and circulate for further review a revised set of documents to take account of the amendments agreed by the Working Group at its last session. Sub-Committee experts were invited to contribute to the work of the Working Group on Explosives.

2. Classification of desensitized explosives

Informal documents: INF.4 (CEFIC)
INF.15, item 2 (Secretariat)

9. The Sub-Committee was informed that the TDG Sub-Committee had endorsed the conclusion of the Working Group on Explosives on using the results of the SprengLR011 test for classification of industrial nitrocellulose products according to Chapter 2.17 of the GHS. The Sub-Committee noted that an intersessional informal group led by CEFIC at the TDG Sub-Committee would consider how to include the results in the GHS, the United Nations Recommendations on the Transport of Dangerous Goods, Model Regulations or the Manual of Tests and Criteria to make them available worldwide.

10. The Sub-Committee expressed support for this work and invited the representative of CEFIC to take account of the comments made, in particular as regards acknowledging the possibility of performing self-classifications.

3. Stability tests for industrial nitrocellulose

Informal document: INF.15, item 5 (Secretariat)

11. The Sub-Committee noted that the TDG Sub-Committee had endorsed the conclusion of the Working Group on Explosives that stabilisation of nitrocellulose was required to ensure its safe handling and that the current 3 (c) thermal stability test was not suitable for evaluating stabilisation. Two suitable alternative tests had been identified and the intersessional informal group led by CEFIC at the TDG Sub-Committee was entrusted with the task of developing a proposal for their inclusion in the Model Regulations and the Manual of Tests and Criteria.

4. Testing of oxidizing substances

Informal document: INF.15, item 6 (Secretariat)

12. The Sub-Committee thanked the expert from France for the progress report on on-going work on the issues raised by the replacement of the cellulose used as reference material for testing of oxidizing substances. The expert from France invited interested experts and laboratories to provide comments to address these issues.

B. Review of Chapter 2.1

Informal documents: INF.7 and INF.13 (Sweden)
INF.15, item 3 (Secretariat)

13. The Sub-Committee noted that most experts within the correspondence group were in favour of the introduction of a category-based scheme for classification of explosives similar to that used for other hazard classes in the GHS. Experts considered that this could solve some issues with the current system, which is based on classification resulting from testing explosives as packaged (in general for transport) that may not reflect the hazards encountered in other situations when the explosive is not in that (transport) package (e.g. during processing, or when the packaging has been changed).

14. The Sub-Committee also noted that there was general support within the correspondence group on the following principles:

- (a) Any changes to the current classification system should not affect the existing transport classification;
- (b) Information on divisions should be retained, as they are widely used in many downstream regulations, in particular those addressing storage;
- (c) Any new requirements for testing should be avoided;
- (d) The consequences of any proposed changes should be weighed in relation to their added value.

15. The Sub-Committee endorsed the programme of work for the group as presented in INF.13.

C. Dust explosion hazards

Document: ST/SG/AC.10/C.4/2017/3 (United States of America)

Informal document: INF.16 (United States of America)

16. After an exchange of views in plenary, there was no agreement on the need to modify figure A11.2.1 in ST/SG/AC.10/C.4/2017/3. A group of experts met during a coffee-break to develop a proposal addressing the issues raised by some delegations by amending paragraphs A11.2.1.2 and A11.2.3 and leaving figure A11.2.1 unchanged. After consideration of the revised proposal in plenary, the Sub-Committee adopted document ST/SG/AC.10/C.4/2017/3, with some amendments to paragraphs A11.2.1.2 and A11.2.3 (see annex)

17. Although in favour of the adoption of the new annex addressing dust explosion hazards, one expert raised concerns about the introduction of risk assessment considerations in the GHS and welcomed further discussions in principle within the Sub-Committee as regards addressing risk management in the GHS.

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

Informal document: INF.6 (United Kingdom, Netherlands)

18. The Sub-Committee noted that the correspondence group was considering whether the test criteria for *in vitro* methods should be included in the text of Chapter 3.2 of the GHS or as guidance. Moving to an integrated approach or maintaining the existing tiered approach for classification in Chapter 3.2 was also under consideration.

19. The correspondence group also considered whether it would be better to address one hazard class at a time or to finalise the work for all the relevant hazard classes before submitting a proposal for amendment to the GHS. The group concluded that it was too early to make a decision and decided to revisit the issue at a later stage.

20. The expert from the Netherlands invited comments in writing from the Sub-Committee on the work of the correspondence group.

E. Practical classification issues

21. The Sub-Committee noted that the correspondence group on practical classification issues had considered items (a), (b) and (g) of its programme of work¹ with the following outcomes:

- On item (a), there was agreement within the group that the “interpolation within one hazard category” bridging principle cannot easily be used in conjunction with an additivity approach for chapters 3.2 and 3.3, and it was recognised that it would be difficult to develop guidance to illustrate how additivity of the “toxicologically active ingredients” would be applied in this case. However, a member of the group volunteered to continue considering if such guidance could be developed.
- On item (b), the group discussed editorial revision of chapters 3.8 and 3.9. Specific proposals will be submitted at a forthcoming session.
- On item (g), there was agreement within the group that in limited circumstances the additivity principle could be applied to other health hazards for which it is currently not explicitly mentioned. Some members of the group volunteered to draft a proposal for amendment to the GHS.

F. Aspiration hazard

22. The representative of IPPIC informed the Sub-Committee that a document on this issue would probably be submitted to the next session.

G. Nanomaterials

23. As no document had been submitted under this agenda sub-item, no discussions took place on this subject.

H. Other issues

Chemicals under pressure

Informal document: INF.12 (CEFIC, EIGA)

24. There was general support for the proposal in principle. Some experts made comments addressing among other issues, the rationale for the 50% cut-off value in the definition of chemicals under pressure, some of the proposed hazard communication

¹ See informal document INF.39 (thirty-second session) and the programme of work of the Sub-Committee for 2017-2018 (ST/SG/AC.10/64, annex III).

elements and the proposed deletion of “are not part of the harmonized classification system” as explained in paragraph 8 of INF.12.

25. The expert from Canada indicated that the issue raised in paragraph 8 had been addressed in the Canadian GHS implementing legislation by describing the decision logic in words. The Sub-Committee invited her to share the text with the Sub-Committee so that it can be considered whether the same wording could be appropriate for the GHS.

26. The Sub-Committee invited the representative of CEFIC to modify the proposal to take account of the comments made.

IV. Hazard communication (agenda item 3)

A. Labelling of small packagings

Document: ST/SG/AC.10/C.4/2017/2 (CEFIC)

Informal document: INF.11 (Belgium)

27. The Sub-Committee noted that the correspondence group had considered the comments in INF.11 as well as proposals to further improve the examples for sets or kits. A revised document will be submitted for the next session.

28. The Sub-Committee also noted that the correspondence group had considered the need to develop additional examples of packagings that provide users with measured quantities (e.g. liquid laundry detergents in soluble packagings or some of the packagings used for laboratory reagents). The representative of CEFIC said that an indicative list of such packagings would be provided to the next session for consideration by the Sub-Committee and welcomed contributions from experts to complete the list.

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

29. The Sub-Committee was informed that the correspondence group had made progress on the development of new precautionary statements for medical response and on a possible precautionary pictogram to transmit the message “keep out of reach of children”. The Sub-Committee noted that the correspondence group expected to submit proposals on these issues for the next session.

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

30. The Sub-Committee noted that the representative of CEFIC expected to submit a document on this issue for the next session.

D. Other issues

1. Amendments to Annex 7, example 7: single packagings

Informal document: INF.9 (UNITAR)

31. The Sub-Committee welcomed the proposal from UNITAR but expressed reservations about some of the proposed amendments. There was agreement that for precautionary statements for which a choice has to be made among several options (e.g.

those separated by a slash) or in which some information has to be completed (e.g. those containing three dots [...]), only the applicable precautionary statement (i.e. without any slashes or dots) should be included in the examples provided in the GHS.

32. The Sub-Committee invited the representative of UNITAR to take account of the comments made, including consideration of whether other examples in the GHS might need to be revised accordingly.

2. Numbering of sub-headings in safety data sheets

Informal document: INF.19 (RPMASA)

33. The Sub-Committee noted the results of the survey on different practices regarding numbering of Safety Data Sheets sub-headings. The representative of RPMASA encouraged experts who had not yet done so to reply to the survey.

V. Implementation of the GHS (agenda item 4)

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

Document: ST/SG/AC.10/C.4/2017/1 (United States of America)

Informal documents: INF.14 (United States of America)
INF.15, item 4 (Secretariat)

34. The Sub-Committee noted that the correspondence group had reviewed the progress of the list comparison exercise in INF.14 and the outcome of the discussions at the TDG Sub-Committee. Noting that some classification results in the list developed by Japan had changed, the correspondence group informed the Sub-Committee that the comparison results would be revised accordingly.

35. The Sub-Committee also noted that the correspondence group had discussed the future of the project. While many experts felt it was time to begin work on adopting harmonized classifications for a non-binding list, others expressed concerns about potential duplication of ongoing work on the development and updating of classification lists by competent authorities and the impact that a list developed at Sub-Committee level might have on the legal obligations in their jurisdictions. The correspondence group would submit a working document to the next session outlining its discussions for further deliberation in the Sub-Committee about a way forward.

B. Reports on the status of implementation

1. Study on the status of implementation of the GHS

Informal document: INF.10 (Sweden)

36. The Sub-Committee welcomed the preliminary information on the results and conclusions of the study on the status of implementation of the GHS worldwide and expressed its appreciation to the expert from Sweden for the work done. She informed the Sub-Committee that she would share the full report with the Sub-Committee once it had been cleared for public release.

2. Argentina

37. The Sub-Committee noted that the legislation implementing the GHS for the workplace in Argentina had entered into force on 1 June 2017.

3. Russian Federation

38. The Sub-Committee noted that the technical Regulation of the Eurasian Economic Union “On the Safety of Chemical products” had been adopted 3 March 2017 by Decision No. 19 of the Eurasian Economic Commission Council² and that it will enter into force on 2 June 2021. After this date GHS classification criteria and related hazard communication elements (labels and Safety Data Sheets) will become mandatory in the Member States of the Eurasian Economic Union (Armenia, Belarus, Kazakhstan, Kyrgyzstan and the Russian Federation).

4. Japan

39. The Sub-Committee noted that the Ministry of Economic Trade and Industry (METI) in cooperation with ASEAN countries has developed the “ASEAN-Japan Chemical Safety Database (AJCSD)”³. The database was released by the National Institute of Technology and Evaluation (NITE) on 28 April 2016. It contains chemical regulatory information of ASEAN countries as well as additional information such as GHS classifications and samples of Safety Data Sheets. The information is available in several languages, free of charge.

5. South Africa

40. The Sub-Committee noted that the revision of the Hazardous Substances Act, the Occupational and Health Safety (OHS) Act and the Hazardous Chemical Substances Regulations to take account of the GHS is expected to be finalised before the end of 2017.

C. Cooperation with other bodies or international organizations

1. Asia-Pacific Economic Cooperation (APEC)

Informal document: INF.18 (Russian Federation)

41. The Sub-Committee noted the information provided by the expert from the Russian Federation on the activities of the APEC Chemical Dialogue on exchange of data on GHS implementation. This includes for instance, an internet platform used for regular reporting and an on-going project led by the Russian Federation on compilation of data on chemical regulatory systems worldwide, as detailed in paragraphs 2 and 4 of INF.18.

42. Referring to the capacity building activities outlined in paragraph 3 of INF.18, the representative of IPIECA mentioned that the following five issues had been identified as challenging for effective GHS implementation:

- Different building blocks being implemented leading to divergent implementation of the GHS
- Adoption of GHS in different sectors, which can result in variances in mixtures cut-off values and building blocks

² https://docs.eaeunion.org/docs/ru-ru/01413938/cncd_18052017_19

³ <http://www.ajcsd.org>

- Need for guidance on how to apply GHS cut-off values for mixtures
- classification results of key products
- Different editions of the GHS being implemented in different countries and difficulties in keeping local legislation up to date with GHS revisions

43. To facilitate access to the information on APEC activities in relation to the GHS and the status of implementation of the GHS, the representative of IPIECA suggested that a link to the APEC GHS implementation activities be included in the GHS implementation webpage maintained by the GHS Sub-Committee secretariat. A member of the secretariat indicated that the request would be considered.

2. World Health Organization

44. The Sub-Committee noted that WHO continued to update the International Chemical Safety Cards (ICSCs) to include classification in accordance with GHS criteria. 525 cards out of 1700 already include peer reviewed GHS classifications. The representative of WHO was invited to share the procedures for classification with the Sub-Committee.

45. The ICSCs can be searched through the OECD eChemPortal. WHO intends to make the GHS classifications on the cards searchable directly by the GHS classification module in the eChemPortal. The representative of WHO encouraged government owners of chemical information databases to consider making their data available to the GHS search module of the eChemPortal as well, to assist in disseminating information about GHS classifications.

D. Miscellaneous

46. As no document had been submitted under this agenda sub-item, no discussions took place on this subject.

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

47. As no document had been submitted under this agenda sub-item, no discussions took place on this subject.

VII. Capacity-building (agenda item 6)

Informal document: INF.17 (RPMASA)

48. The Sub-Committee noted the information on awareness raising and capacity-building activities in South Africa provided by the representative of RPMASA.

49. The representative of UNITAR informed the Sub-Committee that the eighth edition of the GHS e-learning course was completed in May 2017 and that the ninth edition, to be held between 18 September and 29 November 2017, was now open for registration⁴. It was

⁴ <https://www.unitar.org/event/full-catalog/classifying-and-labelling-chemicals-according-un-ghs-2017-0>

also noted that the GHS roster of experts had been updated⁵. On GHS capacity-building activities, the Sub-Committee noted that inception workshops for national GHS implementation projects in Uzbekistan and the Republic of Guinea had recently taken place.

VIII. Other business (agenda item 7)

A. ECOSOC resolution

50. The Sub-Committee noted that the resolution prepared by the Committee at its eighth session (ST/SG/AC.10/44, annex IV) had been adopted without change by the Economic and Social Council on 8 June 2017.

B. Documentation submission deadlines

51. The Sub-Committee was informed about the deadlines for submission of documents for the next session, as follows:

- Documents submitted to both sub-committees (TDG and GHS): 1 September 2017
- Documents submitted to the GHS Sub-Committee only: 13 September 2017

C. Tribute to Ms. Kathy Landkrohn (United States of America)

52. The Sub-Committee was informed that Ms. Kathy Landkrohn, who had served on the Sub-Committee as a member of the delegation of the United States of America since 2008 was attending the session for the last time as she would be retiring soon. The Sub-Committee acknowledged her contribution and commitment to the work of the Sub-Committee over the past nine years and wished her a long and happy retirement.

D. Changes in the secretariat

53. The Sub-Committee noted that Ms. Olga Algayerova from Slovakia had been nominated by the Secretary-General as Executive Secretary of the Economic Commission for Europe, and that she had replaced Mr. Christian Friis Bach from 1 June 2017. It was also noted that the Director of the Sustainable Transport Division, Ms. Eva Molnar, retired on 30 June 2017 and her post was currently vacant pending the completion of the temporary replacement procedure and recruitment process.

54. The Sub-Committee was also informed that Mr. Olivier Kervella, Chief of the Dangerous Goods and Special Cargoes Section and secretary to the TDG Sub-Committee would have reached the mandatory age of retirement of 62 in November 2017 and, as the decision of the General Assembly to authorize such staff to request retirement at 65 was not likely to be implemented before 1 January 2018, he would probably have to retire on 30 November 2017. Steps had been undertaken by the secretariat in May 2017 to initiate a recruitment procedure to replace him.

IX. Adoption of the report (agenda item 8)

55. In accordance with the established practice, the Sub-Committee may wish to adopt the report on its thirty-third session on the basis of a draft prepared by the secretariat.

⁵ <http://www.unitar.org/cwm/ghs-roster-experts>

Annex

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

The proposals in annexes 1 and 2 of document ST/SG/AC.10/C.4/2017/3 were adopted with the following modifications:

A11.2.1.2 Amend to read as follows:

“A11.2.1.2 This guidance identifies when combustible dusts may be present and thus, when the risk of a dust explosion should be considered. The guidance:

- (a) Gives a flow chart specifying the key steps to identify a possible combustible dust;
- (b) Identifies the factors contributing to a dust explosion;
- (c) Sets out principles of hazard and risk management; and
- (d) Indicates where expert knowledge is required.

(Reference document: ST/SG/AC.10/C.4/2017/3, as amended)

A11.2.3 Amend to read as follows:

“A11.2.3 Identification of combustible dust

A11.2.3.1 The purpose of this section is to identify whether a combustible dust is present. If there is applicable data from a recognized and validated test method that supports a conclusion that the substance or mixture is or is not a combustible dust (see considerations in A11.2.3.2.10) then a decision can be made without the application of figure A11.2.1. Otherwise, figure A11.2.1 presents a flow chart that helps to identify whether a substance or mixture is a combustible dust and hence whether the risk of a dust explosion has to be assessed. Section A11.2.3.2 contains detailed explanations and guidance on the interpretation of each box used in the flow chart.”
