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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 Transport of Dangerous Goods

**Report of the Sub-Committee of Experts on the Transport of  
Dangerous Goods on its fifty-fourth session**

held in Geneva from 26 November to 4 December 2018

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\* For practical reasons, this annex has been published in an addendum to this report (see ST/SG/AC.10/C.3/108/Add.1).

## I. Attendance

1. The Sub-Committee of Experts on the Transport of Dangerous Goods held its fifty-fourth session from 26 November to 4 December 2018, with Mr. D. Pfund (United States of America) as Chair and Mr. C. Pfauvadel (France) as Vice-Chair.
2. Experts from the following countries took part in the session: Australia, Austria, Belgium, Canada, China, Finland, France, Germany, Japan, Morocco, the Netherlands, Republic of Korea, Russian Federation, Spain, Sweden, Switzerland, United Kingdom and United States of America.
3. Under rule 72 of the rules of procedure of the Economic and Social Council, observers from Ireland, Slovakia and Turkey also took part.
4. Representatives of the European Union and the Intergovernmental Organization for International Carriage by Rail (OTIF) also attended.
5. Representatives of the Food and Agriculture Organization (FAO), the International Atomic Energy Agency (IAEA), the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO) and the World Health Organization (WHO) were also present.
6. Representatives of the following non-governmental organizations took part in the discussion on items of concern to those organizations: Association of European Manufacturer of Sporting Ammunition (AFEMS); Australian Explosives Industry Safety Group (AEISG); Compressed Gas Association (CGA); Council on Safe Transportation of Hazardous Articles (COSTHA); Dangerous Goods Advisory Council (DGAC); Dangerous Goods Trainers Association (DGTA); European Association for Advanced Rechargeable Batteries (RECHARGE); European Association of Automotive Suppliers (CLEPA); European Chemical Industry Council (CEFIC); European Industrial Gases Association (EIGA); Federation of European Aerosol Associations (FEA); Institute of Makers of Explosives (IME); International Air Transport Association (IATA); International Association for Soaps, Detergents and Maintenance Products (AISE); International Association of Fire and Rescue Services (CTIF); International Confederation of Container Reconditioners (ICCR); International Confederation of Drums Manufacturers (ICDM); International Confederation of Intermediate Bulk Container Associations (ICIBCA); International Confederation of Plastics Packaging Manufacturers (ICPP); International Dangerous Goods and Containers Association (IDGCA); International Fibre Drum Institute (IFDI); International Paint and Printing Ink Council (IPPIC); International Petroleum Industry Environmental Conservation Association (IPIECA); International Tank Container Organisation (ITCO); KiloFarad International (KFI); Medical Device Battery Transport Council (MDBTC); Metal Packaging Europe (MPE); Rechargeable Battery Association (PRBA); Responsible Packaging Management Association of Southern Africa (RPMASA); Sporting Arms and Ammunition Manufacturers' Institute (SAAMI), Stainless Steel Container Association (SSCA) and World LPG Association (WLPGA).

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

*Documents:* ST/SG/AC.10/C.3/107 (Provisional agenda)  
ST/SG/AC.10/C.3/107/Add.1 (List of documents and annotations)

*Informal documents:* INF.1 and INF.2 (List of documents)  
INF.17 (Provisional timetable)  
INF.27 (Reception by NGOs)

7. The Sub-Committee adopted the provisional agenda prepared by the secretariat after amending it to take account of informal documents INF.1 and INF.55.

## III. Recommendations made by the Sub-Committee on its fifty-first, fifty-second and fifty-third sessions and pending issues (agenda item 2)

### A. Review of draft amendments already adopted during the biennium

*Documents:* ST/SG/AC.10/C.3/2018/65 (Secretariat)  
ST/SG/AC.10/C.3/2018/86 (United States of America)  
ST/SG/AC.10/C.3/2018/90 (Secretariat)

*Informal document:* INF.14 (Netherlands)

8. With the exception of the amendments related to Class 1 and the Manual of Tests and Criteria that were referred to the Working Group on Explosives for consideration (see paragraphs 12 and 14), the Sub-Committee confirmed the amendments to the Model Regulations in document ST/SG/AC.10/C.3/2018/65, including those between square brackets, with the following exceptions and modifications:

- (a) The amendment to 1.1.1.2 (c) was withdrawn (see paragraph 83).
- (b) The proposal in document ST/SG/AC.10/C.3/2018/86 to delete the entry for UN 1390, packing group I, was adopted (see annex I).
- (c) The amendments to packing instructions P622 and LP622 were adopted, with some additional changes, following an oral proposal from the representative of FAO (see annex I).
- (d) Following the introduction of informal document INF.14 by the representative of the Netherlands, the amendments to 7.1.5.4.5 (b) to (e) were not adopted (see annex I). The expert from the Netherlands explained that the proposed amendments needed further refinement to avoid misinterpretations and that discussions to improve the text were ongoing at the Working Party on the Transport of Dangerous Goods (WP.15). She informed the Sub-Committee that based on the outcome of these discussions, she would consider submitting a revised proposal for consideration by the Sub-Committee in the future.
- (e) A correction to the French text of the definition of the “U” factor in 6.7.2.12.2.1 and 6.7.3.8.1.1 was also adopted (see annex I). It was noted that this correction did not apply to the English version.

9. On a question by the representative of WHO on the rationale behind the non-applicability of UN 3549 to waste from bio-research or liquid waste, as stated in 2.6.3.5.1 (a), the expert from Belgium explained that the new provisions had been developed to cover

transport of large volumes of category A wastes for which the existing provisions in P620 were not suitable.

10. The Sub-Committee was informed that the corrections listed in document ST/SG/AC.10/C.3/2018/90 would be circulated as an official corrigendum to the twentieth revised edition of the Model Regulations. Experts were invited to communicate additional corrections, if any, to the secretariat so that they could be included as well in the official corrigendum.

## **B. Explosives and related matters**

11. After preliminary consideration in plenary, most of the questions relating to this agenda item were referred to the Working Group on Explosives, which met from 26 to 30 December 2018 under the chairmanship of Mr. E. de Jong (Netherlands).

12. Documents under agenda item 7 (d) on the use of Manual of Tests and Criteria in the context of the GHS, as well as documents ST/SG/AC.10/C.3/2018/64, ST/SG/AC.10/C.3/2018/75 and ST/SG/AC.10/C.3/2018/99, and explosives related amendments in document ST/SG/AC.10/C.3/2018/65 were also referred to the Working Group on Explosives for consideration.

### **Report of the Working Group on Explosives**

*Informal document:* INF.50 (Chairman of the Working Group)

13. Noting that the Working Group could not reach consensus on the proposals relating to the recommendations for Test Series 8; the application of the default fireworks classification table for classification of certain articles, pyrotechnic UN 0431; the amendments to the list of items assigned to LP101; the reassignment of special packing provisions PP67 and L1 to a new special provision; the classification of self-inflating recovery devices; and the splitting of Category 1 of the GHS within the framework of review of Chapter 2.1, the Sub-Committee addressed these documents in plenary, with the conclusions listed in sections 1 to 6 below.

14. In addition, having considered the report of the Working Group on Explosives and heard the explanations provided by its chairman, the Sub-Committee noted the conclusions listed in sections 7 to 14 below for each remaining subject under consideration under agenda item 2 and 7 (d).

#### **1. Recommendations for Test Series 8**

*Document:* ST/SG/AC.10/C.3/2018/67 (IME)

*Informal documents:* INF.21 (Canada, IME)  
INF.50, paragraph 5 (Chairman of the Working Group)

15. The Sub-Committee adopted the proposals in ST/SG/AC.10/C.3/2018/67 as amended by amendments 1 to 5 in annex 3 to informal document INF.50 (see annex II) and noted that the consequential amendments to the GHS in amendment 1 in annex 4 to informal document INF.50 would be brought to the attention of the GHS Sub-Committee.

**2. Application of the default fireworks classification table for classification of certain articles, pyrotechnic UN 0431**

*Document:* ST/SG/AC.10/C.3/2018/87 (United States of America)

*Informal document:* INF.50, paragraph 11 (Chairman of the Working Group)

16. Some experts raised concerns about the proposal as they believed that it could set a precedence for future requests to extend the application of the default classification to articles other than fireworks. The expert from the United States of America explained that the proposal was intended to clarify the scope of the application of the default classification system and not to extend it. It was recognized however that the proposed text could be improved to avoid misunderstandings.

17. The Sub-Committee adopted the amendment to 2.1.3.5.2 in document ST/SG/AC.10/C.3/2018/87, with some modifications (see annex I).

**3. Amendments to the list of items assigned to LP101**

*Document:* ST/SG/AC.10/C.3/2018/113 (United Kingdom)

*Informal document:* INF.50, paragraph 12 (Chairman of the Working Group)

18. The Sub-Committee adopted the proposal in paragraph 12 of document ST/SG/AC.10/C.3/2018/113 (see annex I).

**4. Reassignment of PP67 and L1 to a new special provision**

*Document:* ST/SG/AC.10/C.3/2018/114 (United Kingdom)

*Informal documents:* INF.30 (Finland)  
INF.50, paragraph 13 (Chairman of the Working Group)

19. On informal document INF.30, the Sub-Committee noted the recommendation made by the Working Group to the expert from Finland, to consider whether section 4.1.5.15 of the Model Regulations could help addressing the issue raised. It was also noted that packing instruction P101 gives discretion to the competent authority to decide the type of packaging that may be used, if any.

20. Regarding document ST/SG/AC.10/C.3/2018/114, due to lack of support, the expert from the United Kingdom withdrew proposal 1. Proposal 2 was not adopted.

**5. Self-inflating recovery devices**

*Document:* ST/SG/AC.10/C.3/2018/75 (Germany)

*Informal document:* INF.50, paragraph 15 (Chairman of the Working Group)

21. Considering the feedback provided by the Working Group on Explosives, the expert from Germany withdrew proposal 2 in document ST/SG/AC.10/C.3/2018/75. Proposal 1 was adopted (see annex I).

## 6. Review of Chapter 2.1 of the GHS

*Documents:* ST/SG/AC.10/C.3/2018/85 (Chairman of the Working Group on Explosives, Sweden)

*Informal documents:* INF.13 (United States of America, IME, SAAMI)  
INF.24 (United States of America, IME, SAAMI)  
INF.50, paragraph 10 (Chairman of the Working Group)

22. The Sub-Committee took note of the outcome of the discussions of the Working Group on Explosives on this issue and noted that it had accomplished its mandate to review the technical criteria for assignment of explosives to sub-categories 2A, 2B and 2C in the GHS, without consequential changes to the current classification system in transport. It was noted that this would provide an improved system to address classification of explosives in packaging configurations other than those used for transport purposes. The Sub-Committee was informed that a proposal for amendment to the GHS was being developed. It was also noted that no agreement was reached on the splitting of Category 1 and that discussions on this issue would continue.

23. The expert from Spain reiterated its opposition to the revised classification scheme developed within the framework of the work on the review of Chapter 2.1 of the GHS.

24. The Sub-Committee expressed its appreciation to the Working Group for the work accomplished in this area. The Chairman of the Working Group informed the Sub-Committee that the Working Group would continue to provide technical advice and support to the GHS Sub-Committee and its informal correspondence group on the review of Chapter 2.1, if needed.

## 7. Review of draft amendments previously adopted by the Sub-Committee during the biennium

*Documents:* ST/SG/AC.10/C.3/2018/64 (Secretariat)  
ST/SG/AC.10/C.3/2018/65 (Secretariat)  
ST/SG/AC.10/C.3/100/Add.1 (Secretariat)

*Informal document:* INF.50, paragraph 4

25. The Sub-Committee endorsed the recommendations of the Working Group and adopted the corrections to the consolidated list of amendments in documents ST/SG/AC.10/C.3/2018/64 and ST/SG/AC.10/C.3/2018/65, in informal document INF.50, Annex 5, items 1 and 2 (see annex II). The Sub-Committee also adopted the amendment to a correction to the Manual of Tests and Criteria, previously adopted by the Sub-Committee at its fiftieth session (ST/SG/AC.10/C.3/100/Add.1), in informal document INF.50, Annex 5, item 3 (see annex II).

## 8. Classification of ammonium nitrate (UN 0222)

*Document:* ST/SG/AC.10/C.3/2018/68 (IME)

*Informal document:* INF.50, paragraph 6

26. The Sub-Committee endorsed the recommendations of the Working Group and adopted the amendment to special provision 370 in informal document INF.50, Annex 2, amendment 1 (see annex I).

**9. Transport of energetic samples**

*Document:* ST/SG/AC.10/C.3/2018/78 (CEFIC)

*Informal document:* INF.50, paragraph 7

27. The Sub-Committee was informed of the concerns expressed within the Working Group about the lack of sufficient technical background to understand or evaluate the proposal made by CEFIC and the questions raised about the source of acceptance values in UN screening tests (i.e. whether there were derived or based on actual data). It also noted that the Working Group confirmed the need for a solution and had suggested to the representative of CEFIC to consider splitting the proposal into smaller proposals to facilitate their consideration and understanding.

28. The representative of CEFIC reiterated the need for a solution to transport these substances, as they were currently being shipped in many cases as non-dangerous goods. He invited experts to share with him ideas on alternative concepts or solutions as well as questions on the technical background. He informed the Sub-Committee that he would revise the proposal to take account of the feedback received and would come back to this issue during the next biennium.

**10. Practical explosive or pyrotechnical effect**

*Document:* ST/SG/AC.10/C.3/2018/81 (Sweden)

*Informal document:* INF.50, paragraph 8

29. The Sub-Committee endorsed the recommendation of the Working Group and adopted the amendment to 2.1.3.3.1 in informal document INF.50, Annex 2, amendment 2 (see annex I). It was noted that the proposal in paragraph 11 of document ST/SG/AC.10/C.3/2018/81 had been withdrawn and that the expert from Sweden would come back with a revised one during the next biennium.

**11. Test Series 6 (b)**

*Document:* ST/SG/AC.10/C.3/2018/82 (Sweden)

*Informal document:* INF.50, paragraph 9

30. The Sub-Committee endorsed the recommendation of the Working Group and adopted the amendment to 16.5.1.4 (c) in informal document INF.50, annex 3, amendment 6 (see annex II).

**12. Definitions related to Class 1**

*Informal documents:* INF.22 (Sweden)  
INF.50, paragraph 14

31. The Sub-Committee noted that the Working Group had discussed several issues related to the definitions related to Class 1 and that the expert from Sweden may consider submitting proposals to address them during the next biennium.

**13. Fibre-reinforced plastics (FRP) portable tanks**

*Document:* ST/SG/AC.10/C.3/2018/99 (AEISG)

*Informal document:* INF.50, paragraph 16

32. The Sub-Committee noted that the Working Group had agreed to work with the informal working group on FRP portable tanks during the next biennium (see also paragraph 67).

**14. Use of the Manual of Tests and Criteria in the context of the GHS**

*Documents:* ST/SG/AC.10/C.3/2018/61 (Chairman of the Working Group)  
ST/SG/AC.10/C.3/2018/62 (Chairman of the Working Group)  
ST/SG/AC.10/C.3/2018/88 (Chairman of the Working Group)

*Informal documents:* INF.3, INF.4 and INF.6 (Chairman of the Working Group)  
INF.19 (Germany)  
INF.50, paragraphs 17, 18, 19 and 20

33. The Sub-Committee endorsed the recommendations of the Working Group and adopted the amendments to parts II and III to the Manual of Tests and Criteria as follows:

- (a) amendments to Part II (sections 20 to 28) in document ST/SG/AC.10/C.3/2018/61, as amended by informal document INF.50, annex 6, item 1 (see annex II);
- (b) amendments to Part III (sections 30 to 37; 38.1 and 38.2) in document ST/SG/AC.10/C.3/2018/62 (see annex II); and
- (c) amendments to Part II, Test Series H, in document ST/SG/AC.10/C.3/2018/88 as amended by informal document INF.50, annex 6, item 2 (see annex II).

34. On the use of “shall be considered” and “shall be categorized” in the Manual of Tests and Criteria addressed in informal document INF.19, the Sub-Committee took note of the concerns and opinions expressed within the Working Group summarized in paragraph 20 of informal document INF.50. It was noted that the Working Group had decided to defer consideration of the issues raised until the ongoing review of Chapter 2.1 of the GHS was completed. In the light of the comments made, the expert from Germany withdrew informal document INF.19.

**C. Listing, classification and packing****1. Amendment of packing instructions P400 and P404**

*Document:* ST/SG/AC.10/C.3/2018/76 (CEFIC)

35. The proposed amendments to P400 and P404 were adopted without changes (see annex I).

**2. Exemptions for polymerizing substances**

*Document:* ST/SG/AC.10/C.3/2018/79 (CEFIC)

36. Several delegations supported in principle the proposal for an exemption of polymerizing substances from some of the requirements of the Model Regulations. A few others believed that given that the provisions for classification of these substances had been

introduced only two years ago in the Model Regulations, more experience was needed on their application before an exemption could be considered.

37. Among those who provided comments, some expressed concerns about the lack of a definition of “small package” (e.g. size of the package or volume of substances contained therein); how to determine the rate of gas evolution for flammable gases specified in note 2 to the proposed paragraph 2.4.2.5.3; and the rationale behind the “less than 1 % of the gas” criteria in note 1. There was agreement that requirements should not be placed in notes. One expert recommended that the exemption be addressed in a special provision rather than in Chapter 2.4, given that it appeared to be linked to the size of the packages rather than to classification. Others suggested that it would be more appropriate to base the exemption on the conditions applicable to self-reactive substances instead of on those applicable to Class 1 articles.

38. The representative of CEFIC reiterated industry’s need for an exemption for polymerizing substances. She indicated that she would consider the comments made, would provide details on the amount of polymerizing substances transported and applicable testing methods and would submit a revised proposal for the next session.

### **3. Revision of the Spanish names of UN numbers**

*Document:* ST/SG/AC.10/C.3/2018/104 (Spain)

*Informal document:* INF.9 (Spain)

39. The Sub-Committee took note of the proposals for the review of the Spanish version of the entries listed in the table under paragraphs 86 and 87 of informal document INF.9, as well as the consequential amendments indicated in paragraph 88, and requested the secretariat to incorporate them in the next revised edition of the Model Regulations and the Manual of Tests and Criteria.

### **4. Transport of barium carbonate as non-dangerous goods**

*Document:* ST/SG/AC.10/C.3/2018/105 (Spain)

*Informal document:* INF.7 (Spain)

40. Several experts were reluctant to exempt barium carbonate from the regulations based on the data provided. They pointed out that although the existing LD<sub>50</sub> value obtained from animal testing did not justify classification of barium carbonate as toxic in Division 6.1, toxicological data in humans confirmed that the substance was soluble in gastrointestinal tract and toxic to humans when swallowed. Some suggested that special provision 279 could be assigned to this substance, to justify classification in Division 6.1 based on human experience rather than the strict application of classification criteria.

41. Some others agreed on the classification of barium carbonate as non-toxic but questioned the need to address exemptions for specific substances not meeting the criteria for classification as dangerous goods on a case by case basis. They considered that this was against the general principles of the Model Regulations and may lead to the conclusion that only substances specifically mentioned are exempted from the regulations. To avoid confusion, some experts suggested the deletion of special provision 177.

42. After discussion and due to the lack of support the expert from Spain withdrew the proposal.

## 5. Chemicals under pressure in Chapter 2.2

*Informal document:* INF.23 (Spain)

43. The proposal to include chemicals under pressure in 2.2.1.3 and 2.2.2.1 was adopted with some modifications (see annex I).

## 6. IBCs: inner receptacle marking

*Document:* ST/SG/AC.10/C.3/2018/107 (Belgium)

*Informal documents:* INF.25 (ICPP)  
INF.48 (Belgium, ICPP)

44. The amendment to 6.5.2.2.4 in informal document INF.48 was adopted (see annex I).

## 7. Technical names for environmentally hazardous goods of Class 9 (UN 3077 and UN 3082)

*Document:* ST/SG/AC.10/C.3/2018/95 (IPPIC)

*Informal document:* INF.49 (IPPIC)

45. The representative of DGTA said that in his opinion, it would be preferable to address the issues raised by IPPIC in document ST/SG/AC.10/C.3/2018/95 by including additional guidance in 3.1.2.8 rather than by amending special provision 274. The representative of IPPIC explained that during the discussions, several experts had indicated that those who had to include that information in the transport document would more likely look for guidance in this respect in a special provision rather than in Chapter 3.1.

46. The Sub-Committee adopted the amendment to special provision 274 in informal document INF.49 (see annex I).

## D. Electric storage systems

### 1. Sodium-nickel chloride (Na-NiCl<sub>2</sub>)

*Document:* ST/SG/AC.10/C.3/2018/110 (Switzerland)

*Informal documents:* INF.8 and INF.44 (Switzerland)

47. Most delegations expressed reservations about exempting completely Na-NiCl<sub>2</sub> batteries from the regulations due to safety concerns.

48. Some experts regretted that design type testing specifically applicable to these batteries had not been made available for consideration by the Sub-Committee and questioned the applicability of testing methods developed for other types of batteries to Na-NiCl<sub>2</sub> batteries. Others believed that since Na-NiCl<sub>2</sub> batteries were transported as enclosed systems, tests such as drop or vibration tests were also relevant for them. It was suggested to request the informal working group on lithium batteries to examine whether the current tests are independent from the electrochemical technology of the batteries, and therefore relevant for all of them. While acknowledging this possibility, the Chairman of the informal working group pointed out that it would require extending the scope of the work of the group and noted that a detailed proposal to this end would have to be endorsed by the Sub-Committee.

49. Referring to the current definition of battery in electric terms (i.e. that the current should be able to flow) the expert from the United Kingdom questioned whether Na-NiCl<sub>2</sub> batteries fell within that definition at all, since there was no current flow out of them. This view was shared by the expert from Switzerland, who additionally explained that the results

of a test to evaluate the thermal runaway of Na-NiCl<sub>2</sub> batteries demonstrated that they were safe. On these grounds they considered that they should be fully exempted from the regulations.

50. This interpretation was not shared by many other experts, who thought that as the batteries contained substances classified as dangerous goods for transport, they could not be completely exempted. They recalled that transport regulations cover classification based on chemical hazards and not on electrochemical hazards. As an example, they referred to the classification of sodium batteries in division 4.3 due to its sodium content, with a special provision addressing specific transport conditions.

51. After discussion, the Sub-Committee recognized that a better assessment of the specific transport conditions applicable to Na-NiCl<sub>2</sub> batteries might be needed and that, based on the information and experience available so far, a partial exemption from some of the current requirements could be justified, at least for completely discharged batteries. However, it considered that additional factors should be carefully examined before granting such exemption. For instance, the intrinsic hazards of the Na-NiCl<sub>2</sub> batteries, their behaviour in a fire; the state of charge; the provisions addressing electrical hazard; the quantity or size limits to be covered by the exemption; the applicable hazard communication provisions; and the relevance and impact in safety of any proposed exemptions.

52. The expert from Switzerland said that he would revise the proposal in the light of the comments made and would submit a new document for the next session. As regards testing, he volunteered to provide the appropriate references to the Sub-Committee for consideration.

## **2. Hazard-based classification of lithium cells and batteries**

*Informal document:* INF.12 (IATA)  
INF.42 (France, RECHARGE)

53. The Sub-Committee took note of the information related to the meeting of the informal working group on classification of lithium batteries, to be held after the Sub-Committee session, on 5 and 6 December 2018 at the IATA offices in Geneva.

54. The expert from France, in his capacity as chairman of the informal working group, informed the Sub-Committee that informal document INF.42 would be considered during the meeting. He invited experts that would be unable to attend to share their comments on this document with him before 5 December, either personally during the Sub-Committee session or by email, so that they could be considered during the discussion.

## **3. Dimensions of the lithium battery mark**

*Document:* ST/SG/AC.10/C.3/2018/115 (PRBA, RECHARGE)

*Informal documents:* INF.20 (MDBTC)  
INF.51 and INF.55 (PRBA, RECHARGE)

55. The Sub-Committee took note of the additional information in informal document INF.55 on the savings and benefits expected from the reduction of the dimensions of the label. Noting that the proposed change would not have a negative impact on safety and would contribute to reduce the quantity of empty packagings sent to disposal or recycling, the Sub-Committee adopted by majority the proposal in paragraph 3 of that document (see annex I).

56. The representative of the United States of America indicated that consultation with other modes (particularly with the air mode) should be considered to ensure consistent implementation of the provisions. The representative of PRBA added that the proposal did not prevent industry to continue using current packagings.

## **E. Transport of gases**

### **1. Provision for the transport of waste gas cartridges (UN 2037)**

*Document:* ST/SG/AC.10/C.3/2018/106 (Ireland)

57. The proposal to introduce in the Model Regulations provisions for the transport of waste, non-refillable gas cartridges of UN 2037 without a release device, was adopted with some modifications (see annex I).

58. It was noted that transport of empty gas cartridges and gas cylinders for reprocessing or disposal needed to be addressed in detail and it was suggested that this matter be addressed by modal regulations. Based on their experience, the Sub-Committee may wish to consider including provisions for the transport of these articles in the Model Regulations.

### **2. Review of standards in Chapter 6.2**

*Informal document:* INF.32 (ISO)

59. The representative of ISO informed the Sub-Committee that the review of references requested at the fifty-third session (see ST/SG/AC.10/C.3/106, para.91) was completed and confirmed the absence of redundant standards in Chapter 6.2.

60. The Sub-Committee took note of the information in paragraphs 8 and 9 of informal document INF.32, namely that ISO intends to submit a proposal for the next session to introduce a reference to ISO 18119:2018 in the Model Regulations.

### **3. Reference to ISO 17879:2017**

*Informal document:* INF.39 (ISO)

61. The proposal to insert a reference to ISO 17879:2017 in Chapter 6.2 and to amend 4.1.6.1.8 accordingly was adopted with some changes (see annex I).

### **4. Update of LC<sub>50</sub> values in P200**

*Document:* ST/SG/AC.10/C.3/2018/66 (ISO)

*Informal document:* INF.31 (ISO)

62. Several experts pointed out that the toxicity data relating to UN Nos. 2196 and 2198 was not publicly available and therefore they had been unable to study the proposed LC<sub>50</sub> values. The expert from the United States of America indicated that national experts had confirmed that the LC<sub>50</sub> values for these UN numbers was not based on testing but derived from other data. He noted in addition that their adoption would imply deletion of the requirements in special provision “k” in packing instruction P200 as proposed in informal document INF.31 and considered that it was not appropriate to take such decision based on derived data.

63. On UN 1008, the expert from Sweden indicated that the toxicity data given in the document differed significantly from that supporting the harmonized classification contained in Table 3.1 of Annex VI to the CLP Regulation<sup>1</sup>. On these grounds, she did not support the proposal to amend the current LC<sub>50</sub> values for UN 1008.

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<sup>1</sup> Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures.

64. In view of the above, the Sub-Committee adopted the amendments relating to UN Nos. 1859, 2188, 2202, 2534 and 2676 (see annex I). The amendments relating to UN Nos. 1008, 2196 and 2198 were not adopted.

**5. Chemicals under pressure: extinguishing agents (UN 3500)**

*Document:* ST/SG/AC.10/C.3/2018/77 (CEFIC)

*Informal document:* INF.46 (CEFIC)

65. The Sub-Committee adopted proposal 1 in informal document INF.46 with some changes (see annex I).

**F. Miscellaneous pending issues**

**1. Fibre reinforced plastics (FRP) tanks**

*Documents:* ST/SG/AC.10/C.3/2018/111 (Chairman of the informal working group)  
ST/SG/AC.10/C.3/2018/99 (AEISG)  
ST/SG/AC.10/C.3/2018/91 (Russian Federation)

*Informal documents:* INF.10 (Chairman of the informal working group)  
INF.11 (Germany)  
INF.45 (Chairman of the informal working group)

66. After preliminary consideration in plenary, all documents related to this matter were referred to the working group on FRP tanks, which met on 26 and 27 November 2018 under the chairmanship of Mr. S. Webb (United States of America).

67. The Sub-Committee took note of the progress of the work and endorsed the conclusions and recommendations of the informal working group in informal document INF.45. In particular:

- (a) it took note of the progress of the work on the development of Chapter 6.9 and the ongoing discussions on general design construction provisions and specific design criteria requirements, as summarized in paragraphs 6 and 7 of informal document INF.45.
- (b) it endorsed the recommendation to continue work on this matter during the period 2019-2020 in accordance with the terms of reference agreed at the fifty-third session (see informal document INF.64). On the requests by AEISG (document ST/SG/AC.10/C.3/2018/99) and the Russian Federation (document ST/SG/AC.10/C.3/2018/91) to extend the scope of the work to cover transport of explosives and non-refrigerated liquefied gases in FRP tanks, the Sub-Committee noted that:
  - (i) the informal working group acknowledged the view of the Working Group on Explosives that Class 1 dangerous goods should be authorized for transport in FRP portable tanks. Some experts expressed concerns about the behaviour of explosives in a fire and the management of static electricity when placed in FRP tanks. The informal working group agreed to consider explosives when considering the design parameters for FRP portable tanks and to continue to seek advice from the Working Group on Explosives as provisions are developed;

- (ii) the informal working group acknowledged the ability of FRP portable tanks to carry dangerous goods of Class 2, but noting the additional complexities involved in the transport of these goods it decided to prioritize and finalize work on the development of provisions for transport of goods of other classes in FRP portable tanks before addressing transport of gases.

68. Finally, it was noted that the informal working group would meet from 1 to 3 July 2019 in parallel to the fifty-fifth session of the Sub-Committee.

## 2. Alignment of the English and French versions of 5.4.1.5.1

*Document:* ST/SG/AC.10/C.3/2018/69 (Belgium)

69. The Sub-Committee adopted the amendment to the French version of 5.4.1.5.1 in paragraph 5 of the document (see annex I).

## 3. Proposal to include special provision 653 of the ADR in the Model Regulations

*Document:* ST/SG/AC.10/C.3/2018/71 (EIGA)

*Informal document:* INF.36 (Switzerland)

70. Opinions differed on the suitability of the proposal for multimodal transport. Some experts pointed out that since special provision 653 of ADR was not suitable for all modes, it would not be appropriate to include it in the Model Regulations as its provisions were intended to address all modes of transport. They considered that transport of these cylinders should be addressed individually by applicable modal regulations, either nationally or internationally. Others considered on the contrary that as these cylinders were transported internationally in large quantities by more than one means of transport, the Model Regulations could include general provisions to ensure their safe transport by these modes.

71. Some experts expressed concerns about the technical aspects of the proposal, e.g.: the absence of some key requirements for hazard communication, training and filling provisions; or the rationale behind the exemption for gas cylinders with a test pressure capacity product of 15.2 Mpa.litre when compared to more restrictive transport conditions applicable to other gas receptacles (e.g.: 5 bar aerosols). Others considered that construction and testing provisions should not be included as they were already addressed in Chapter 6.2.

72. In view of the comments made, the representative of EIGA withdrew the proposal and said that he would consider the technical aspects raised during the discussion and would come back with a revised proposal during the next biennium.

## 4. Harmonization with the International Atomic Energy Agency regulation for the safe transport of radioactive material: arrangements for preparedness and response

*Document:* ST/SG/AC.10/C.3/2018/108 (IAEA)

*Informal document:* INF.41 (IAEA)

73. The representative of IATA reiterated the concerns expressed at the fifty-third session about the second sentence in 1.5.2.5. He considered that it could be misinterpreted as imposing an additional obligation on carriers and consignors. Some experts shared his concern.

74. After discussion, the Sub-Committee adopted the proposed text for 1.5.2.5 and 1.5.2.6 in informal document INF.41 with some additional changes (see annex I) to avoid misunderstandings about the responsibilities of consignors and carriers as regards the

establishment of arrangements for preparedness and response in case of a nuclear or radiological emergency during the transport of radioactive material.

**5. Multiple marking of packagings (including IBCs and large packagings) indicating conformity with more than one successfully tested design type**

*Document:* ST/SG/AC.10/C.3/2018/74 (Germany)

*Informal document:* INF.34 (ICCR)

75. Views were divided on the proposal. Some experts considered that there was no need to amend the existing text. Others on the contrary, felt that the current text could be further improved and expressed some sympathy for the proposal but did not support it as drafted. Some considered that the reference to “design type” packagings was misleading and one expert suggested to replace this generic reference by specific design types.

76. In the light of the comments made the representative of Germany withdrew the proposal.

**6. Toxicity through oral ingestion and/or dermal contact**

*Informal document:* INF.16 (Secretariat)

77. The Sub-Committee took note of the information provided by the secretariat.

**7. Provisions for data loggers and other equipment in use during transport, containing electric energy storage and production systems and scope of the exemption under 1.1.1.2**

*Documents:* ST/SG/AC.10/C.3/2018/109 (Netherlands)

ST/SG/AC.10/C.3/2018/117 (Switzerland)

ST/SG/AC.10/C.3/2018/118 (Switzerland)

*Informal documents:* INF.28 (Switzerland)

INF.52 (Netherlands)

78. Most experts considered that “means of transport” was used in 1.1.1.2 as a general term and it should be interpreted as such in the context of this paragraph. However, it was pointed out that as the French version refers to “engins de transport”, which corresponds to “conveyance” as defined in 1.2.1, the scope of 1.1.1.2 could be interpreted differently depending on the linguistic version used. Several experts stressed the importance of solving this discrepancy to avoid different interpretations when transposing the recommendations into legal texts. While acknowledging the existing discrepancies in 1.1.1.2, several English speaking delegations were reluctant to replace “means of transport” with “conveyance” as proposed. They considered that as “conveyance” was currently almost exclusively used in the Model Regulations in the context of transport of radioactive material, using it in the broader context of 1.1.1.2 could have unintended consequences that should be carefully evaluated before taking a decision.

79. On the alternative suggestion made by the expert from France to use “matériel de transport” in the French version instead of “engins de transport”, other French speaking experts agreed in principle that this could solve the inconsistency in 1.1.1.2, provided that, if needed, an equivalent English term could be found and considered acceptable by English speaking experts. It was also noted that this change would entail consequential amendments in other parts of the Model Regulations and the Manual of Tests and Criteria.

80. As regards proposal 2 in document ST/SG/AC.10/C.3/2018/118, several delegations were not in favour of placing the text of current 1.1.1.2 (c) in a definition under Chapter 1.2, on the grounds that requirements should not be included in definitions.

81. The representative of MDBTC expressed his preference for the text previously adopted by the Sub-Committee in document ST/SG/AC.10/C.3/2018/65. He felt that the proposed revised texts for 1.1.1.2 in document ST/SG/AC.10/C.3/2018/109 were unclear and could be misinterpreted.

82. Consideration of the comments made during the discussion in plenary on the proposals in ST/SG/AC.10/C.3/2018/109, ST/SG/AC.10/C.3/2018/117, ST/SG/AC.10/C.3/2018/118 and informal document INF.28, was entrusted to an informal group that met during the breaks and developed the proposals in informal document INF.52.

83. After consideration in plenary, the Sub-Committee adopted proposals 1, 2, 3 and 4 in informal document INF.52 with some amendments, as well as the consequential amendments to 2.8.1.1 (see annexes I and II). Consequently, the amendment to 1.1.1.2 (c) in document ST/SG/AC.10/C.3/2018/65 was withdrawn.

#### **8. Design pressure calculations**

*Document:* ST/SG/AC.10/C.3/2018/92 (Russian Federation)

84. Some experts were not in favour of the proposal. They felt that if adopted, it would result in thinner tanks being allowed and raised safety concerns.

85. Others on the contrary felt that it would increase accuracy of the calculation and supported it in principle but considered that it required further development before it could be adopted. They noticed for instance that it could also apply to small portable tanks and those intended for the carriage of other substances addressed in 6.7.2 and 6.7.4.

86. The expert from the Russian Federation said that he would submit a revised proposal for the next session that would take account of the comments made.

#### **9. Harmonization of the requirement “structurally serviceable”**

*Document:* ST/SG/AC.10/C.3/2018/98 (Germany, CEFIC)

87. Most of the delegations who expressed an opinion considered that the current text could be improved and supported the proposal in principle. In the light of the detailed comments provided orally during the discussion, the expert from Germany invited experts to send them to her in writing. She informed the Sub-Committee that she would work with CEFIC and any other interested delegations in revising the proposal to take account of the comments made with the aim to submitting a revised document for the next session.

88. On a comment questioning whether this issue should be addressed individually by each of the modes, the expert from Germany recalled that the need to harmonize this requirement had been raised first for land transport at the RID/ADR/ADN Joint Meeting and that, noting the multimodal nature of the issue, she had been requested to address it within the Sub-Committee.

#### **10. Chapter 6.7 and portable tank special provisions**

*Document:* ST/SG/AC.10/C.3/2018/100 (Belgium)

89. The Sub-Committee adopted proposals 1, 2 and 4 (see annex I). The amendments in proposal 3 were deemed unnecessary and were not adopted.

**11. Portable tanks with expired inspection dates and portable tanks switched from general cargo to dangerous goods content**

*Document:* ST/SG/AC.10/C.3/2018/112 (United Kingdom)

90. The proposal in paragraph 4 of the document was adopted with some changes as well as the consequential amendments to 6.7.3.15.6 and 6.7.4.14.6, proposed orally by the expert from the United Kingdom (see annex I).

**12. Minimum wall thickness for metal IBCs**

*Document:* ST/SG/AC.10/C.3/2018/96 (SSCA)

*Informal document:* INF.47 (SSCA)

91. The expert from Australia did not support the proposal. She indicated that given the road and extreme heat conditions in some parts of the country, several incidents involving metal IBCs had been reported. These included for instance, failure of metal IBCs (e.g.: leaks, cracks) due, among other factors, to the high amplitude of vibration during transport. She pointed out that these metal IBCs had passed all the required tests and complied with the current requirements and was concerned that the metal IBCs with thinner walls that would be allowed following the adoption of the proposal by SSCA would be even more vulnerable than the current ones when exposed to extreme conditions.

92. A few others expressed some reluctance to adopt the proposal at this time as they considered that parameters such as the performance *versus* the structural criteria, or the results of the penetration and corrosion resistance tests of thinner metal IBCs should be evaluated.

93. Several others on the contrary were in favour of the proposal as they considered it was consistent with technological progress in the manufacturing industry, while maintaining the current level of safety. They also pointed out that there was no minimum thickness requirement for other types of packagings.

94. The Sub-Committee adopted by majority the amendments to 6.5.5.1.6 in informal document INF.47 (see annex I). The deletion of “minimum” from the additional marks requirements on the fifth row of the table in 6.5.2.2.1 was not adopted.

**IV. Global harmonization of transport of dangerous goods regulations with the Model Regulations (agenda item 3)**

**Recommendations made by the ICAO Dangerous Goods Panel**

*Informal document:* INF.38 (ICAO)

95. The amendments to 5.2.1.1, 6.1.3.1 and 6.3.4.1 were adopted (see annex I).

**V. Guiding principles for the Model Regulations (agenda item 4)**

96. A member of the secretariat recalled the importance of keeping the guiding principles up to date and invited experts to submit proposals, as need be, to this end.

## **VI. Cooperation with the International Atomic Energy Agency (agenda item 5)**

97. Document ST/SG/AC.10/C.3/2018/108 was discussed under agenda item 2 (f) (see paragraphs 73 and 74).

## **VII. New proposals for amendments to the Model Regulations on the Transport of Dangerous Goods (agenda item 6)**

### **A. Bundles of cylinders**

*Document:* ST/SG/AC.10/C.3/2018/89 (Canada)

98. Most experts did not support the proposal. They considered that the current provisions were clear and provided an appropriate level of safety. Additionally, it was noted that with the adoption of the proposal from Canada, non-UN cylinders and cylinders built in accordance with previous ISO standards would no longer be allowed.

99. In the light of the comments made, the expert from Canada withdrew the proposal.

### **B. Classification of UN 2383 Dipropylamine**

*Document:* ST/SG/AC.10/C.3/2018/63 (Germany)

*Informal document:* INF.5 (Germany)

100. Several experts pointed out that the proposal did not take account of current toxicological data that might justify classification of this substance in class 8 (packing group I) with flammable and toxic subsidiary hazards (3+6.1).

101. The expert from China explained that for volatile substances, differentiation between toxicity by inhalation of vapours and inhalation of mists was made based on the saturated vapour concentration (SVC) and noted that this information was missing in the documents from Germany. Therefore, it was not clear whether the LC<sub>50</sub> inhalation value referred to vapours or mists.

102. The expert from the United States of America noted that for certain Class 8 substances, a division 6.1 subsidiary hazard is not required to be identified. He volunteered to work with others in the development of appropriate guiding principles for the Model Regulations.

103. The expert from Germany said that she would review the data as suggested by the Sub-Committee and would consider submitting a revised proposal in the future that would take account of the comments made.

### **C. Articles containing dangerous goods in excepted quantities**

*Document:* ST/SG/AC.10/C.3/2018/72 (Germany)

104. Only a few experts supported the proposal. Many others on the contrary were not in favour. Some pointed out that UN 3363 articles were already allowed to be transported in limited quantities in accordance with special provision 301 and did not see a reason to introduce additional quantity exemptions. Others were concerned about how the reference

to the codes in column 7b of the Dangerous Goods List in the proposal could be interpreted for dangerous goods in machinery and apparatus, as such codes provided maximum net quantities per inner and outer packagings.

105. Given the lack of support, the expert from Germany withdrew the proposal.

#### **D. Corrections to P200 (3)(c), P301 (1) and (2) and special provision 172 (d)**

*Document:* ST/SG/AC.10/C.3/2018/73 (Germany)

*Informal document:* INF.40 (IATA)

106. The Sub-Committee adopted the corrections to P200 (3)(c) and P301 (1) and (2) in the document from Germany. The correction to special provision 172 (d) was adopted as amended by informal document INF.40 (see annex I).

107. On the use of “rigid plastics” and “solid plastics” raised in paragraphs 4 and 8 in document ST/SG/AC.10/C.3/2018/73, the Sub-Committee agreed that the terminology should be harmonized. The experts from the United Kingdom and Australia warned however that both terms were not necessarily equivalent as they designated different types of packagings (e.g. expanded plastics were “rigid plastics” not “solid plastics”). The expert from Germany took note of the comments made and said that she would consider submitting a proposal in the future to address this matter.

#### **E. Applicability of LP906**

*Document:* ST/SG/AC.10/C.3/2018/83 (RECHARGE, OICA, PRBA, COSTHA)

108. Although some experts supported the proposal in principle, the majority of those who spoke expressed concerns about allowing the transport of more than one large battery in a large packaging. They recalled that LP906 had been developed to address transport of a single large battery only and not of multiple batteries, the latter being already covered by P911. They agreed that should LP906 be modified to allow transport of more than one large battery, it should specifically exclude batteries covered by P911 and contain segregation provisions to avoid the risk of dangerous reactions between them. It was also mentioned that LP904 could be amended accordingly.

109. Others did not support the proposal. They believed that large damaged or defective batteries being, by nature, less safe than undamaged and non-defective ones, it would not be advisable to allow several of them being transported together in the same large packaging.

110. Some others suggested that more information about the frequency of these type of transport would help to understand whether provisions should be included in the Model Regulations or dealt with at national level to the discretion of competent authorities.

111. On the need for provisions for the transport of these large batteries, the representative of RECHARGE explained that with the current development towards e-mobility, it was expected that transport of these large damaged batteries would become more and more frequent in a near future. He concluded that he would take all comments made into account and come back with a revised proposal during the next biennium.

## **F. Transport of polymerizing substances as waste**

*Document:* ST/SG/AC.10/C.3/2018/97 (Germany)

112. Several experts considered that there was not enough experience with transport of these substances to consider the proposed exemptions. Others believed that the type of transport described by Germany should comply with the provisions established by competent authorities.

113. In the light of the comments made, the representative of Germany withdrew the proposal and, considering that the issue seemed to be more relevant for regional than for worldwide transport, said that she would bring it to the attention of the RID/ADR/ADN Joint Meeting.

## **G. Optical differentiation of labels for gases**

*Document:* ST/SG/AC.10/C.3/2018/102 (Spain)

*Informal document:* INF.26 (Spain)

114. There was not enough support for the proposal. Most experts considered that it did not provide any added value, would be costly and would generate problems and confusion for colour blind individuals. The benefits for emergency responders and fire-fighting brigades were also questioned as it was pointed out that they were trained to take information not only from the placards or labels but also from the orange plates displaying the UN number and, in some modes, the hazard identification code.

115. Some others expressed some sympathy for the principle behind the proposal. It was mentioned that an option for flammable and toxic gases labels and placards could be to keep the same colours of the class 3 and division 6.1 labels and use the pressure receptacle instead of the flame and skull and crossbones symbols.

116. The representative of RPMASA mentioned that the comprehensibility rate of the pressure cylinder symbol in some countries was very low and suggested the Sub-Committee to consider amending it slightly to improve its understanding.

117. Due to the lack of support the expert from Spain withdrew the proposal and said that she would continue exploring other options and consider coming back to this issue in the future.

## **H. Differences between the English and French versions in 2.8.3.3 (c) (ii) and 6.7.3.3.5**

*Informal document:* INF.15 (Belgium)

118. The amendment to the French version of 6.7.3.5.5 was adopted (see annex I).

119. Proposal 1, intended to align the English and French versions of paragraph 2.8.3.3 (c) (ii) by deleting the mention to “or a similar type” was not adopted. Some experts pointed out that this mention allowed the use of alternative steel types, particularly in cases where it was difficult to obtain the reference steel type. Others noted that the corresponding text in section 37, paragraph 37.4.2 of the Manual of Tests and Criteria did not refer to “or a similar type”.

120. While acknowledging the existing inconsistencies and noting that this provision had been in place for many years without raising any implementation issue, the Sub-Committee invited experts to contact testing laboratories, inquiry about the availability of the steel types referenced to in that paragraph and consider whether an update to such references was necessary based on the feedback received. The representative of IMO suggested that the outcome of the work on corrosivity for the IMSBC Code, that was expected to be presented in September 2019, could also be considered.

### **I. Amendment to 38.3.3 (g) of the Manual of Tests and Criteria**

*Document:* ST/SG/AC.10/C.3/2018/84 (RECHARGE, PRBA)

*Informal documents:* INF.53 and INF.53/Rev.1 (RECHARGE, PRBA)

121. The Sub-Committee expressed support to the original intent of the proposal. However, there was no support for the proposed texts in informal document INF.53/Rev.1 as drafted. Some experts raised concerns about the “process controls” referred to in 38.3.3 (g) (i) (e.g. who would be responsible to conduct them and how to ensure that they were correctly applied). Noting that the revised proposal had been circulated very late, several experts requested more time to consider it and consult with experts at national level.

122. The representative of RECHARGE withdrew the document and said that he would revise the proposal in the light of the comments made and submit an official document for the next session.

### **J. Corrections and amendments to the Model Regulations**

*Informal document:* INF.18 (Germany)

123. The Sub-Committee adopted the corrections to 2.2.1.2, 2.4.2.3.1.2 (e), 2.8.4.3.3 and 2.8.4.3.4, the formula in 2.8.2.4.3.5 (with an editorial correction), special provisions 188 (as amended) and 392 and paragraph 5.2.2.1.12.1 (see annex III).

124. Regarding the proposal in paragraphs 2 to 4 in the document, several experts considered that the placement of the text depended on the language used and suggested amending the current provisions to allow placing it before or after the proper shipping name, as appropriate. The expert from Germany withdrew the proposal and said that she would submit an official document for the next session.

## **VIII. Issues relating to the Globally Harmonized System of Classification and Labelling of Chemicals (agenda item 7)**

### **A. Criteria for water-reactivity**

125. The expert from Germany informed the Sub-Committee that some work was done on this issue but considered that there was no need to keep it as a specific item in the programme of work for the next biennium.

## **B. Testing of oxidizing substances**

*Document:* ST/SG/AC.10/C.3/2018/116 (France)

*Informal document:* INF.37 (France)

126. The expert from Germany pointed out that work was still ongoing on Test O.3 and suggested deferring the adoption of the amendments proposed in paragraph 18 of document ST/SG/AC.10/C.3/2018/116 until this work was completed. Several other experts noted that the amendments proposed by France would solve the existing difficulty to find calcium peroxide within the concentration limits currently specified in the Manual of Tests and Criteria and reiterated their support to the proposal.

127. After an exchange of views, the Sub-Committee adopted the proposals in paragraphs 17, 18, 19, 20 and 21 in document ST/SG/AC.10/C.3/2018/116 (see annex II).

128. The Sub-Committee also adopted the proposal in paragraph 22 for continuation of the work on this issue (see also paragraph 140 (i)).

## **C. Updating of references to OECD Guidelines**

### **Sub-categorisation for skin corrosion (OECD Test Guideline 431)**

*Document:* ST/SG/AC.10/C.3/2018/70 (European Union)

129. The Sub-Committee adopted the amendment to 2.8.3.2 with some changes (see annex I).

## **D. Use of the Manual of Tests and Criteria in the context of the GHS**

130. Documents under this agenda sub-item were considered under agenda item 2 (b) (see paragraphs 33 and 34).

## **E. Miscellaneous**

### **1. Classification of chemicals under pressure (Chapter 2.3 of the GHS and special provision 362 of the Model Regulations) and additional consequential amendments to the GHS**

*Documents:* ST/SG/AC.10/C.3/2018/80 (CEFIC, EIGA)  
ST/SG/AC.10/C.3/2018/101 (FEA)

131. There was support for a harmonized approach for the classification for chemicals under pressure for all sectors. However, several experts considered that further work was necessary before the proposed amendments to the Model Regulations could be adopted.

132. In view of the above, the representative of CEFIC withdrew the proposal in paragraphs 8 and 9 in document ST/SG/AC.10/C.3/2018/80, invited delegations who offered to provide comments in writing to share them with her and said that she would consider submitting a revised proposal during the next biennium that would also take account of the feedback received from the GHS Sub-Committee.

133. TDG Sub-Committee experts were invited to work with their counterparts at the GHS Sub-Committee to ensure multisectoral harmonization of the criteria for chemicals under pressure.

134. Noting that the proposals in document ST/SG/AC.10/C.3/2018/101 addressed amendments to the GHS only, the Sub-Committee did not consider them.

## **2. Terms of reference for the work on combinations of physical hazards**

*Document:* ST/SG/AC.10/C.3/2018/93 (Germany)

135. There was general support to the terms of reference proposed by Germany for a systematic analysis of all possible combinations of physical hazard classes with regards to their simultaneous assignment to a chemical. The Sub-Committee noted that the GHS Sub-Committee would consider including this item on its programme of work for 2019-2020.

## **3. Amendment to the classification of flammable liquids in Chapter 2.6 of the GHS**

*Document:* ST/SG/AC.10/C.3/2018/94 (IPPIC)

*Informal document:* INF.43 (IPPIC)

136. There was support in principle for the proposal in document ST/SG/AC.10/C.3/2018/94. However, it was noted that the modified proposal in informal document INF.43 included consequential amendments to the Manual of Tests and Criteria and that it had been circulated rather late. Since several experts expressed some concerns on the proposed amendments in paragraphs 8 and 9 of informal document INF.43 and indicated that they had not had time to conduct the necessary consultations at national level, the Sub-Committee decided to defer their consideration to the next session.

137. The representative of IPPIC volunteered to submit an official document for the next session that would also take account of the feedback provided by the GHS Sub-Committee.

# **IX. Programme of work for the biennium 2019-2020 (agenda item 8)**

## **A. Revision of names of chemical substances**

*Document:* ST/SG/AC.10/C.3/2018/103 (Spain)

138. There was no support to include a specific item in the program of work to address this issue. Several experts considered that the proposed review was not justified from a safety point of view and raised concerns about the downstream consequences of changing proper shipping names that have been in place for many years (e.g.: updating of IT databases). The Sub-Committee invited the expert from Spain to work with interested delegations to identify the specific cases where there was an issue with the current description (e.g.: difficulties in the assignment, translation inconsistencies for a given description, lack of clarity of the applicability of a specific entry to all or only some isomers, etc).

## **B. Tests for oxidizing liquids (UN Test O.2) and oxidizing solids (UN Tests O.1 and O.3)**

*Document:* ST/SG/AC.10/C.3/2018/116, paragraph 22 (France)

*Informal documents:* INF.35 (France)

139. The Sub-Committee noted that work on tests O.1, O.2 and O.3 would have to be pursued during the next biennium and agreed to the additional tasks proposed in paragraph 2 (a) and (b) of informal document INF.35, as well as those listed in paragraph 3 of informal document INF.56 (submitted at the fifty-third session) referred to in document ST/SG/AC.10/C.3/2018/116, paragraph 22. It was also noted that France would continue to lead the work on this matter.

## **C. Working Group on Explosives**

140. The Sub-Committee agreed on the work items for 2019-2020 proposed by Working Group in paragraph 21 of informal document INF.50. It also agreed that the Working Group should meet again twice during that period under the Chairmanship of Mr. E de Jong (Netherlands).

## **D. Consolidated programme of work for 2019-2020**

*Informal document:* INF.54 (Secretariat)

141. On the basis of the proposals discussed and approved under sections A to C above and the various agenda items for this session, the Sub-Committee agreed to include the following items in its work programme for 2019-2020:

- (a) Explosives and related matters (including review of test series 6; improvement of test series 8; review of tests in parts I, II and III of the Manual of Tests and Criteria; UN standard detonator; review of packing instructions for explosives; application of security provisions to explosives N.O.S.; Test N.1 for readily combustible solids; review of Chapter 2.1 of the GHS; energetic samples; issues related to the definition of explosives; review of packaging and transport requirements for ANEs);
- (b) Listing, classification and packing (including amendments to the list of dangerous goods and packing instructions; toxicity of UN Nos. 2248, 2264 and 2357, polymerizing substances);
- (c) Electric storage systems (including testing of lithium batteries; hazard-based system for classification of lithium batteries; transport provisions; damaged or defective lithium batteries; and sodium-ion batteries);
- (d) Transport of gases (including global recognition of UN and non-UN pressure receptacles);
- (e) Miscellaneous proposals of amendments to the Model Regulations (including documentation (e.g. e-documentation), marking and labelling issues; packaging issues; tank issues; fibre-reinforced plastics (FRP) portable tanks);
- (f) Cooperation with IAEA;
- (g) Global harmonization of transport of dangerous goods regulations with the Model Regulations;

- (h) Guiding principles for the Model Regulations;
- (i) Issues relating to the GHS (including testing of oxidizing substances; chemicals under pressure, references to OECD Guidelines; review of Chapter 2.1 of the GHS; simultaneous classification in physical hazards and precedence of hazards);

## **X. Draft resolution 2019/... of the Economic and Social Council (agenda item 9)**

*Informal document:* INF.33 (Secretariat)

142. The Sub-Committee adopted without any objection part A of the resolution, dealing with its work during the biennium 2017-2018, based on a draft prepared by the secretariat.

## **XI. Election of officers for the biennium 2019-2020 (agenda item 10)**

143. On a proposal by the expert from Germany supported by the experts from Canada and China the Sub-Committee reelected Mr. D. Pfund (United States of America) as Chairman and Mr. C. Pfauvadel (France) as Vice-Chairman respectively, for the next biennium.

## **XII. Other business (agenda item 11)**

144. The representative of CEFIC delivered a presentation on the “Safety and Quality Assessment for Sustainability” (SQAS) for evaluating the safety, security, health, quality, environmental and corporate social responsibility standards of their logistics service providers. SQAS covers all key service providers in the land-logistics chain: road transport companies, intermodal operators and terminals, rail carriers, rail tank car maintenance workshops, packaged goods warehouses and tank cleaning stations.

145. The representative of RPMASA indicated that the chemical distribution industry had developed a similar tool for the supply chain<sup>2</sup>.

## **XIII. Adoption of the report (agenda item 12)**

146. In accordance with established practice, the Sub-Committee adopted the report on its fifty-fourth session on the basis of a draft prepared by the secretariat.

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<sup>2</sup> See for instance, [www.cdi.org.uk](http://www.cdi.org.uk)

## Annexes

**I. Draft amendments to the twentieth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations (ST/SG/AC.10/1/Rev.20)**

(see ST/SG/AC.10/C.3/108/Add.1)

**II. Draft amendments to the sixth revised edition of the Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria (ST/SG/AC.10/11/Rev.6 and Amend.1)**

(see ST/SG/AC.10/C.3/108/Add.1)

**III. Corrections to the twentieth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations (ST/SG/AC.10/1/Rev.20)**

(see ST/SG/AC.10/C.3/108/Add.1)

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