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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 forty-ninth session**

held in Geneva from 27 June to 6 July 2016

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<sup>1</sup> For practical reasons, this annex has been published in an addendum to this report (ST/SG/AC.10/C.3/98/Add.1).

## I. Attendance

1. The Sub-Committee of Experts on the Transport of Dangerous Goods held its forty-ninth session from 26 June to 6 July 2016 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: Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Finland, France, Germany, Italy, Japan, Netherlands, Norway, Poland, Portugal, Republic of Korea, Russian Federation, South Africa, 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 Luxembourg, New Zealand and Romania 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 Civil Aviation Organization (ICAO), the International Maritime Organization (IMO), the United Nations Institute for Training and Research (UNITAR) and the World Health Organization were also present.
6. Representatives of the following non-governmental organizations took part in the discussion on items of concern to those organizations: Australian Explosives Industry Safety Group (AEISG); Compressed Gas Association (CGA); Cosmetics Europe; 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); Fertilizers Europe (FE); 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 Intermediate Bulk Container Associations (ICIBCA); International Confederation of Plastics Packaging Manufacturers (ICPP); International Council of Chemical Associations (ICCA); International Dangerous Goods and Containers Association (IDGCA); International Fibre Drum Institute (IFDI); International Federation of Inspection Agencies (IFIA); International Fishmeal and Fish Oil Association (IFFO); International Organization for Standardization (ISO); International Organization of Motor Vehicle Manufacturers (OICA); International Paint and Printing Ink Council (IPPIC); KiloFarad International (KFI); Rechargeable Battery Association (PRBA); Responsible Packaging Management Association of Southern Africa (RPMASA) and Sporting Arms and Ammunition Manufacturers' Institute (SAAMI).

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

<i>Documents:</i>	ST/SG/AC.10/C.3/97 (Provisional agenda) ST/SG/AC.10/C.3/97/Add.1 (List of documents)
<i>Informal documents:</i>	INF.1 and INF.2 (List of documents) INF.8 (Provisional timetable) INF.44 (Reception organized by NGOs)

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

### **III. Explosives and related matters (agenda item 2)**

8. After a preliminary consideration in the plenary, most of the questions under agenda item 2 were referred to the Working Group on Explosives, which met from 27 June to 1 July 2016 under the chairmanship of Mr. E. de Jong (Netherlands).

9. Similarly, the following were referred to the Working Group on Explosives: informal documents INF.4 and Add.1 to 5 and INF.6 on the use of the Manual of Tests and Criteria in the context of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), falling under agenda item 10 (g); document ST/SG/AC.10/C.3/2016/30 on the clarification of the classification criteria for desensitized explosives in the GHS, falling under agenda item 10 (i); and document ST/SG/AC.10/C.3/2016/15 on the definition of mild steel (agenda item 7).

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

*Informal document:* INF.66 (Chairman of the Working Group)

10. Having considered the report of the Working Group and heard the explanations provided by its Chairman, the Sub-Committee reached the conclusions listed below for each sub-item of agenda item 2.

#### **A. Tests and criteria for flash compositions**

##### **Updates to the US and HSL flash composition tests**

*Documents:* ST/SG/AC.10/C.3/96, para .11 and Add.1 (annexes I and II)

11. The Sub-Committee confirmed all amendments adopted at the last session in relation to tests and criteria for flash compositions (Appendix 7 of the Manual of Tests and Criteria and Chapter 2.1 of the Model Regulations), except that the words “lifting charge” were replaced by the words “propellant charge” in the new section 2.4 of Appendix 7 (ST/SG/AC.10/C.3/96/Add.1, annex I). All square brackets concerning these amendments were removed (see annexes I and II).

#### **B. Review of Test Series 6**

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

#### **C. Review of tests in parts I and II of the Manual of Tests and Criteria**

##### **1. Improvement to Koenen Test**

*Document:* ST/SG/AC.10/C.3/2016/6 (Germany)

*Informal document:* INF.27 (Germany)

13. The proposals in ST/SG/AC.10/C.3/2016/6 were accepted, except that the pressure range was shifted from the proposed 28 MPa  $\pm$  4 MPa to 29 MPa  $\pm$  4 MPa (see annex I).

**2. Proposal for replacing dibutyl phthalate (DBP) in Koenen Test**

*Document:* ST/SG/AC.10/C.3/2016/13 (France)

14. The Sub-Committee noted that the Working Group agreed that synthetic oil (as proposed by France) was a good substitute to DBP. No action was needed at this time since a round robin testing program coordinated by France would likely take place.

**3. UN Standard Detonator**

*Document:* ST/SG/AC.10/C.3/2016/10 (Germany)

*Informal document:* INF.36 (IME)

15. The Sub-Committee noted that the Working Group continued to support the possible development of a single, universal version of the standard detonator instead of the two versions currently described in Appendix 1 of the Manual, but that work, likely to be coordinated by Germany and IME, would have to continue through the 2017/2018 biennium before a formal proposal could be made available by the end of that biennium.

**4. The Minimum Burning Pressure (MBP) Tests as a possible alternate or replacement for the 8(c) and/or the 8(d) tests**

*Informal documents:* INF.34 (Spain)  
INF.50 (Canada)  
INF.60 (AEISG)

16. The Sub-Committee noted that an intersessional correspondence group led by Canada will continue to work through the summer to consider whether the Koenen test might be a suitable 8(c) test for gels and suspensions and the MBP test for emulsions.

**D. Review of packing instructions for explosives**

17. As no document was submitted under this agenda sub-item, no discussion took place on this subject.

**E. Globally harmonized standard for explosives security markings**

*Informal documents:* INF.35 (IME)  
INF.67 (United Kingdom and United States of America)

18. This sub-item was discussed in plenary and was not discussed by the Working Group. For the proposal in informal document INF.35, several experts who had expressed some scepticism at previous sessions indicated that the proposed wording no longer gave rise to reservations on their part. Nevertheless, the experts from the United Kingdom and the United States of America drafted an alternative proposal during the session (INF.67).

19. Since various countries throughout the world, including those within the European Union and North America, had implemented marking requirements containing unique security related identification information, and since these marks would appear on packages, and although these marking requirements were not directly linked to transport safety or security, the Sub-Committee agreed that it was important to provide recognition of the potential presence of this marking and to encourage an internationally consistent format to facilitate international and multimodal transport. Therefore the Sub-Committee agreed to include a note after paragraph 1.4.3.2.1 as proposed in informal document INF.67. Since the proposals in INF.35 and INF.67 had been submitted as late informal documents, the



said note was placed between square brackets for confirmation at the next session (see annex II).

## **F. Classification of fireworks**

20. As no document was submitted under this agenda sub-item, no discussion took place on this subject.

## **G. Classification of articles under UN 0349**

21. As no document was submitted under this agenda sub-item, no discussion took place on this subject.

## **H. Review of Chapter 2.1 of the GHS**

*Documents:* ST/SG/AC.10/C.3/2016/7 (AEISG)  
ST/SG/AC.10/C.3/2016/47 (SAAMI)

*Informal documents:* INF.15 (AEISG)  
INF.45 (Canada)  
INF.37 (Sweden)

22. The Sub-Committee noted the views of the Working Group on the various issues raised in relation to the application of the GHS to explosives in sectors other than transport (labelling requirements, package-dependence of labelling elements, unstable explosives, etc). The Working Group felt that some of the problems encountered originated from an unclear definition of the scope and applicability of the GHS to the life cycle of explosives. The Sub-Committee agreed that these issues should be brought to the attention of the GHS Sub-Committee (informal document INF.22, 31st session of the GHS Sub-Committee) and that work should continue to refine them as well as others identified in the documents listed under this agenda sub-item. These discussions should lead to new proposals for the next session.

## **I. Miscellaneous**

### **1. Additional entries for Special Provision 347**

*Document:* ST/SG/AC.10/C.3/2016/18 (Canada)

23. The Sub-Committee adopted the proposal to apply Special Provision 347 to UN numbers 0349, 0367, 0384 and 0481 (see annex II).

### **2. Amendments to paragraph 1.1.2 and to Appendix 6, paragraph 2.3, of the Manual**

*Document:* ST/SG/AC.10/C.3/2016/19 (IME)

24. The Sub-Committee adopted the amendments recommended by the Working Group based on document ST/SG/AC.10/C.3/2016/19 as modified by the Group (see annex I).

### **3. Classification of ammonium nitrate based fertilizers (UN Nos 2067 and 2071 and Special Provision 307)**

*Document:* ST/SG/AC.10/C.3/2016/29 (Sweden)

*Informal documents:* INF.5 and INF.23 (Sweden)

25. The Sub-Committee noted that there was general support within the Working Group for the insertion of a new section 39 in the Manual and for reflecting the complicated requirements in a flow chart, and that the expert from Sweden would prepare a new proposal to take account of the various comments made by the Working Group. However, the expert from the United States of America drew attention to the fact that the flowchart proposed by the expert from Sweden had decision points based on ammonium sulphate contents which are not in the current provisions. The Sub-Committee agreed with the expert from the United States of America that the addition of such criteria would have to be justified if they were to be included in a flowchart.

26. The Sub-Committee noted also that the current sub-section 38.2 of the Manual contained a requirement on ammonium nitrate that originated from an old version of Special Provision 193 that was not removed when Special Provision 193 was modified. The Sub-Committee noted the conclusion of the Working Group that it would be appropriate to remove that sentence since test results take precedence over this no longer applicable requirement. This change would be highlighted and included in the next draft version of the 7th revised edition of the Manual (see annex I).

#### **4. Transport of class 1 articles in limited quantities**

*Document:* ST/SG/AC.10/C.3/2016/31 (SAAMI)

27. The Sub-Committee noted that SAAMI would consider the comments from the Working Group when preparing an amended proposal for a future session.

28. The Sub-Committee noted also that the Working Group supported the possibility of developing a default classification system for ammunition that would preclude the dependence on specification packaging requirements and the 6(d) test for transport in limited quantities. However, some experts expressed reservations and the Sub-Committee agreed that this development would be subject to a formal proposal for clear definition of the scope of work and identification of the kinds of articles concerned.

#### **5. Clarification of Special Provision 364**

*Informal document:* INF.16 (Germany)

29. The Sub-Committee noted that the Working Group had agreed to defer this topic to a future discussion pending the review of the 6(d) test and work on the evaluation of a default classification for certain ammunition.

#### **6. Transport of PENTAERYTHRITE TETRANITRATE (PETN) with less than 25 % of water but more than 9 % of water**

*Informal documents:* INF.9 (Germany)  
INF.38 (Spain)

30. The Sub-Committee noted that the Working Group favoured the conclusions in INF.9 that no changes be made to the water desensitization requirements for UN No. 0150 PETN (1.1D). Because of the disparity noted between tests reported by Germany in INF.9 and those reported by Spain in INF.38, several laboratories had agreed to participate in a round robin testing that will be coordinated by Spain to investigate further.

#### **7. Transport of energetic samples for further testing**

*Informal document:* INF.20 (CEFIC)

31. The Sub-Committee noted that the Working Group supported, in principle, the proposal of developing provisions for acceptable packagings to allow transport of very

small quantities (milligrammes to grammes) of samples of energetic materials that may have functional groups listed in tables A6.1 and/or A6.2 in Appendix 6 (Screening procedures) of the Manual of Tests and Criteria, thus indicating explosive or self-reactive properties but not designed to be explosives of Class 1. A formal proposal would be prepared by CEFIC for the next session.

## **IV. Listing, classification and packing (agenda item 3)**

### **A. Polymerizing substances**

#### **1. UN No. 3302 - 2-DIMETHYLAMINOETHYL ACRYLATE**

32. The proposal to add the word “STABILIZED” to the proper shipping name of this substance, which was known to polymerize, was adopted (see annex II). Some experts nonetheless expressed regret that more detailed information on the hazard of polymerization had not been provided.

#### **2. Classification of a polymerizing substance, flammable, toxic, stabilized, temperature controlled**

*Document:* ST/SG/AC.10/C.3/2016/32 (Austria)

33. The Sub-Committee was not in favour of the proposed deletion of 2.4.2.5.1 (c) and considered that the problem in question should instead be discussed in relation with informal document INF.39, from Germany, on emergency and control temperatures, under agenda item 6 (e) (see paragraph 114 of this report).

#### **3. Exemptions for polymerizing substances**

*Informal document:* INF.21 (CEFIC)

34. Most of the experts who spoke were not in favour of the proposal to provide exemptions, in particular because the proposed criteria for exemption were not related to intrinsic properties and were dependent, for example, on the size of the package, or because the proposed exemptions were not related to well-defined test procedures. The representative of CEFIC said that he would look into the matter in greater detail and would possibly submit a new proposal.

### **B. Infectious substances**

#### **1. Packagings for infectious substances**

*Document:* ST/SG/AC.10/C.3/2016/9 (Germany)

*Informal documents:* INF.10 (Canada)  
INF.51 (Norway)  
INF.52 (United Kingdom)

35. After an exchange of views on the proposal by Germany to amend packing instruction P620 and Chapter 6.3, and on the alternative proposal, submitted by Canada, to introduce a new UN number for waste contaminated with infectious substances of Category A and include a specific packing instruction, it was decided to refer consideration of the documents to a lunchtime working group.

*Informal document:* INF.75 (France on behalf of the lunchtime working group)

(Summary of points agreed upon by the lunchtime working group concerning the work on transport of category A Division 6.2 wastes)

36. The Sub-Committee took note of the summary (see annex III). Delegations were invited to prepare proposals in relation to issues that had not been solved or that had to be further discussed. The expert from the United Kingdom said he would be interested in preparing a proposal and that he would liaise with interested delegations through correspondence. The expert from Germany said that she intended also to submit a proposal at the next session.

## **2. Revision of packing instructions P621, IBC620, and LP621**

*Document:* ST/SG/AC.10/C.3/2016/26 (Canada)

37. Opinions were divided on the proposal to harmonize the three packing instructions for regulated medical waste, (bio) medical and clinical waste assigned to UN No. 3291. Some experts considered that there was still no justification for harmonization. It would be necessary to clarify what was meant by liquid visible when closing the packaging and the use of absorbent material. The expert from Canada would submit a new proposal at the next session.

## **3. Classification of infected animals**

*Document:* ST/SG/AC.10/C.3/2016/35 (WHO and FAO)

*Informal document:* INF.72 (WHO and FAO)

38. The Sub-Committee noted the inconsistencies raised by WHO and FAO in respect of the application of 2.6.3.1.3, 2.6.3.1.4, 2.6.3.6.1 and 2.6.3.6.2 of the Model Regulations. However, several experts were not in favour of the proposals as worded. Apparently, the provisions currently in force had not been intentionally included so as to treat human and animal materials differently. They were also aimed at pragmatically covering specific situations such as the transport of infected or potentially infected animal carcasses.

39. The representatives of WHO and FAO were invited to discuss the questions in more detail with the experts concerned and to submit a new proposal.

40. Following these discussions, a new proposal was developed, with two options, which did not exclude the possibility of other options. The representative of WHO invited delegations to express their preference. The majority of delegations who took the floor expressed preference for option 2, with the reservation that they would have to discuss this further at national level. All interested delegations were invited to submit their comments to WHO and FAO, and these organizations will submit a new official proposal for the next session.

## **C. Test method for readily combustible solids (Test N.1)**

*Document:* ST/SG/AC.10/C.3/2016/5 (Germany)

*Informal document:* INF.54 (United States of America)

41. In the light of the explanations from the United States of America, the Sub-Committee decided to adopt the amendments proposed for 33.2.1.4.4.1, 33.2.1.4.4.2 and 33.2.1.4.4.3 of the Manual of Tests and Criteria, but with the replacement of “(250 mm)” with “(100 mm)”. Those amendments were placed in square brackets for confirmation at the next session (see annex I). A correction to 33.2.1.4.4.1 was also adopted (see annex IV).

#### **D. Correction to the description of UN No. 2585 in the French version of the Model Regulations**

*Document:* ST/SG/AC.10/C.3/2016/22 (Canada)

42. The Sub-Committee confirmed that the words “*contenant plus de 5%*” should be replaced in French with “*contenant au plus 5%*” (see annex V).

#### **E. Packing instruction LP902**

*Document:* ST/SG/AC.10/C.3/2016/23 (Canada)

43. The proposed amendment was adopted (see annex 2).

#### **F. UN No. 1945 - MATCHES, WAX “VESTA”**

*Document:* ST/SG/AC.10/C.3/2016/24 (Canada)

44. The proposal to assign special provision 293 to UN No. 1945 and to carry out an editorial amendment of the English version of special provision 293, paragraph (b), was adopted (see annex II).

#### **G. Revision of packing instruction P801**

*Document:* ST/SG/AC.10/C.3/2016/25 (Canada)

45. The proposal to amend instruction P801 in the context of the transport of used batteries was the subject of numerous comments. The expert from Canada was requested to prepare a new proposal for the next session.

#### **H. Revision of Chapter 2.8 (corrosive substances)**

*Document:* ST/SG/AC.10/C.3/2016/21 and Corr.1 (Canada, CEFIC and AISE)

*Informal documents:* INF.40 (CEFIC and AISE)  
INF.65 and Corr.1 (Canada, CEFIC and AISE, on behalf of the lunchtime working group)

46. Several experts were in favour of revising Chapter 2.8 as proposed. In the view of some experts, though, a few points still required clarification. They included, for instance, the classification procedures, as the calculation method resulted in a stricter classification than the one produced by the currently used criteria; the supplementary texts introduced from the GHS and possible deviation from the GHS, specifically in the introduction and definitions; and the possibility that the industry would draw up guidelines for the practical application of such new provisions relating to classification.

47. It was agreed to convene a lunchtime working group to study such points and the details of the proposed text.

48. The Sub-Committee adopted provisionally (in square brackets) the revised text of Chapter 2.8 proposed by the lunchtime working group as it appeared in informal document INF.65/Corr.1 (see annex II). The specific texts placed in square brackets would be checked at the next session, taking into consideration the decisions of the GHS Sub-Committee

relating to the GHS definitions on corrosivity, which were also under discussion. CEFIC would prepare for the next session the examples and explanations mentioned under 2.8.4.3.3 of the document.

### **I. Amendment of special provision 308 for UN No. 2216, Fish meal (Fish scrap), stabilized, Class 9**

*Document:* ST/SG/AC.10/C.3/2016/36 (IFFO)

49. The Sub-Committee considered that it would be premature to amend special provision 308 before the results of the 12-month trials using antioxidants other than ethoxyquin or lower ethoxyquin concentrations were available. It was recalled that the treatment was particularly effective for long-term maritime transport and that the proposed amendment should be acceptable to IMO. The representative of IFFO pointed out that new results would soon be available and that she would submit a new document at the next session.

### **J. Proper shipping name for mixtures and solutions**

*Document:* ST/SG/AC.10/C.3/2016/37 (United States of America)

50. The Sub-Committee noted the problems of interpretation of 2.0.2.5 and 3.1.3.2 when certain mixtures contained only one dangerous substance. Specifically should the mixture be classified under a generic entry such as UN No. 1866, RESIN SOLUTION, flammable, or should the UN number assigned for instance to the flammable diluent be used?

51. The Sub-Committee recalled that many generic entries, such as resin solutions, glues, perfumery products and alcoholic beverages, were generally intended to include products containing just one dangerous substance, for example ethanol, and that it was perfectly acceptable to classify such substances under the appropriate generic entry.

52. Some experts noted, however, that consignors could choose to classify a substance as a solution of the dangerous component if they considered that approach preferable for emergency response purposes in the event of an accident. They did not consider that the current text should be amended, as the proposed amendment could make it mandatory to classify under a generic entry.

53. The Sub-Committee decided not to adopt the proposed amendment, but the expert from the United States would be able to draw up a new proposal clarifying the text in the light of the discussion.

### **K. New E-code for dangerous goods in excepted quantities**

*Document:* ST/SG/AC.10/C.3/2016/40 (DGAC)

54. Most of the experts opposed the establishment of a new code E6 that would apply to a few products containing alcohol. They considered that Chapter 3.5 already allowed for sufficient exceptions. Before introducing new codes, it would be best to establish the guiding principles for assigning existing ones, which had still not been done despite the fact that an agenda item had been devoted to the subject. The proposal was thus not adopted.

55. The expert from the United States of America said that he would prepare a proposal of guiding principles for the assignment of E-codes.

## **L. Proper shipping name in the case of several distinct entries listed under a single UN number**

*Document:* ST/SG/AC.10/C.3/2016/48 (Austria)

*Informal document:* INF.18 (Spain)

56. The proposal in option B of informal document INF.18 to clarify paragraph 3.1.2.2, put to the vote, was adopted with a few changes (see annex II). Proper shipping names not corresponding with the transported goods should not appear in the transport document or on the package. If a package contained goods of the same UN number, but with different proper shipping names, the different proper shipping names must be separately indicated in the transport document and separately marked on the package, unless otherwise specified (for example, special provision 367).

## **M. Definition of vapour pressure**

*Informal document:* INF.24 (Canada)

57. Several delegations expressed some doubt about the need to introduce a definition of vapour pressure. In the case of mixtures, test laboratories should normally be competent for knowing what the vapour pressure was. The delegations were invited to send their comments to the expert from Canada, who will consider submitting an official proposal at the next session.

## **N. Report on the informal conference call regarding crude oil classification**

*Informal document:* INF.25 (Canada)

58. The Sub-Committee took note of the report and invited the delegations to provide the expert from Canada with any comments they had on the questions raised.

## **O. Proposal to add a subsidiary hazard of Division 6.1 for UN Nos. 2248, 2264 and 2357**

*Informal document:* INF.33 (Republic of Korea)

59. The Sub-Committee took note of the proposal and invited the expert from the Republic of Korea to submit an official proposal, indicating the exact source of data so as to allow for verification and taking into consideration the changes to the conditions of transport that would be required as a consequence (for example, E-code, tank codes, etc.), if necessary, in the light of the guiding principles.

## **V. Electric storage systems (agenda item 4)**

### **A. Testing of lithium batteries**

#### **1. Report on the third meeting of the informal working group on lithium batteries**

*Document:* ST/SG/AC.10/C.3/2016/46 (France, PRBA, RECHARGE, COSTHA)

*Informal documents:* INF.63 (France, PRBA, RECHARGE, COSTHA)  
INF.64 (France)

60. The Sub-Committee adopted proposals 2, 3 (option 1) and 5 (see annex I).

61. For the list of issues for which the Sub-Committee's guidance was requested (Section C of the report), the Sub-Committee considered that those questions should be discussed only on the basis of specific proposals, and that some had been presented under agenda sub-item 4 (d).

62. The Sub-Committee did not take a position on the interpretation of special provision 188, paragraphs (a) and (b), for batteries containing one or more cells. Some experts considered that in such cases only paragraph (b), concerning batteries, was applicable, while others considered that paragraph (a), as written, applied as well to the cells contained in the batteries.

63. For discussion item No. 8, the Sub-Committee approved in principle the list of elements of test reports, but an official proposal should be submitted, with appropriate amendments to 2.9.4 setting out requirements for the test reports. The expert from France said that he would submit the proposal.

64. For proposal 1, the Sub-Committee adopted the amendment to paragraph 2.9.4 (f) proposed in informal document INF.63 (see annex II).

65. For proposal 4, some experts asked about the justification for reducing the number of cycles from 50 to 25 in the tests required under 38.3.3 (c), (d) and (e), and the explanation was given by the representative of RECHARGE, on the basis of informal document INF.64. Following the explanation, the proposal was adopted (see annex I). The decision would give rise to consequential amendments in Table 38.3.2 and Table 38.3.3 of informal document INF.70, adopted under proposal 3 (see annex I).

**2. Flow charts for testing lithium batteries in accordance with section 38.3 of the Manual of Tests and Criteria**

*Informal document:* INF.55 (PRB, RECHARGE)

66. The Sub-Committee agreed that the introduction of flow charts in the Manual of Tests and Criteria would facilitate the understanding of testing procedures and invited PRBA and RECHARGE to submit an official proposal at the next session.

**3. Activation of lithium cells or battery protective mechanism and criteria for voltage loss limit in T.2 Thermal test in section 38.3 of the Manual of Tests and Criteria**

*Informal document:* INF.56 (PRBA, RECHARGE)

67. PRBA and RECHARGE were invited to submit an official proposal at the next session

**B. Large batteries**

68. As no document had been submitted under this agenda sub-item, the only issues concerning large batteries were discussed under agenda sub-items 4 (a) and 4 (d).

**C. Thermal batteries**

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



## D. Miscellaneous

### 1. New UN number for rechargeable lithium metal polymer batteries

*Document:* ST/SG/AC.10/C.3/2016/33 (RECHARGE and PRBA)

*Informal document:* INF.32 (RECHARGE and PRBA)

70. Opinions on the proposal diverged. Some experts supported establishing new UN numbers with conditions of transport similar to those required for lithium-ion cells, and advanced the idea that such batteries would be produced in mass quantities and would benefit from technological advances that would make them safer. Others considered that the units in question were lithium-metal batteries and could thus be transported under the UN numbers applicable to lithium-metal batteries.

71. The representatives of RECHARGE and PRBA would submit a new document at the next session.

### 2. Prohibition on the transport of lithium ion batteries as cargo on passenger aircraft and additional mitigation measures for cargo aircraft

*Document:* ST/SG/AC.10/C.3/2016/39 (ICAO)

72. The Sub-Committee noted the concerns of ICAO related to the fact that aircraft fire protection systems were apparently unable to suppress fires involving lithium battery cargos. ICAO had consequently decided to temporarily strengthen the regulations by prohibiting the transport of lithium-ion cells on passenger aircraft and making the rules applicable on board cargo aircraft more stringent.

73. The decision by ICAO gave rise to a long discussion, as the Sub-Committee wanted to help ICAO find a solution to the identified problems. In particular, it was noted that the behaviour of lithium batteries in a fire was difficult to predict solely on the basis of their lithium contents or energy ratings. The behaviour in a fire was largely dependent upon the design of the batteries and packages, and the suggestion was made to consider drawing up a classification, by types of cells and batteries. Depending on the design, there may be just ignition, or a significant emission of hot gases, or a serious emission of potentially toxic gases, or even an explosion. A classification based on tests, as was the case for goods of Class 1, could better define the actual dangers posed by the various types of cells, according to their design. The expert from France said that he would present the Sub-Committee with a study carried out on the subject in his country.

### 3. New entries for lithium batteries used for medical devices

*Document:* ST/SG/AC.10/C.3/2016/42 (PRBA)

74. The discussion showed that most experts opposed a classification based on the end use of cells and batteries, as in transport, there was no way of determining their intended use. They considered that the same rules should apply, regardless of the intended use of the dangerous goods. The representative of PRBA withdrew his proposal.

### 4. Clarification for shipping lithium battery shipments prepared for transport according to ICAO packing instruction 965 or 968 Section IB

*Document:* ST/SG/AC.10/C.3/2016/43 (PRBA)

75. The Sub-Committee noted that in some instances the ICAO Technical Instructions required a Class 9 label where the Model Regulations and other modal regulations only required the lithium battery mark. That posed practical problems when packages were accepted by land or sea carriers for further transport.

76. Some experts were not in favour of introducing another reference to the ICAO Technical Instructions in the Model Regulations to reflect a divergence from air transport. It was also emphasized that the problem should not arise in land transport in the countries applying RID, ADR and ADN, as their regulations included section 1.1.4.2.

77. The proposal to add a NOTE 2 to special provision 188, paragraph (f), was put to the vote and adopted (see annex II).

#### **5. Packaging damaged or defective lithium batteries**

*Document:* ST/SG/AC.10/C.3/2016/44 (PRBA)

78. Most experts were not in favour of the amendment proposed by PRBA for special provision 376, at least as it was currently worded. The Sub-Committee took note that the reference to the Manual of Tests and Criteria gave rise to problems of interpretation, but the reference did not mean that testing was mandatory to verify whether damaged batteries were in conformity with the design type. The meaning was rather that a competent expert should be consulted to ascertain whether damage to cells or batteries was likely to have degraded the safety functions guaranteed by the design type tests. The representative of PRBA would submit a new proposal in the light of the discussion.

79. For provision XXX, proposed in paragraph 5, the representative of PRBA explained that the aim was above all to address problems that arose when consumers sent defective cells or batteries back to a vendor or when damaged or used cells were collected. There were organized collection systems in Europe, but not in the rest of the world. He again said that he would submit a new proposal on the basis of the discussion.

#### **6. Provisions and exemptions for lithium metal button cells and batteries**

*Document:* ST/SG/AC.10/C.3/2016/45 (PRBA)

80. The discussions showed that the Sub-Committee was not in favour of introducing new UN numbers for button cells, as the conditions required by the Model Regulations would remain the same as those applicable under UN No. 3090. However, some experts were in favour of the idea of differentiating cells, not on the basis of their format, but on the basis of the actual hazard they presented, as assessed by an appropriate test system.

81. The representative of PRBA withdrew his proposal.

#### **7. Transport of damaged/defective lithium batteries**

*Informal documents:* INF.12 and INF.14 (OICA and RECHARGE)

82. The Sub-Committee noted that OICA and RECHARGE wished to quickly set up a temporary system for the transport of damaged or defective batteries for automobiles and electric bicycles. In the light of the rapid growth of the market for such batteries and the fact that defect and damage issues were expected to increase, it was not practical to have to deal with the competent authority on each separate occasion.

83. Several delegations supported the principle and the experts in question were invited to submit their comments on the details of the proposal in informal document INF.12 to the representative of OICA, who would prepare an official proposal for the next session.

84. The Sub-Committee noted that OICA and RECHARGE wished in a second stage to develop criteria for the selection of appropriate packaging, in accordance with the actual hazards encountered with various types of batteries (INF.14).

**8. Lithium batteries installed in closed cargo transport units**

*Document:* ST/SG/AC.10/C.3/2016/41 (PRBA)

*Informal document:* INF.69 (PRBA)

85. After a first discussion of the proposal of introducing a new entry for transportable battery power systems, the Sub-Committee adopted the revised proposal in informal document INF.69 with some modifications (see annex II).

**9. Large packagings of lithium batteries of small production runs, of prototype lithium batteries, or of prototype lithium batteries**

*Informal document:* INF.29 (Germany)

86. Several experts supported the proposal, but since this was an informal document and there were a number of editorial comments, the expert from Germany was invited to submit an official proposal for the next session.

**10. CTUs equipped with container tracking devices containing lithium batteries**

*Informal document:* INF.30 (Germany)

87. The expert from Germany will submit an official proposal at the next session taking account of the comments made.

**11. Amendments to special provisions on the carriage of vehicles**

*Document:* ST/SG/AC.10/C.3/2016/14 (France)

*Informal documents:* INF.22 (Switzerland)  
INF.77 (France, Switzerland and United States of America)

88. For proposal 1, the Sub-Committee was in favour of option 2, which would delete special provisions 240, 312, 380 and 385 and replace them with a new provision 388, applicable to UN Nos. 3166 and 3171 (see annex II).

89. Consequently, for proposal 2, the Sub-Committee considered option 2 and adopted the proposed amendments, with some modifications (see annex II). The Sub-Committee emphasized that the reference to the competent authority for determining conditions of transport meant that it was for the competent authority to establish such conditions of transport for domestic traffic. In international transport, the Contracting Parties to the applicable legal instruments could decide to set such conditions in the relevant modal regulations, such as the IMDG Code, the ICAO Technical Instructions, RID, ADR and ADN, rather than referring to the competent authority, or they could make use of the legal possibilities offered by those instruments, such as bilateral or multilateral agreements.

90. For proposal 3, which addressed the relationship between special provision 363 and packing instruction P005, the Sub-Committee adopted the proposals contained in informal document INF.77 with some editorial corrections (see annex II).

**VI. Transport of gases (agenda item 5)****A. Global recognition of UN and non-UN pressure receptacles**

*Informal document:* INF.58 (CGA and EIGA)

91. The Sub-Committee was informed that CGA and EIGA did not intend to hold discussion on this subject at this session but intended to progress this issue at the next session.

## **B. Miscellaneous**

### **1. Transport of gas tanks for motor vehicles**

*Document:* ST/SG/AC.10/C.3/2016/8 (Germany)

92. The proposal followed up on discussions held the previous year (document ST/SG/AC.10/C.3/2015/5 and informal document INF.12 of the forty-eighth session) and was supported by a presentation/demonstration of the tanks by OICA.

93. Most delegations were in principle in favour of the proposal to add a special provision for the transport of such tanks, subject to a number of comments.

94. The expert from Germany justified some of the aspects commented upon and said that she would prepare a new proposal to take into account the comments she considered relevant.

### **2. Insertion of references to ISO standards in 6.2.2**

*Document:* ST/SG/AC.10/C.3/2016/20 (ISO)

*Informal document:* INF.11 (ISO)

95. The proposals for inserting new references to ISO standards or updating existing ones were all adopted including the reference to ISO 17871:2015 which was put to the vote since the expert from Spain had expressed a reservation on this specific one (see annex II).

### **3. Use of pressure drums with dished ends convex to pressure for the carriage of corrosive gases**

*Document:* ST/SG/AC.10/C.3/2016/28 (Canada, Australia and United States of America)

*Informal document:* INF.53 (Brazil)

96. These documents were submitted following the discussions that took place at the last session (see ST/SG/AC.10/C.3/96, paras 66-67). The introduction of a reference to ISO 21172-1:2015 would entail a prohibition on the use of pressure drums with dished ends convex to pressure that have been widely and safely used for the transport of corrosive gases in many parts of the world for many years.

97. The proposal in option 1 of the document to allow the transport of corrosive gases in such pressure drums was put to the vote and adopted (see annex II).

### **4. Amendment of P206**

*Informal document:* INF.41 (United Kingdom)

98. These proposals were linked to the amendments to P200 (3) (e) adopted in square brackets at the last session. Since they were submitted in an informal document, the Sub-Committee agreed to adopt these proposed amendments in square brackets for review and confirmation at the next session (see annex II).

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

### A. Dangerous goods in machinery, apparatus or articles, N.O.S.

#### 1. Dangerous goods in machinery, apparatus or articles, N.O.S.

*Document:* ST/SG/AC.10/C.3/2016/34 (United Kingdom)

*Informal documents:* INF.17 (United Kingdom)  
INF.26 (Netherlands)

99. The proposals were referred to a lunchtime working group after preliminary discussion in plenary session. The expert from the United Kingdom reported on the outcome of the working group's discussions and said that there were still a number of diverging views on several aspects of this issue. He said that the work could continue by correspondence and that he would assess by the end of August whether there is any chance to reach an agreement by the end of this year, in which case he would submit a revised proposal for the next session. Otherwise the work might have to be postponed to the next biennium.

#### 2. Clarification of special provision 363 and packing instruction P005

*Document:* ST/SG/AC.10/C.3/2016/14 (France)

*Informal documents:* INF.22 (Switzerland)  
INF.77 (France, Switzerland and United States of America)

100. This issue was discussed under agenda sub-item 4 (d) in the context of proposals of amendments to special provisions on the carriage of vehicles (see paragraph 90).

#### 3. Scope of special provision 363

*Informal document:* INF.19 (Switzerland)

101. Several experts shared the view of Switzerland that the reference to liquid fuel contents of more than 60 litres in special provision 363, paragraph (g) (iv) for UN Nos 3528 and 3530 should be deleted because in practice it is difficult for a controller to check the exact contents of the fuel tanks of engines or machinery, and because the presence of a few litres of flammable liquids in an empty tank is sufficient to generate an explosive atmosphere. They felt that such engines and machinery should be labelled and placarded in the same way as empty uncleaned receptacles and tanks.

102. Other experts considered that the current text intentionally contained such a reference and that it was the responsibility of the consignor to check the quantity of fuel contained and to comply with the corresponding consignment requirements. In addition they were reluctant to consider amendments to a text that had not even yet become applicable through modal regulations.

103. The expert from Switzerland said that he would further discuss the issue with Swiss enforcement authorities and would submit an official proposal at the next session.

## **B. Marking and labelling**

### **1. Hazard communication requirements for bulk containers**

*Document:* ST/SG/AC.10/C.3/2016/38 (United States of America)

104. The proposals of amendments to Chapter 5.3 were intended to fill a gap in the Model Regulations regarding marking and placarding of bulk containers (see ST/SG/AC.10/C.3/96, paras 101-102), and were adopted (see annex II).

### **2. Design of the lithium battery mark**

*Informal document:* INF.71 (IATA)

105. The Sub-Committee noted that the wording that describes the design of the new lithium battery mark in 5.2.1.9.2 is not consistent with the wording used to describe the design of the limited quantity mark and other marks where for the background it is permitted to be “white or contrasting background”. The Sub-Committee agreed that this had been overlooked and that a corrigendum should be issued so that implementing modal organizations could remedy this omission in accordance with their respective legal procedures (see annex V).

## **C. Packagings**

### **1. Design type tests for IBCs**

*Document:* ST/SG/AC.10/C.3/2016/1 (Spain)

106. The Sub-Committee confirmed the interpretation proposed by Spain, according to which it was possible to use a different IBC of the same design for each drop test. However, it was not deemed necessary to change the current wording of note “e” in Table 6.5.6.3.5, as the note was apparently clear on that point. The proposal to amend the last paragraph of 6.5.6.9.3 was accepted, with a minor editorial change (see annex II).

### **2. Water temperature during internal pressure (hydraulic) test with plastics packagings, composite packagings (plastics receptacles), plastics IBCs and composite IBCs (plastic inner receptacles)**

*Document:* ST/SG/AC.10/C.3/2016/11 (Germany)

*Informal documents:* INF.13 (ICIBCA and ICPP)  
INF.43 (Germany)  
INF.48 (United Kingdom)

107. The question had been discussed at previous sessions, and several delegations still had objections to setting a minimum temperature for the water used in the hydraulic pressure test. In the light of the discussion, the expert from Germany withdrew his proposal in favour of the one from ICIBCA and ICPP (INF.13), which required the water temperature to be indicated in the test report. That proposal was adopted (see annex II).

## **D. Portable tanks**

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

## E. Other miscellaneous proposals

### 1. Amendment of special provisions, packing instructions and related sections of the Model Regulations

*Document:* ST/SG/AC.10/C.3/2016/2 (Russian Federation)

*Informal document:* INF.3 (Russian Federation)

109. The amendments in proposals 1 and 2, intended to avoid confusion between electrical conductivity and thermal conductivity, were adopted with a modification (see annex II).

110. For proposal 3 concerning packing instruction 910, several experts said that all kinds of contacts between cells and batteries had to be avoided, and not only electrical contact. Therefore, the expert from the Russian Federation withdrew this proposal.

111. For proposal 4 of replacing the term “thermal conductivity” by “thermal conductivity coefficient” in 6.4.10.2 on the grounds that the unit mentioned (W/(m·K)) corresponds to the “thermal conductivity coefficient” and not to “thermal conductivity”, the Sub-Committee considered that this is an issue that should be brought to the attention of IAEA first.

### 2. “Hazard” versus “Risk”

*Document:* ST/SG/AC.10/C.3/2016/16 (IATA)

112. The Sub-Committee agreed that the word “risk” was inappropriately used in many paragraphs of the Model Regulations and should be replaced by the word “Hazard”, and adopted the IATA proposal with some corrections (see annex 2). The Sub-Committee noted that the French version and possibly other linguistic versions may also need to be carefully reviewed since the word “hazard” had been translated by “risk” in certain cases, e.g. in the definitions of the Class 1 divisions.

### 3. Transport of liquid fuels in flexible tanks

*Informal documents:* INF.7 (IDGCA)  
INF.76 (RPMASA)

113. The Sub-Committee noted that flexible tanks are used in certain countries for the carriage of liquid fuels with competent authority approval. However, most experts considered that these flexible tanks are not “large and robust articles” addressed in 4.1.3.8, and if their use was authorized by certain competent authorities, this was not to be considered as a generally practice. The Sub-Committee understood that such use might be justified and authorized in exceptional circumstances, but felt that introducing provisions in the Model Regulations should not be recommended.

### 4. Polymerizing substances – information on emergency and control temperatures

*Informal document:* INF.39 (Germany)

114. Several experts supported the proposals by Germany submitted as follow-up to decisions taken at the forty-seventh session, but since the document, submitted in due time, had been issued very late by the secretariat and as an informal document, the expert from Germany was invited to submit an official proposal for the next session, taking account of comments made.

**5. Proposal to modify P902**

*Informal documents:* INF.57 and Add.1 (COSTHA)

115. Several experts expressed support for the proposal and the representative of COSTHA was invited to submit an official proposal for the next session.

**VIII. Global harmonization of transport of dangerous goods regulations with the Model Regulations**

**A. References to the distinguishing signs for motor vehicles in international traffic**

*Document:* ST/SG/AC.10/C.3/2016/4 (Secretariat)

116. The Sub-Committee adopted the editorial changes suggested by the secretariat wherever reference is made to the distinguishing signs for motor vehicles in international traffic (see annex II).

**B. Insertion of definitions of “Reference steel” and “Mild steel” in section 1.2.1 of the Model Regulations**

*Document:* ST/SG/AC.10/C.3/2016/15 (Romania)

*Informal document:* INF.66 (Report of the Working Group on Explosives)

117. The Sub-Committee noted the view of the Working Group on Explosives that the proposals by the observer from Romania would have no impact on performance of tests described in the Manual of Tests and Criteria. Certain delegations feared that the proposed insertion of definitions in section 1.2.2 would have unexpected consequences on the currently required thickness of metal IBCs. Others felt that the minimum tensile strength range proposed for radioactive material packages would have to be checked. It was also suggested that the values mentioned were not necessarily relevant in definitions of reference steel or mild steel since they could also correspond to required mechanical specifications that were not necessarily the same for tanks, IBCs or radioactive material packages.

118. The observer from Romania said he would prepare a clearer proposal for the next session.

**C. Inconsistencies in the translation of the proper shipping names in the Dangerous Goods List of the Model Regulations**

*Informal document:* INF.42 (Secretariat)

119. The Sub-Committee noted the numerous inconsistencies identified in relation to the proper shipping names listed in the Spanish version of the Model Regulations and those listed in the IMDG Code, the ICAO Technical Instructions, RID, ADR and national regulations of various Spanish-speaking countries, and congratulated the secretariat for the extensive review and analysis of these inconsistencies.

120. It was noted however that only English and French are the working languages of the Sub-Committee and it was therefore difficult to solve such problems in other UN languages within the Sub-Committee itself. The Arabic, Chinese, Russian and Spanish versions of the



Model Regulations are official United Nations translation. They may not be always perfect, but the only way to avoid inconsistencies in proper shipping names is for translation services of IMO, ICAO and government of countries using such United Nations languages to stick scrupulously to the United Nations names. If deviations are deemed necessary for whatever reason, they should not be introduced before having been first submitted to the United Nations secretariat for resolution in cooperation with languages services concerned and introduced in the Model Regulations.

121. For the Spanish version, it was agreed that the secretariat would try first to resolve, in cooperation with all concerned, the issues that are purely linguistic. For issues that were identified by the secretariat as originating possibly from inconsistencies or lack of systematic in the English and French versions, the secretariat would try to find out if there were historical reasons for discrepancies between the English and French versions or any other historical background that may help resolving such issues, but this might take some time and might not be undertaken before the next biennium especially if this could lead to reconsideration of certain English or French proper shipping names.

#### **D. Adoption of amendments to the IMDG Code**

*Informal document:* INF.59 (IMO)

122. The Sub-Committee noted that the IMO Maritime Safety Committee had adopted Amendment 38-16 of the IMDG Code by resolution MSC.406 (96), that would be issued as annex 5 of document MSC96/25/Add.2. If deemed accepted by 1 July 2017, the amendments would enter into force on 1 January 2018 and Contracting parties to the SOLAS convention are authorized to apply the amendments in whole or in part on a voluntary basis as from 1 January 2017. IMO had also issued MSC.1/Circ.1520 (Guidelines on consolidated IMO provisions for the safe carriage of dangerous goods in packaged form by sea); MSC.1/Circ.1521 (Amendments to the inspection programmes for cargo transport units carrying dangerous goods); and MSC.1/Circ.1522 (Amendments to the Emergency Procedures for ships carrying Dangerous Goods (EmS) Guide).

#### **E. Outcome of the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods on its spring 2016 session**

*Informal document:* INF.61 (Secretariat)

123. The Sub-Committee took note of the information provided and invited the secretariat to submit the proposals of amendment to the Model Regulations through an official document at the next session.

### **IX. Cooperation with the International Atomic Energy Agency (agenda item 8)**

*Informal document:* INF.46 (IAEA)

124. The Sub-Committee noted the information submitted on the outcome of the thirty-second session of the Transport Safety Standards Committee (TRANSSC 32) of the International Atomic Energy Agency (IAEA), held in Vienna on 14 and 15 June 2016.

## **X. Guiding principles for the Model Regulations (agenda item 9)**

125. As no document had been submitted under this agenda item, no discussion took place on this subject.

## **XI. Issues relating to the Globally Harmonized System of Classification and Labelling of Chemicals (agenda item 10)**

126. Some of the issues under this agenda item were discussed jointly with the GHS Sub-Committee in the afternoon of 5 July 2016. The report of the joint session is contained in the report of the GHS Sub-Committee on its thirty-seventh session (see ST/SG/AC.10/C.4/62, para.8 and annex II).

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

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

### **B. Tests and criteria for oxidizing liquids and solids**

*Document:* ST/SG/AC.10/C.3/2016/12 (France)

*Informal document:* INF.47 (France)

128. This sub-item was discussed only during the joint session of the TDG and GHS sub-committees, see ST/SG/AC.10/C.4/62, annex II, section A, paras 2 and 3.

### **C. Classification criteria for flammable gases**

*Documents:* ST/SG/AC.10/C.3/2016/17 (Belgium and Japan on behalf of the informal working group on classification criteria for flammable gases)

ST/SG/AC.10/C.3/2016/27 (Germany, CEFIC and EIGA)

*Informal document:* INF.31 (Belgium, Japan)

129. The majority of experts who took the floor could not support the amendments to the Model Regulations proposed in annex 5 of document ST/SG/AC.10/C.3/2016/27. Since the approach in this document differed from the approach recommended by the informal working group, the Sub-Committee felt that it should proceed in two stages. The first stage would be to implement the approach recommended by the working group, if endorsed by the GHS Sub-Committee, and the second stage could consist in considering the approach proposed by Germany, CEFIC and EIGA if it can be implemented in the transport sector consistently with the GHS.

130. The Sub-Committee supported creating a new sub-category for low flammability gases and the criteria of low flammability limit greater than 6% or fundamental burning velocity limit less than 10 cm/s to differentiate the new sub-category within the current category 1. It was noted that the discussion of hazard communication should be pursued within the GHS Sub-Committee.

131. This issue was further discussed during the joint session of the TDG and GHS sub-committees, see ST/SG/AC.10/C.4/62, annex II, section B, paras 4-7.

**D. Expert judgement/weight of evidence**

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

**E. Corrosivity criteria**

133. No document had been submitted under this agenda sub-item. The question of revision of Chapter 2.8 of the Model Regulations was discussed under agenda item 3, see paragraphs 46-48 of this report.

**F. Updating of references to OECD Guidelines**

134. As no document had been submitted under this agenda item, no discussion took place on this subject.

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

*Informal documents:* INF.4 and Add.1-5 (Chairman of the Working Group on Explosives)  
INF.6 (Canada and FEA)

135. These documents were referred to the Working Group on Explosives for consideration (see also paragraph 9 of this report). The Sub-Committee noted the outcome in the report of the Working Group (INF.66) as follows:

- (a) The Working Group spent considerable time reviewing informal document INF.4 and Section 10 of Add.1 and noted that several of the general changes led to confusion. The Group identified solutions and the Chairman would follow up with new proposals;
- (b) It was determined to create text in Part I of the Manual to clarify the intent that the configuration is most often the transport package and no additional testing is required for other sectors; and
- (c) The work would continue in the intersessional period and would include continuing the review of the rest of Add.1, review of Add.2 – Add.5, development of a chapter to describe in general terms how to use the Manual in GHS efforts and to explain the importance of packagings for certain explosives classifications.

**H. Joint work with the GHS Sub-Committee****1. Review of Chapter 2.1 of the GHS**

136. This issue was discussed under agenda item 2, see paragraph 22 of this report. It was further discussed during the joint session of the GHS and TDG sub-committees, see ST/SG/AC.10/C.4/62, annex II, paragraphs 8 and 9.

**2. Changes to subsection 14.7 of the GHS guidance for compiling a safety data sheet**

*Informal document:* INF.28 (ICMM)

137. This issue was discussed during the joint session of the TDG and GHS sub-committees, see ST/SG/AC.10/C.4/62, section E, paragraph 11.

## I. Miscellaneous

### **Clarification of the classification criteria for desensitised explosives in GHS**

*Document:* ST/SG/AC.10/C.3/2016/30 (AEISG, SAAMI)

*Informal document:* INF.66 (Report of the Working Group on Explosives)

138. This document was referred to the Working Group on Explosives for consideration (see paragraph 9 of this report). The Sub-Committee endorsed the decision of the Working Group to accept the proposals with some modifications suggested by SAAMI (amendments to 2.17.2.1 of the GHS and consequential amendment to section 51, paragraph 51.2.2, of the Manual) subject to endorsement by the GHS Sub-Committee (see annexes I and IV of this report).

## XII. Other business (agenda item 11)

### 1. ECOSOC Resolution 2015/7

*Informal document:* INF.73 (Secretariat)

139. The Sub-Committee invited governmental delegations that had not yet done so to provide the requested information on the details of their various competent authorities using the form provided.

### 2. Evaluation of the global and regional impact of UNECE regulations and United Nations Recommendations on the Transport of Dangerous Goods (2005-2014): questionnaire results

*Informal document:* INF.74 (Secretariat)

140. The Sub-Committee noted that the secretariat had issued a consolidated document with all responses to the questionnaire that had been circulated, with analysis of the results and comments. The evaluation report itself would be issued separately at a later stage.

### 3. Confirmation of amendments and corrections provisionally adopted at the last session

*Document:* ST/SG/AC.10/C.3/96/Add.1

141. The Sub-Committee reviewed all draft amendments and corrections placed between square brackets at the last session and confirmed that the square brackets could be removed except around paragraph 5.4.1.5.5. In addition, decisions taken at this session on paragraph 2.9.4 (f) and special provision 387 take precedence over the provisional texts adopted at the last session.

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

142. The Sub-Committee adopted the report on its forty-ninth session and its annexes on the basis of a draft prepared by the secretariat.

## **Annex I**

**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)**

(See ST/SG/AC.10/C.3/98/Add.1)

## **Annex II**

**Draft amendments to the nineteenth revised edition of the  
Recommendations on the Transport of Dangerous Goods,  
Model Regulations (ST/SG/AC.10/1/Rev.19)**

(See ST/SG/AC.10/C.3/98/Add.1)



## Annex III

### Summary of points agreed upon by the lunchtime working group concerning the work on transport of category A Division 6.2 wastes

1. The current situation is not satisfactory

Although theoretically a big size packaging may be manufactured according to 6.3, this has created difficulties in practice.

It does not allow to respond to a crisis such as the Ebola outbreak as a great number of packages need to be available in a short time outside the usual market, which is not possible under these conditions.
2. Requirements specific to that case should be defined

The development of a solution for the transport of these category A clinical wastes should not interfere with requirements for the usual transport of Division 6.2 category A, that do not currently cause any problem.

Especially a specific packing instruction could be defined.
3. It should be tried to approach the high level of safety provided by Chapter 6.3 by referring to its performance level and design requirements when feasible.
  - (a) There was broad consensus for requirements concerning:
    - Triple packaging as defined in P620
    - Absorbent material packed with the waste allowing to consider it as a solid
    - Procedures for cleaning or disinfecting the inner packagings before placing them in the outers or intermediate.
  - (b) There was some consensus to define a performance level for the drop test to be equivalent to a 9 m drop but there were some divergent views concerning its assessment:
    - By performing an actual 9 m drop test
    - By calculation through a mass drop height relation (a drop from 1.8 m with a higher mass would be equivalent to a 9 m drop with a lower mass). Data to support this calculation shall be provided;
  - (c) Points to be further investigated
    - Pass/Fail
    - Puncture test

#### **Annex IV**

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

(See ST/SG/AC.10/C.3/98/Add.1)

#### **Annex V**

**Corrections to the nineteenth revised edition of the  
Recommendations on the Transport of Dangerous Goods,  
Model Regulations (ST/SG/AC.10/1/Rev.19)**

(See ST/SG/AC.10/C.3/98/Add.1)

#### **Annex VI**

**Proposal of amendments to the sixth revised edition of the  
Globally Harmonized System of Classification and Labelling  
of Chemicals (GHS) (ST/SG/AC.10/30/Rev.6)**

(See ST/SG/AC.10/C.3/98/Add.1)

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