




---

**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-eighth session**

held in Geneva from 11 to 13 December 2019

**Contents**

	<i>Paragraphs</i>	<i>Page</i>
I. Attendance.....	1-5	4
II. Adoption of the agenda (agenda item 1) .....	6-13	4
A. Status of publications.....	7	4
B. Accreditation of experts.....	8-13	5
III. Classification criteria and related hazard communication (agenda item 2).....	14-32	5
A. Work of the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG) on matters of interest to the GHS Sub-Committee.....	14-16	5
1. Testing of oxidizing substances.....	14	5
2. Review of test series H.....	15-16	6
B. Review of Chapter 2.1 .....	17	6
C. Use of non-animal testing methods for classification of health hazards .....	18-19	6
D. Practical classification issues .....	20-22	7
E. Aspiration hazard.....	23	7
F. Nanomaterials.....	24	7
G. Simultaneous classification in physical hazard classes and precedence of hazards .....	25	8

H.	Other issues.....	26-32	8
1.	References to the Model Regulations .....	26-27	8
2.	Corrections to the eighth revised edition of the GHS .....	28	8
3.	Clarification of paragraph 2.9.3.4.3.4 of Model Regulations and paragraph 4.1.3.3.4 of GHS .....	29-30	8
4.	Proposed clarification of eye irritation sub-categorization.....	31-32	9
IV.	Hazard communication (agenda item 3).....	33-42	9
A.	Practical labelling issues .....	33-35	9
1.	Revision of examples 1 to 7 in Annex 7.....	33	9
2.	Digitalisation of hazard information .....	34-35	9
B.	Improvement of annexes 1 to 3 and further rationalization of precautionary statements .....	36-39	10
1.	Proposed changes to Annex 1 of the GHS .....	36	10
2.	Corrections and amendments to Annex 3, sections 2 and 3 .....	37	10
3.	Status of the work of the Annex 1-3 informal working group.....	38-39	10
C.	Review of Annex 4, sub-section A4.3.3.2.3 .....	40	10
D.	Other issues.....	41-42	10
1.	Corrections to hazard statements H410, H411 and H412.....	41	10
2.	Proposed clarification for the heading of section 9 of the Safety Data Sheet .....	42	11
V.	Implementation of the GHS (agenda item 4) .....	43-53	11
A.	Possible development of a list of chemicals classified in accordance with the GHS.....	43	11
B.	Reports on the status of implementation.....	44-48	11
1.	Australia .....	44	11
2.	European Union.....	45	11
3.	New Zealand and ANDEAN community .....	46	11
4.	Canada and the United States of America .....	47	11
5.	Information on the status of implementation of the GHS.....	48	10
C.	Cooperation with other bodies or international organizations .....	49-52	12
1.	Review and update of references to OECD guidance documents and test guidelines in the GHS .....	49-50	12
2.	Expert Working Group on the review of Annexes to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal .....	51	12
3.	Strategic approach and sound management of chemicals and waste beyond 2020.....	52	12
D.	Miscellaneous .....	53	12
VI.	Development of guidance on the application of GHS criteria (agenda item 5).....	54	12

VII.	Capacity building (agenda item 6) .....	55	13
VIII.	Other business (agenda item 7) .....	56-59	13
	A. Condolences .....	56	13
	B. Definitions and use of acronyms and abbreviations in the GHS.....	57	13
	C. Joint session of the TDG and GHS subcommittees .....	58-59	13
IX.	Adoption of the report (agenda item 8) .....	60	13

## Annexes

I.	Draft amendments to the eighth revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals (ST/SG/AC.10/30/Rev.8) .....		14
II.	Corrections to the eighth revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals (ST/SG/AC.10/30/Rev.8) .....		17

## I. Attendance

1. The Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals held its thirty-eighth session from 11 to 13 December 2019, with Ms. Maureen Ruskin (United States of America) as Chair and Mr. Paul Taylor (Australia) as Vice-Chair.
2. Experts from the following countries took part in the session: Australia, Austria, Brazil, Canada, China, France, Germany, Italy, Japan, Netherlands, Norway, Poland, Republic of Korea, Russian Federation, Serbia, Spain, Sweden, United Kingdom and United States of America.
3. Under rule 72 of the rules of procedure of the Economic and Social Council, observers from Switzerland and Thailand also took part.
4. The following intergovernmental organizations were also represented: European Union and the United Nations Institute for Training and Research (UNITAR).
5. Representatives of the following non-governmental organizations took part in the discussion of items of concern to their organizations: Association of European Manufacturers of Sporting Ammunition (AFEMS), Australian Explosives Industry and Safety Group Incorporated (AEISG); Compressed Gas Association (CGA); Dangerous Goods Advisory Council (DGAC); European Chemical Industry Council (Cefic); European Industrial Gases Association (EIGA); International Council on Mining and Metals (ICMM), Federation of European Aerosol Associations (FEA); International Association for Soaps, Detergents and Maintenance Products (AISE); International Paint and Printing Ink Council (IPPIC); Responsible Packaging Management Association of Southern Africa (RPMASA); and Sporting Arms and Ammunition Manufacturers' Institute (SAAMI).

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

*Documents:* ST/SG/AC.10/C.4/75 (Provisional agenda)  
ST/SG/AC.10/C.4/75/Add.1 (List of documents and annotations)

*Informal documents:* INF.1, INF.2 (List of documents)  
INF.10 (Provisional timetable)

6. The Sub-Committee adopted the provisional agenda prepared by the secretariat after amending it to take account of informal documents INF.1 to INF.32.

### A. Status of publications

7. The Sub-Committee was informed that the English, French and Russian versions of the eighth revised edition of the GHS had already been published and that the Spanish, Chinese and Arabic versions were being prepared. It was also noted that the English and French versions of the seventh revised edition of the Manual of Tests and Criteria were also available and that the Spanish, Russian, Chinese and Arabic versions were under preparation.

## **B. Accreditation of experts**

*Informal document:* INF.14 (Accreditation of experts)

8. It was recalled that the Committee of Experts and its two subsidiary bodies are expert bodies composed of Governmental experts. In accordance with the original terms of reference of the Committee, Governments are invited, at the request of the Secretary-General and at their own expense, to make available the experts for the Committee (and its sub-committees). Other members of the delegation (advisors) may be designated by the Head of delegation.

9. For the Sub-Committee of Experts on the Transport of Dangerous Goods, it is expected that the government-nominated expert represents the coordinated expertise of his/her Government in relation to all modes of transport.

10. For the GHS Sub-Committee, it is expected that the government-nominated expert represents the coordinated expertise of his/her Government in relation to all sectors concerned by the GHS (in particular health, labour, transport, environment, trade).

11. For the Committee, it is expected that the government-nominated expert represents the coordinated position of his/her Government as regards all issues addressed by both subcommittees.

12. A member of the secretariat pointed out that for some countries, the information regarding the expert accredited to represent the government was missing, incomplete or outdated.

13. The secretariat emphasized the importance of keeping this information up to date and invited delegations to check whether the name and contact details of the person listed as Head of delegation for their government or organisation was accurate. Changes should be notified to the secretariat as soon as possible, through official channels (i.e: through the Permanent Mission or Ministry of Foreign Affairs in the case of Governments and through an official letter or email in the case of NGOs).

## **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. Testing of oxidizing substances**

*Document:* ST/SG/AC.10/C.4/2019/11 (France)

*Informal documents:* INF.18 (France)  
INF.28, Item 1 (Secretariat)

14. The Sub-Committee took note of the outcome of the discussions of the TDG Sub-Committee on the tests for oxidizing liquids and solids as reflected in documents ST/SG/AC.10/C.4/2019/11 and informal document INF.18. The expert from France expected that the work could be completed on time and that a proposal could be submitted for consideration by the Sub-Committee at its next session.

## 2. Review of test series H

*Informal documents:* INF.15 (Chair of the Working Group on Explosives)  
INF.28, Item 2 (Secretariat)

15. The Sub-Committee noted the update on the review of test series H of the Manual of Test and Criteria as reported in informal document INF.15 and the outcome of the discussions of the TDG Sub-Committee on this subject.

16. The authors of the proposal were reminded to take account of the applicability of the Manual of Test and Criteria in sectors other than transport consistently with the revision of the Manual conducted during the last biennium. Experts were invited to send their comments to the representative of Cefic (Mr. Schuurman) by mid March 2020 at the latest.

## B. Review of Chapter 2.1

*Document:* ST/SG/AC.10/C.4/2019/10 (Sweden)

*Informal documents:* INF.6, INF.26 and INF.32 (Sweden)  
INF.28, Item 3 (Secretariat)

17. The Sub-Committee noted the outcome of the discussions of the meeting of the informal correspondence group on the review of Chapter 2.1 held on 11 December 2019 as reflected in informal document INF.32 and endorsed the proposed way forward. The expert from Sweden informed the Sub-Committee that the comments on the draft Chapter 2.1 were being analysed and consolidated, and that a revised proposal would be submitted to both sub-committees at the next session.

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

*Informal document:* INF.20 (Netherlands, United Kingdom)

18. The expert from the United Kingdom presented the status report as reflected in informal document INF.20. She also informed the Sub-Committee about the outcome of a further face to face meeting held on 11 December 2019. Key issues addressed during the face to face meeting included:

- (a) a revised Chapter 3.3:
  - (i) the use of decision logics and the classification based on *in vitro* methods;
  - (ii) a discussion on figure 3.3.1 on the tiered approach, including some specific deviations from the current tiered approach;
- (b) guidance in the use of the weight of evidence for the *in vitro* methods, which was considered very relevant as the current criteria will not be conclusive in many cases;
- (c) the application of a weight of evidence analysis and examples of classification to assess the outcome of *in vitro/ex vivo* studies. This will include the use of the outcome of *in vitro* tests beyond the current OECD classification criteria, that will lead to an update of example 1. Other additional examples will be provided for discussion. Depending on the outcome of the discussions on the examples guidance or more specific criteria could be developed;

(d) a proposal for clarification of the interpretation of *in vivo* criteria for eye effects. It was agreed that it should be an item of separate work outside the non-animal testing informal working group.

19. The Sub-Committee acknowledged the work done by the informal working group and noted that a proposal will be submitted to the next session for consideration.

#### **D. Practical classification issues**

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

20. The Sub-Committee took note of the progress of work by the informal group at its meeting on 11 December 2019. The expert from the United States of America reported that the informal group had discussed a thought starter with four examples illustrating the relationship between acute toxicity and specific target organ toxicity (single and repeated exposure). Two of the examples had previously been agreed upon by the working group and two new examples were introduced. The working group had agreed to develop an additional example and that all examples would be presented in a working document for the next session.

21. On the concept of applying additivity to health hazard classes for which additivity is not explicitly mentioned, there was general agreement within the informal group that references to substances of unknown or variable composition, complex reaction products and biological materials (UVCB substances) and multi-constituent substances should be removed from the proposed text. The group also agreed to separate the text into a more concise description for Chapter 1.3 and to provide additional guidance. It was concluded that the group would consider whether the guidance should be published on the GHS Guidance webpage as a single document for all hazard classes or as more appropriate updates to the guidance section in each impacted chapter.

22. The Sub-Committee noted that the group would continue discussions on the remaining issues and would submit a document for consideration at the next session.

#### **E. Aspiration hazard**

23. The representative of IPPIC informed the Sub-Committee about the on-going work on the development of a suitable viscosity criterion for classification of mixtures. He said that a proposal addressing viscosity criterion at 23 °C, more directly supported by new test data, would be submitted for consideration by the Sub-Committee at the next session.

#### **F. Nanomaterials**

24. The expert from France reported that no progress was done on this issue. He added that France was no longer in the position to continue leading this work without the help of other delegations. He invited expression of interest from other delegations and said that he would keep the Sub-Committee informed at the next session.

## **G. Simultaneous classification in physical hazard classes and precedence of hazards**

*Informal documents:* INF.17 and INF.30 (Germany)  
INF.28, Item 4 (Secretariat)

25. The Sub-Committee took note of the progress of work by the informal correspondence group as reflected in informal document INF.30. It noted that the group would further discuss the remaining issues and submit a document for consideration at the next session.

## **H. Other issues**

### **1. References to the Model Regulations**

*Document:* ST/SG/AC.10/C.4/2019/9 (Secretariat)

26. The Sub-Committee adopted the amendments proposed in paragraphs 4, 6, 7 and the correction in paragraph 9 in document ST/SG/AC.10/C.4/2019/9 (see annexes I and II respectively). On the proposed correction to figure under case scenario B in example 10 of Annex 7, the expert from the United States of America indicated that they would submit a proposal for consideration at the next session to place the statement "Read full label enclosed" to be consistent with other examples in Annex 7.

27. On the design of decision logics in the GHS, the Sub-Committee noted that all decision logics would have to be converted into a format compatible with the most recent version of text processing software and that this would lead to changes in the current design. The expert from Germany suggested using the format of flowcharts based on appropriate ISO standards. A delegation requested that the updated decision logics be submitted in an official document for the next session. A member of the secretariat indicated that, due to time constraints, this might not be possible, in which case an informal document would be submitted.

### **2. Corrections to the eighth revised edition of the GHS**

*Informal document:* INF.7 (Secretariat)

28. The Sub-Committee adopted the proposed corrections to the GHS (see annex II).

### **3. Clarification of paragraph 2.9.3.4.3.4 of Model Regulations and paragraph 4.1.3.3.4 of GHS**

*Informal documents:* INF.11 (China)  
INF.28, Item 5 (Secretariat)

29. The Sub-Committee noted the outcome of discussion in the TDG Sub-Committee that the proposed note under 2.9.3.4.3.4 of the Model Regulations could be clarified, including the suggested alternative wording proposed by the United Kingdom.

30. The Sub-Committee considered the proposed revised text proposed for 4.1.3.3.4. The expert from China invited all delegates to send her their comments and she offered to prepare a revised document. It was agreed to take a decision at the next session on the basis of an official document.



#### 4. Proposed clarification of eye irritation sub-categorization

*Informal documents:* INF.4/Rev.1 (Australia)  
INF.31 (United States of America)

31. The expert from Australia proposed clarifications to the classification criteria of eye irritation category 2A and 2B as reflected in informal document INF.4/Rev.1. The expert from the United States of America proposed further amendments as an alternate approach as described in informal document INF.31. There was agreement to review the use of the term sub-category throughout the GHS and to prepare a proposal regarding the building block approach in 1.1.3.1.5.4. as well as on the consistent application for all hazard classes on a case-by-case basis while ensuring that it continues to address the needs of all sectors.

32. The experts from Australia, Germany and the United States of America volunteered to work on this issue and to submit a proposal for consideration at the next session.

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

#### A. Practical labelling issues

##### 1. Revision of examples 1 to 7 in Annex 7

*Informal document:* INF.25 (Cefic)

33. The representative of Cefic introduced in informal document INF.25 several options to review several options to review and update examples 1 to 7 in Annex 7. The Sub-Committee agreed to update these examples in Annex 7 while keeping their layout and deleting explicit chemical names. Furthermore, it was suggested to include explicit labelling examples as guidance to be published on the GHS guidance webpage.

##### 2. Digitalisation of hazard information

*Informal document:* INF.22 (Cefic)

34. The representative of Cefic presented the background and benefits of as well as the concerns with the digitalisation of hazard information for chemical products as reflected in informal document INF.22. The Sub-Committee took note of the outcome of the meeting of the informal working group on practical labelling issues held on 12 December 2019. At that meeting, the experts had explored to what extent the GHS could address the issue of digitalisation such the use of GHS terminology, data accessibility and user friendliness. Other aspects had been identified to be further explored such as:

- (a) Access to digitalised information in different jurisdictions;
- (b) The extent of harmonisation required to avoid uncontrolled situations;
- (c) Data privacy for the end user;
- (d) Data compatibility across different systems;
- (e) Supplemental information versus label information.

35. The Sub-Committee welcomed the update on the discussion.

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

### **1. Proposed changes to Annex 1 of the GHS**

*Document:* ST/SG/AC.10/C.4/2019/12 (United Kingdom)

*Informal document:* INF.28, Item 6 (Secretariat)

36. The Sub-Committee noted the outcome of discussion in the TDG Sub-Committee that the proposed amendments to Annex 1 of GHS was accurate with respect to the Model Regulations. The Sub-Committee adopted the amendments proposed in the annex to document ST/SG/AC.10/C.4/2019/12, as amended (see annex I).

### **2. Corrections and amendments to Annex 3, sections 2 and 3**

*Document:* ST/SG/AC.10/C.4/2019/15 (United Kingdom)

37. The Sub-Committee adopted the corrections in paragraphs 5 and 8 and the amendments in paragraphs 19 and 20 in the document (see annexes II and I respectively).

### **3. Status of the work of the Annex 1-3 informal working group**

*Informal document:* INF.23 (United Kingdom)

38. The Sub-Committee noted the outcome and work progress of the informal working group that met on 12 December 2019. The representative of the United Kingdom reported that the informal group had:

(a) endorsed the proposed corrections and amendments in ST/SG/AC.10/C.4/2019/15,

(b) discussed a thought starter on hand-eye contact in relation to eye irritation hazard and agreed on the importance of this subject and commented the possible precautionary statements that could be used to help address this issue, i.e. the need:

(i) to consider other areas of the skin or clothing that may also be contaminated with an eye irritant in relation to potential eye contact,

(ii) to further develop a formal proposal to be presented to the Sub-Committee at the July 2020 session.

39. The Sub-Committee agreed to further discuss this subject at the next session.

## **C. Review of Annex 4, sub-section A4.3.3.2.3**

40. As no document had been submitted under this agenda sub-item no discussion took place on this issue.

## **D. Other issues**

### **1. Corrections to hazard statements H410, H411 and H412**

*Document:* ST/SG/AC.10/C.4/2019/8 (Secretariat)

41. The Sub-Committee adopted the proposed corrections (see annex II). The experts from China and the Russian Federation confirmed that the Chinese and Russian versions were correct.

**2. Proposed clarification for the heading of section 9 of the Safety Data Sheet**

*Document:* ST/SG/AC.10/C.4/2019/13 (Australia, Canada)

42. The Sub-Committee adopted the proposed amendments (see annex I).

**V. Implementation of the GHS (agenda item 4)****A. Possible development of a list of chemicals classified in accordance with the GHS**

*Informal document:* INF.27 (Canada, United States of America)

43. The Sub-Committee noted the information on the progress of the informal group on the development of a global list of chemicals classified in accordance with the GHS as reflected in informal document INF.27. The Sub-Committee encouraged the informal group to go forward with their workstreams 1 and 2, and to report back at the next session.

**B. Reports on the status of implementation****1. Australia**

*Informal document:* INF.5 (Australia)

44. The Sub-Committee welcomed the information on the status of implementation of the GHS in Australia.

**2. European Union**

45. The representative of the European Union informed the Sub-Committee that a legal proposal to implement the provisions of the sixth and seventh revised editions of the GHS with regard to the safety data sheets was under discussion and it was expected to be adopted for entry into force by mid of 2020.

**3. New Zealand and ANDEAN community**

*Informal document:* INF.13 (Secretariat)

46. The Sub-Committee noted the implementation status of the GHS in the ANDEAN community and in New Zealand.

**4. Canada and the United States of America**

47. The expert from the United States of America announced that a proposed rulemaking procedure to align with the seventh revised edition of the GHS was expected to be published next year. The expert from Canada stated that they were in the process of implementing the seventh revised edition of the GHS.

**5. Information on the status of implementation of the GHS**

*Informal document:* INF.19 (Cefic)

48. The Sub-Committee welcomed the updates on the work on the template developed by Cefic and suggested to include a column addressing information on implementation of cut-off values for mixtures. The representative of Cefic volunteered to share with the secretariat and interested experts a report prepared by Cefic on the status of implementation of the GHS worldwide. After an exchange of views, the Sub-Committee welcomed the offer from the

secretariat to submit an informal document for the next session that would include the information provided by Cefic. Experts were invited to share any information they may have on the status of implementation of the GHS.

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

### **1. Review and update of references to OECD guidance documents and test guidelines in the GHS**

*Document:* ST/SG/AC.10/C.4/2019/14 (OECD)

*Informal documents:* INF.3 (OECD)  
INF.9 (Secretariat)

49. The Sub-Committee adopted the amendments proposed for Chapters 3.2 and 3.5 (see annex I) and for paragraph A9.5.2.3.5 (see annex II) in ST/SG/AC.10/C.4/2019/14.

50. The Sub-Committee welcomed the proposal in informal document INF.9. The Sub-Committee was divided on whether option 1 or 2 was preferred. The secretariat was invited to prepare an official document for the next session.

### **2. Expert Working Group on the review of Annexes to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal**

*Informal document:* INF.12 (Secretariat)

51. The Sub-Committee noted the information on the review of the annexes to the Basel Convention as reflected in informal document INF.12.

### **3. Strategic approach and sound management of chemicals and waste beyond 2020**

*Informal document:* INF.16 (Secretariat)

52. The Sub-Committee took note of the information. Governments and NGOs were encouraged to provide regular updates on the status of implementation of the GHS so that the information on the webpage monitoring its implementation is up to date.

## **D. Miscellaneous**

53. As no document had been submitted under this agenda sub-item no discussion took place on this issue.

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

*Informal document:* INF.24 (IPIECA)

54. The Sub-Committee noted the information on the final update of the IPIECA guidance on the application of GHS criteria to petroleum substances and invited the secretariat to make it available on the GHS guidance webpage.

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

*Informal document:* INF.21 (ICCA)

55. The Sub-Committee welcomed the activities of ICCA on awareness raising and capacity building on the GHS in different regions of the world. The representative of UNITAR complemented the report with similar activities by his organization.

## **VIII. Other business (agenda item 7)**

### **A. Condolences**

56. The Sub-Committee learnt with great sadness that Ms. Jennifer Silk had passed away on 22 October 2019. Ms. Silk was involved in work related to the GHS not only since the early stages of its development but also later on following its adoption and implementation. She chaired the international coordinating group that managed the development of the GHS and participated in the sessions of the Sub-Committee as Head of the delegation of the United States of America. After her retirement, she continued to work on GHS related issues as a consultant and training advisor to UNITAR. The Chair expressed condolences to the delegation of the United States of America on behalf of the Sub-Committee. She invited the delegation of the United States of America to convey them to Ms. Silk's family.

### **B. Definitions and use of acronyms and abbreviations in the GHS**

*Informal document:* INF.8 (Secretariat)

57. The Sub-Committee invited the secretariat to submit an official document with the proposal in informal document INF.8. Following a proposal by some experts the secretariat was invited to also include an option for deleting the current definitions of physical hazards in Chapter 1.2.

### **C. Joint session of the TDG and GHS subcommittees**

58. The Sub-Committee suggested that a joint session with the TDG Sub-Committee be organized at the next session to examine the proposal on the review of Chapter 2.1 and any other matters of interest for both sub-committees. The Chair of the TDG Sub-Committee concurred with this suggestion. Further information will be provided in the agenda for the next session. Experts were invited to inform the secretariat on their preferred session for the discussion of their documents.

59. The Sub-Committee noted that the deadline for submission of official documents for the next session is 9 April 2020. The deadline for submission of official documents submitted for consideration by both the TDG and GHS subcommittees is 3 April 2020.

## **IX. Adoption of the report (agenda item 8)**

60. In accordance with the established practice, the Sub-Committee adopted the report on its thirty-eighth session and its annexes based on a draft prepared by the secretariat.

**Annex I**

[Original: English and French]

**Draft amendments to the eighth revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals (ST/SG/AC.10/30/Rev.8)****Chapter 1.2**

Amend the definition of “*Recommendations on the Transport of Dangerous Goods, Model Regulations*” to read as follows:

“*UN Model Regulations* means the Model Regulations annexed to the latest revised edition of the Recommendations on the Transport of Dangerous Goods published by the United Nations”.

Consequential amendment: Replace all existing references (see paragraph 2 above) with “UN Model Regulations”.

(Ref.Doc: ST/SG/AC.10/C.4/2019/9)

**Chapter 1.5**

1.5.3.2.1 In item 9, delete “and safety characteristics”.

(Ref.Doc: ST/SG/AC.10/C.4/2019/13)

**Chapter 2.3**

In table 2.3.1, under “Criteria”:

- Replace “(1)”, “(2)” and “(3)” with “(a)”, “(b)” and “(c)”;
- Replace “(a)”, “(b)”, “(c)” with “(i)”, “(ii)” and “(iii)”.

(Ref.Doc: ST/SG/AC.10/C.4/2019/9)

**Chapter 3.2**

In table 3.2.2, under “Criteria”, replace “(1)”, “(2)” and “(3)” with “(a)”, “(b)” and “(c)”.

(Ref.Doc: ST/SG/AC.10/C.4/2019/9)

In Table 3.2.6:

- In the heading of the third column, amend the list of methods to read: “...Methods 1, 2, 3, 4 and 5”.
- In the row for category 1, on the third cell of the table, insert “, 5” in the list of methods before “< 50 %”
- In the row for category 1A, on the fifth cell of the table, insert “, 5” in the list of methods before “< 15 %”

(Ref.Doc: ST/SG/AC.10/C.4/2019/14)

**Chapter 3.5**

3.5.2.7 (a) At the end of the current list, add: “Transgenic Rodent Somatic and Germ Cell Gene Mutation Assays (OECD 488)”.

3.5.2.8 Insert the following references after the introductory sentence, before the current examples (“Liver...”):

“In vivo Mammalian Alkaline Comet Assay (OECD 489)  
Transgenic Rodent Somatic and Germ Cell Gene Mutation Assays (OECD 488)”

3.5.2.9 Amend the end of the second example to read as follows: “OECD 476 and 490”.



(Ref.Doc: ST/SG/AC.10/C.4/2019/14)

### Annex 1

The amendments in document ST/SG/AC.10/C.4/2019/12 were adopted with the following modification:

In the note 3 under the heading of the annex, replace “Chapter 5.2 of the UN Model Regulations<sup>1</sup>” with “Chapter 5.2, section 5.2.2.2 of the UN Model Regulations” and delete the related footnote.

Replace table A1.7 with the following:

Classification			Labelling				GHS Hazard statement code
GHS Hazard class	GHS Hazard category	UN Model Regulations class or division	GHS pictogram	UN Model Regulations pictogram	GHS Signal word	GHS Hazard statement	
Flammable solids	1	4.1			Danger	Flammable solid	H228
	2				Warning		

### Annex 3

In Section 2, table A3.2.2, for P230:

- In column (2), replace: “Keep wetted with...” with “Keep diluted with...”
- For the explosives hazard class (divisions 1.1, 1.2, 1.3 and 1.5), replace the “Conditions for use” in column (5) with the following:

*“- for explosive substances and mixtures that are diluted with solids or liquids, or wetted with, dissolved or suspended in water or other liquids to reduce their explosives properties.*

...Manufacturer/supplier or competent authority to specify appropriate material. ”

In Section 3, matrix of precautionary statements for explosives (divisions 1.1, 1.2, 1.3 and 1.5), for P230, under “Prevention”, replace the current text with the following:

**“Keep diluted with...**

*- for explosive substances and mixtures that are diluted with solids or liquids, or wetted with, dissolved or suspended in water or other liquids to reduce their explosives properties.*

...Manufacturer/supplier or competent authority to specify appropriate material. ”

(Ref.Doc: ST/SG/AC.10/C.4/2019/15)

Note by the secretariat:

*Consequential amendment: The same amendment applies to P230 in the matrix of precautionary statements for desensitized explosives (categories 1, 2, 3 and 4).*

**Annex 4**

A4.3.9 Amend the heading of section 9 to read “Physical and chemical properties”

(Ref.Doc: ST/SG/AC.10/C.4/2019/13)



## Annex II

[Original: English and French]

**Corrections to the eighth revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals (ST/SG/AC.10/30/Rev.8)**

**1. Chapter 1.4, sub-paragraphs 1.4.10.5.3.3 (a), (b) and (c), hazard statements H410, H411 and H412**

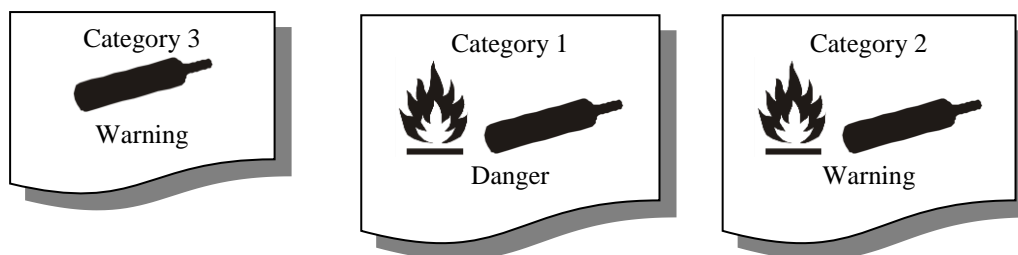
The correction does not apply to the English version

(Ref.Doc: ST/SG/AC.10/C.4/2019/8)

**2. Chapter 2.3, decision logic 2.3.2**

In the arrow leading to the text box “Not classified as chemical under pressure<sup>1</sup>” for NoC read No

In the text boxes for category 3, 1 and 2, insert the missing signal words under the symbols in each of the boxes to read as follows:



(Ref.Doc: Informal document INF.7)

**3. Chapter 2.7, paragraphs 2.7.2.1, 2.7.2.4 and 2.7.4**

For 33.2.1 read 33.2

(Ref.Doc: Informal document INF.7)

**4. Chapter 2.9, paragraphs 2.9.2 and 2.9.4.1**

For 33.3.1.5 read 33.4.5

(Ref.Doc: Informal document INF.7)

**5. Chapter 2.10, paragraphs 2.10.2 and 2.10.4.1**

For 33.3.1.4 read 33.4.4

(Ref.Doc: Informal document INF.7)

**6. Chapter 2.11, paragraphs 2.11.2.1, 2.11.2.2 and 2.11.4.1**

For 33.3.1.6 read 33.4.6

(Ref.Doc: Informal document INF.7)

**7. Chapter 2.12, paragraphs 2.12.2 and 2.12.4.1**

For 33.4.1.4 read 33.5.4

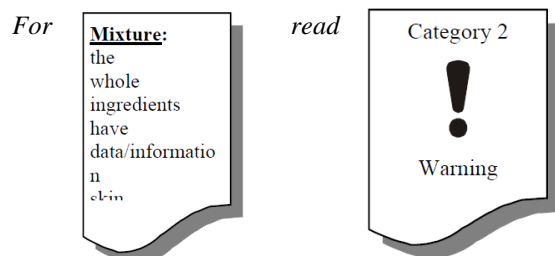
(Ref.Doc: Informal document INF.7)

**8. Chapter 2.14, table 2.14.1, under “Criteria using test O.3”, Category 1**

The correction does not apply to the English version

(Ref.Doc: Informal document INF.7)

**9. Chapter 3.2, decision logic 3.2.1**



(Ref.Doc: Informal document INF.7)

**10. Annex 1, table A1.29 (b), hazard statements H410, H411 and H412**

The correction does not apply to the English version

(Ref.Doc: ST/SG/AC.10/C.4/2019/8)

**11. Annex 3 section 1, table A3.1.3, column (2), hazard statements H410, H411 et H412**

The corrections do not apply to the English version

(Ref.Doc: ST/SG/AC.10/C.4/2019/8)

**12. Annex 3, Section 3, matrix of precautionary statements for pyrophoric liquids (Chapter 2.9) and pyrophoric solids (chapter 2.10)**

Under “Prevention” *insert*

P231

**Handle and store contents under inert gas/...**

...Manufacturer/supplier or the competent authority to specify appropriate liquid or gas if “inert gas” is not appropriate.

(Ref.Doc.: ST/SG/AC.10/C.4/2019/15)

**13. Annex 3, Section 3, matrix of precautionary statements for eye damage/irritation (chapter 3.3), hazard categories 1, 2/2A, 2B**

In the heading of the tables, *for* EYE DAMAGE/IRRITATION *read* SERIOUS EYE DAMAGE/EYE IRRITATION (CHAPTER 3.3)

(Ref.Doc.: ST/SG/AC.10/C.4/2019/15)

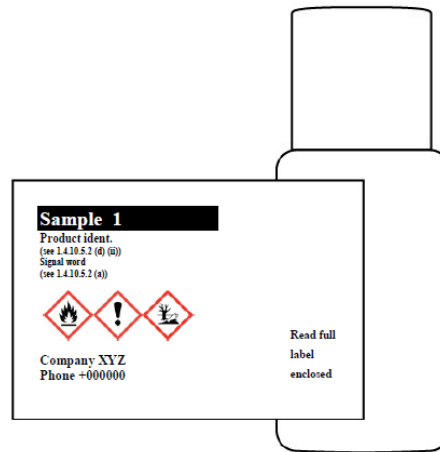
**14. Annex 3, Section 3, matrix of precautionary statements for hazardous to the aquatic environment (long-term hazard) categories 1,2 and 3, hazard statements H410, H411 et H412**

The corrections do not apply to the English version

(Ref.Doc: ST/SG/AC.10/C.4/2019/8)

**15. Annex 7, example 10, scenario B**

Replace the figure with an example of an inner receptacle label for sample 1, with the figure below:



(Ref.Doc: ST/SG/AC.10/C.4/2019/9)

**16. Annex 9, A9.5.2.3.5**

For (OECD 306, 1996). read (OECD 306, 1992).

(Ref.Doc: ST/SG/AC.10/C.4/2019/14)