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**Committee of Experts on the Transport of Dangerous Goods  
and on the Globally Harmonized System of Classification  
and Labelling of Chemicals**

**Sub-Committee of Experts on the Globally Harmonized  
System of Classification and Labelling of Chemicals**

**Eighteenth session**

Geneva, 9 – 11 December 2009

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

(9 to 11 December 2009)

**Contents**

	<i>Paragraphs</i>	<i>Page</i>
I. Attendance.....	1–6	3
II. Adoption of the agenda (agenda item 1) .....	7	3
III. Updating of the third revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) (agenda item 2) .....	8–18	4
A. Physical hazards .....	8	4
Correction to the criterion for flammability of gas mixtures in 2.2.5 .....	8	4
B. Health hazards .....	9–16	4
1. Revision of chapters 3.2 and 3.3 .....	9–10	4
2. Use of extreme pH to determine corrosivity .....	11–16	4
C. Annexes .....	17	5
Revision of annexes 1, 2 and 3: Precautionary statements .....	17	5
D. Miscellaneous proposals .....	18	5
Corrections to the third revised edition of the GHS .....	18	5

IV.	Hazard communication issues (agenda item 3) .....	19–33	5
A.	Pictogram for gases under pressure .....	19–23	5
B.	Introduction of physical and chemical properties of engineered nanomaterials in section 9 of Annex 4 of the GHS .....	24	6
C.	Revision of section 9 of Annex 4 of the GHS .....	25–26	6
D.	Deletion of precautionary statement P410 for gases under pressure .....	27–29	6
E.	Labelling of small packagings .....	30–32	7
F.	Hazard communication for supply and use of aerosols .....	33	7
V.	Implementation of the GHS (agenda item 4) .....	34–52	7
A.	Implementation issues .....	34–39	7
1.	Development of lists of classification .....	34–38	7
2.	Consistency of terminology .....	39	8
B.	Reports on the status of implementation .....	40–47	8
1.	Serbia.....	40	8
2.	Brazil.....	41–42	8
3.	China .....	43	9
4.	European Union.....	44–45	9
5.	United States of America .....	46	9
6.	Australia .....	47	9
C.	Cooperation with other bodies or international organizations .....	48–52	9
	Review of the recommendations for safety data sheets for MARPOL Annex I cargoes and marine fuel oils.....	48–52	9
VI.	Capacity building (agenda item 6) .....	53–55	10
VII.	Other business (agenda item 7) .....	56–62	11
A.	Harmonization of classification and labelling criteria for persistent, bioaccumulative and toxic (PBT) and very persistent and very bioaccumulative (vPvB) substances .....	56–58	11
B.	Publication of sector-specific guidance for the application of the GHS .....	59–61	11
C.	ECOSOC Resolution 2009/19 .....	62	12
VIII.	Adoption of the report (agenda item 8) .....	63	12
<b>Annex</b>			
	Correction to the third revised edition of the GHS.....		13

## Report

### I. Attendance

1. The Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals held its eighteenth session from 9 to 11 December 2009, with Ms. Kim Headrick (Canada) as Chairperson and Mr. Thomas Gebel (Germany) and Mrs. Elsie Snyman (South Africa) 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, Kenya, Netherlands, Norway, Poland, Portugal, Qatar, Serbia, South Africa, Spain, 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: Romania, Russian Federation and Switzerland.
4. Representatives of the United Nations Institute for Training and Research (UNITAR) and of the International Maritime Organization (IMO) were present.
5. The following intergovernmental organizations were also represented: 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: Compressed Gas Association (CGA); Croplife International; Dangerous Goods Advisory Council (DGAC); European Chemical Industry Council (CEFIC); European Industrial Gases Association (EIGA); Federation of European Aerosol Associations (FEA); International Association for Soaps, Detergents and Maintenance Products (AISE); International Confederation of Plastics Packaging Manufacturers (ICPP); International Council on Mining and Metals (ICMM); International Federation Paints and Coats of Mercosul (IFPCM); 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); Sporting Arms and Ammunition Manufacturers' Institute (SAAMI).

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

*Documents:* ST/SG/AC.10/C.4/35 (Secretariat)  
ST/SG/AC.10/C.4/35/Add.1 (Secretariat)

*Informal documents:* INF.1, INF.2 and INF.6 (Secretariat)

7. The Sub-Committee adopted the provisional agenda prepared by the secretariat after amending it to take account of informal documents (INF.1 to INF.23).

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

#### **A. Physical hazards**

##### **Correction to the criterion for flammability of gas mixtures in 2.2.5**

*Document:* ST/SG/AC.10/C.4/2009/8 (EIGA)

8. The Sub-Committee adopted the proposed correction to the criterion used to determine by calculation the flammability of a gas mixture in accordance with ISO 10156:1996 (see annex).

#### **B. Health hazards**

*Informal documents:* INF.3 (Germany), INF.17 (CEFIC), INF.8 (Netherlands) and INF.22 (Secretariat)

##### **1. Revision of chapters 3.2 and 3.3**

9. The expert from Germany informed the Sub-Committee that the correspondence group had reached agreement on some of the issues under consideration (e.g. the harmonization of terminology in both chapters and the deletion of text referring to testing strategy, as the GHS itself does not prescribe testing) while for others the work was still ongoing (e.g. amendment of current figures 3.2.1 and 3.3.1 and discussion on how they relate to decision logics).

10. Noting that some of the issues raised in INF.17 had been discussed by the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee) working group on further alignment of corrosivity criteria in Class 8 of the UN Model Regulations on the Transport of Dangerous Goods with the GHS criteria, which met on 8 December, the Vice-Chairman of the TDG Sub-Committee was invited to inform the Sub-Committee about the outcome of the discussions. He presented the conclusions agreed by the working group contained in INF.22.

##### **2. Use of extreme pH to determine corrosivity**

*Informal documents:* INF.8 (Netherlands) and INF.22 (Secretariat)

11. The representative of CEFIC explained that according to the current GHS criteria a substance or mixture with an extreme pH was regarded as being corrosive in the absence of additional data. She said that, as a result, some substances and mixtures would be over-classified and as an example, she mentioned the case of a mixture with an extreme pH and composed of irritant ingredients only, which would require testing in order to avoid being erroneously classified as corrosive on the basis of its extreme pH.

12. The Vice-Chairman of the TDG Sub-Committee pointed out that classification based on this interpretation of extreme pH values would have a considerable economic impact in some sectors such as transport, where the classification of a substance in a higher category (usually referred to as packing group in transport regulations) resulted in more stringent transport conditions being applicable or even in the substance or mixture being prohibited for transport (e.g. some substances classified in packing group I which are not allowed to be transported in tanks).

13. On the contrary, a few experts considered that the current text of the GHS did not pose a problem of interpretation since they considered that it was clear that classification should always be made on the basis of all evidence available.

14. After some exchange of views, the Sub-Committee agreed on the interpretation that extreme pH values, on a stand-alone basis, can only be regarded as an indication of corrosivity.

15. In the light of the examples provided by the representatives from industry, several experts noted that it might be necessary to further investigate the correlation between pH and corrosivity.

16. The Sub-Committee finally requested the correspondence group on the revision of Chapters 3.2 and 3.3 to provide a list of all the issues related to the implementation of the classification criteria which may arise during its work and which fall beyond the scope of the work of the correspondence group (including recommendations for work to be done at OECD level, if any) and to submit it to the Sub-Committee for a decision on how to proceed.

## **C. Annexes**

### **Revision of Annexes 1, 2 and 3: Precautionary statements**

*Informal document:* INF.18 (United Kingdom)

17. The expert from the United Kingdom said that the correspondence group will submit a proposal for the next session and invited experts to provide comments on the draft proposals contained in INF.18.

## **D. Miscellaneous proposals**

### **Corrections to the third revised edition of the GHS**

*Informal document:* INF.20 (Secretariat)

18. The Sub-Committee agreed in principle to the corrections proposed in INF.20 and the secretariat was invited to submit an official proposal for the nineteenth session.

## **IV. Hazard communication issues (agenda item 3)**

### **A. Pictogram for gases under pressure**

*Document:* ST/SG/AC.10/C.4/2009/9 (Germany, United Kingdom and EIGA)

*Informal document:* INF.22 (Secretariat)

19. The Sub-Committee was informed that the TDG Sub-Committee noting that the proposal did not imply any change to the labelling requirements for gases under pressure prescribed by transport regulations, had concluded that it was not an issue for the transport sector.

20. Opinions were divided regarding the proposal to remove the pictogram “gas cylinder” from the GHS (for the purposes of supply and use only). Some experts noted that if the proposal was adopted, the hazard “gas under pressure” would only be conveyed by the hazard statement and considered that this was not desirable while some others did not

see the benefit in having a gas cylinder labelled with a “gas cylinder” pictogram and therefore were in favour of the proposal.

21. A few experts considered that the proposed deletion would avoid duplication of pictograms communicating the same hazard. Others on the contrary, thought that the rules of precedence for allocation of symbols defined in 1.4.10.5.3.1 already prevented such duplication. It was also noted that competent authorities might require that all symbols for physical hazards be used.

22. A few experts were of the opinion that the current labelling provisions for gases under pressure presenting other hazards (e.g. flammability, corrosivity, toxicity, oxidizing properties) needed to be revised since they were inconsistent not only across sectors but also internationally within a given sector.

23. The Sub-Committee invited the authors of the proposal to take into account the comments made in any further proposal.

## **B. Introduction of physical and chemical properties of engineered nanomaterials in section 9 of Annex 4 of the GHS**

*Document: ST/SG/AC.10/C.4/2009/11 (Australia)*

24. There was general support for the proposal by the expert from Australia to consider including, in the future, additional information items in section 9 of the safety data sheets (SDS) covering physical and chemical properties of engineered nanomaterials. However, noting that work on different aspects of nanomaterials was currently being performed at international level (e.g. European Union, OECD, ISO Technical Committee 220), the Sub-Committee decided to postpone the consideration of this issue until more information about their intrinsic properties and characteristics was available.

## **C. Revision of section 9 of Annex 4 of the GHS**

*Informal document: INF.12 (Germany)*

25. The Sub-Committee concurred with the expert from Germany that the physical and chemical properties required in section 9 of Annex 4 of the GHS should be consistent with those relevant to the classification criteria applicable to each of the hazards defined in the GHS. It was therefore agreed that section 9 should be revised accordingly. However, several experts recalled that safety data sheets were not only used for classification purposes and proposed felt therefore that this should be taken into account.

26. The expert from Germany said that the draft terms of reference for the work of the correspondence group would be submitted for consideration by the Sub-Committee at its nineteenth session.

## **D. Deletion of precautionary statement P410 for gases under pressure**

*Informal document: INF.9 (RPMASA)*

27. There was no consensus on the proposal. A few experts agreed to it while others thought that although the statement “Protect from sunlight” might not be applicable to gases under pressure in all storage conditions, it continued to be relevant and suggested that the conditions in which it should be applied be further defined.

28. Most experts were of the opinion that this issue fell within the scope of the work on the rationalization of precautionary statements, and therefore the Sub-Committee requested the correspondence group on the revision of annexes 1, 2 and 3 to consider this proposal and to provide recommendations to the Sub-Committee.

29. The representative of RPMASA welcomed feedback from the Sub-Committee on incidents or accidents, if any, related to the storage of gas cylinders in sunlight.

## **E. Labelling of small packagings**

*Informal document:* INF.15 (CEFIC)

30. The representative of CEFIC informed the Sub-Committee that the correspondence group had compiled information about the existing provisions relevant to the labelling of small packagings which were currently being applied in different national and/or regional regulatory systems worldwide and indicated that this information would be used as a starting point for the development of further guidance in the GHS.

31. Relating to packaging terminology and definitions, she noted that the discussions within the correspondence group had stressed the need for information on the packaging, regardless of its size, as well as the importance of an integrated and consistent approach to labelling through the whole logistics chain.

32. She said that the correspondence group intended to submit a proposal on packaging terminology/definitions and on guidance for labelling of small packagings to the nineteenth session.

## **F. Hazard communication for supply and use of aerosols**

*Informal document:* INF.16 (United Kingdom/FEA)

33. Most experts were in favour of the proposal to include specific label elements for flammable and non-flammable aerosols, as contained in paragraph 7 of INF.16 and provided a few additional comments on the proposal. The Sub-Committee invited the authors of the proposal to take account of the comments received and to submit a formal document for the next session.

## **V. Implementation of the GHS (agenda item 4)**

### **A. Implementation issues**

#### **1. Development of lists of classification**

*Informal document:* INF.10 (Australia)

34. Several experts were of the opinion that the development of a harmonized classification list needed to be considered. It was noted that some Governments as well as other international bodies had already started to create, for their own purposes, lists of chemicals classified according to the GHS and that a comparison between them revealed inconsistencies in the classification results for a certain number of given substances. They were of the view that, as a first step, the Sub-Committee could try to reach consensus on a harmonized classification for those substances for which inconsistencies in classification have been detected.

35. A member of the secretariat suggested that the classification exercise could start with the substances listed in the Dangerous Goods List of the UN Model Regulations on the Transport of Dangerous Goods (e.g. sulphuric acid), since they were the substances most commonly transported internationally. This view was also shared by other experts.

36. The representative of the OECD said that the OECD continued to work on the classification of chemicals listed in Annex III of the Rotterdam Convention in accordance with the GHS. She explained that after having compiled the GHS classification elements, the OECD had performed a pilot exercise to review underlying classification data for a subset of those chemicals. The analysis of the results had demonstrated that the main reason for diverging classification results was the difference in the data sets used to assess the hazards. She said that it was expected that the report on this activity would be available for the next session of the Sub-Committee.

37. Several experts acknowledged the importance of having access to a complete chemical data set (preferably available on-line) to ensure the availability of hazard information to enable classification. It was noted that following the entry into force of the REACH Regulation (Regulation (EC) No. 1907/2006) in the European Union, the amount of information available should increase significantly.

38. Noting that this issue would be further discussed at the meeting of the correspondence group on implementation issues, the Sub-Committee invited all experts to take part in the work and welcomed discussions on this matter in the future.

## **2. Consistency of terminology**

*Informal document:* INF.11 (Australia)

39. The expert from Australia invited experts to participate in the meeting of the informal group on implementation issues and to provide feedback on the issues raised in INF.11.

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

### **1. Serbia**

*Informal document:* INF.7 (Serbia)

40. The Sub-Committee noted that a Law on Chemicals providing the legal basis for GHS implementation in Serbia had been adopted in May 2009 and that subsidiary legislation was being finalized and was expected to be adopted in the first semester of 2010. The expert from Serbia explained that the legislation for the implementation of the GHS in Serbia was in compliance with Regulation (EC) 1272/2008 and provided for the same transitional period and deadlines for reclassification of substances and mixtures as the ones prescribed by EU legislation (i.e. 1 December 2010 for substances and 1 June 2015 for mixtures). She also said that a national chemical agency had recently been established and provided some information about various GHS capacity building activities which have been conducted in her country.

### **2. Brazil**

*Informal document:* INF.19 (Brazil)

41. The expert from Brazil announced the publication in September 2009 of Standard NBR 14725 which deals with Terminology, Classification, Labelling and Safety Data Sheets, in accordance with the GHS. He said that the standard was initially based on the



first revised edition of the GHS although it was expected that in the coming years it would be updated according to the second or the third revised edition of the GHS.

42. The Sub-Committee was also informed that experts from Brazil would share their experience of the implementation of the GHS in Brazil with specialists from various sectors during a training course to be organized in Montevideo in cooperation with the Ministry of Health of Uruguay.

### **3. China**

43. The expert from China said that his country was continuing its activities to achieve GHS implementation. These included for example: the publication of standards based on the GHS (33 have already been published); work in cooperation with the Republic of Korea and Japan within the framework of the Tripartite Policy Dialogue on Chemicals Management; or consideration of the revision of legislation for the management of chemicals to ensure its alignment with GHS. He also mentioned that capacity building activities in relation to the GHS would be conducted during the next year.

### **4. European Union**

44. The representative of the European Union announced that two new guidance documents for application of the so-called “CLP Regulation” (Regulation (EC) 1272/2008) had recently been published and were available on the website of the European Chemicals Agency (ECHA). The guidance documents addressed the application of the general provisions of the CLP regulation and application of classification and labelling criteria. She pointed out that since the CLP Regulation was extensively based on the GHS, the guidance documents could also be useful to non-EU countries implementing the GHS.

45. Regarding safety data sheets, she said that Annex II to the REACH Regulation was being aligned with the GHS and said that this process was foreseen to be completed in the first quarter of 2010.

### **5. United States of America**

46. The expert from the United States announced that the Occupational Safety and Health Administration (OSHA) of the Department of Labor had published on 30 September 2009 a proposed rule for hazard communication implementing the GHS in the workplace. She indicated that the period for public comments was open until 29 December 2009 and that it would be followed by a period of public hearings during which stakeholders would have the opportunity to present arguments to support their comments.

### **6. Australia**

47. The expert from Australia informed the Sub-Committee about the publication of a “Policy proposal for workplace chemicals model regulations” which would form the basis of the forthcoming GHS-based regulations for workplace chemicals. She said that the release of the related regulations for public comments was foreseen by September 2010 and that the target date for the implementation of the GHS-based model legislation was 2012.

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

### **Review of the recommendations for safety data sheets for MARPOL Annex I cargoes and marine fuel oils**

*Informal document:* INF.21 (Secretariat)

48. The Sub-Committee noted that, according to the request made by the Sub-Committee at its seventeenth session, the secretariat had submitted a document to the IMO Sub-Committee on bulk liquids and gases (BLG Sub-Committee) for consideration at its fourteenth session.

49. The representative of IMO informed the Sub-Committee that following the adoption of Resolution MSC.286(86) of the Maritime Safety Committee, the requirements for Safety Data Sheets (SDS) for MARPOL Annex I cargoes and marine fuel oils had been in force since 1 July 2009, and as a consequence, this issue was no longer on the agenda of the BLG Sub-Committee. He explained that if the Sub-Committee wished to request the BLG Sub-Committee to reintroduce it on its agenda, this should be proposed by at least one member State.

50. He reiterated that from the IMO perspective, the GHS guidelines for the preparation of SDS have been followed and that IMO, as the competent organization for the maritime sector, had taken the appropriate steps to complete the GHS SDS with the information elements necessary to cover the specific needs of the sector.

51. This view was not shared by the representative of IPIECA. He regretted that IMO had finally implemented a SDS which was not fully aligned with the GHS SDS (as explained in the documents submitted at previous sessions) and reiterated the wish that a correspondence group be established to address how to incorporate the special needs of the maritime sector within the GHS framework.

52. It was noted that, as a result of the good cooperation between both sub-committees, the GHS SDS had already included information items relevant to the maritime sector. The GHS Sub-Committee experts were invited to contact their national representatives at the BLG Sub-Committee in order to share information on this matter and to encourage them to support the establishment of a joint correspondence group to study how the specific needs of the maritime sector could be addressed within the GHS framework.

## **VI. Capacity building (agenda item 6)**

*Informal document: INF.13 (UNITAR)*

53. The Sub-Committee took note of the information provided by the representative of UNITAR on GHS capacity building activities, such as: ongoing or planned national training and capacity building projects in Jamaica, Gambia and Bahrain; several regional and national capacity development activities in China and member countries of the Association of Southeast Asian Nations (ASEAN); a sub-regional GHS conference in September 2010 in which participants from China, Japan, Republic of Korea, Mongolia and from Central, East and South-East Asian countries are expected; and a regional symposium on sound management of chemicals in Arab States.

54. Regarding the development of training materials, he said that the draft "Introductory GHS Training Course" would be tested during the next year before being further refined and finalized. He announced that the advance course covering classification and labelling of chemicals as well as preparation of SDSs according to the GHS was currently being developed and added that the review of the lessons addressing classification criteria was expected to be completed by January 2010 while the review of those covering hazard communication was due by March 2010. The Sub-Committee noted that UNITAR intended to submit the revised draft to the Sub-Committee for clearance before the end of 2010 for pilot testing in 2011.

55. The expert from Brazil volunteered to be a pilot country for testing UNITAR training courses as from 2011.

## VII. Other business (agenda item 7)

### A. Harmonization of classification and labelling criteria for persistent, bioaccumulative and toxic (PBT) and very persistent and very bioaccumulative (vPvB) substances

*Informal document:* INF.4 (European Union)

56. The representative of the European Union introduced the issue, referring to article 53(2) of Regulation (EC) 1272/2008 and explained that the European Union proposal was to gain more experience on the effects that the third revised edition of the GHS would have on the labelling of these substances.

57. Some experts considered that it would be premature for the Sub-Committee to start addressing this matter and said that it would be preferable to await the outcome of the work related to these substances which was being carried out internationally. A few others on the contrary felt that there was a need to address the classification and labelling of PBT and vPvB substances from the point of view of their intrinsic hazards and suggested that work in this direction could start by compiling information about the current practices for the classification and labelling of PBT and vPvB substances.

58. Noting that it was not in a position to take a view on this issue, the Sub-Committee welcomed receiving any further information on this issue in the future.

### B. Publication of sector-specific guidance for the application of the GHS

*Document:* ST/SG/AC.10/C.4/2009/10 (Chairperson/Secretariat)

*Informal documents:* INF.14 (IPIECA) and INF.23 (United States of America)

59. To reflect the Sub-Committee's views about the ownership and use of the contents of the sector-specific guidance for the application of the GHS developed by third parties, it was agreed that the following introductory text would be inserted on a new webpage to be created to this effect on the secretariat's web site:

"This webpage contains links to third party web sites which are provided as additional information on GHS. The third parties in question have informed the United Nations Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals that they had developed guidance on the GHS for their own sectors. However, this does not imply any endorsement of third party's guidance by the Sub-Committee or the United Nations. The third party remains responsible for the contents of its guidance. Users of this webpage are reminded that competent authorities will decide how to apply the various elements of the GHS based on the needs of the competent authorities and the target audiences. Refer also to the "Terms and conditions of use of the United Nations web sites"."

60. The representative of IPIECA endorsed the Sub-Committee's views about the ownership and the responsibility for the contents of the guidance and added that IPIECA would continue to update and improve the guidance and to keep the Sub-Committee informed about any further progress.

61. The Sub-Committee agreed that any sector-specific guidance should be submitted to the Sub-Committee for clearance before being posted on the secretariat's website.

**C. ECOSOC Resolution 2009/19**

*Informal document:* INF.5 (Secretariat)

62. The Sub-Committee noted that the Council had adopted on 29 July 2009 and without modification the draft resolution prepared by the Committee at its December 2008 session.

**VIII. Adoption of the report (agenda item 8)**

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

## Annex

### Correction to the third revised edition of the GHS

Document ST/SG/AC.10/C.4/2009/8 adopted without modification as follows:

In 2.2.5, under "Criterion", for  $\sum_i^n \frac{V_i \%}{T_{ci}} \geq 1$  read  $\sum_i^n \frac{V_i \%}{T_{ci}} > 1$

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