



**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-first session**

held in Geneva from 3 to 7 July 2017


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\* For practical reasons, this annex has been published in an addendum to this report (ST/SG/AC.10/C.3/102/Add.1).

## I. Attendance

1. The Sub-Committee of Experts on the Transport of Dangerous Goods held its fifty-first session from 3 to 7 July 2017.
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, 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 New Zealand, Qatar 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) 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 Manufacturers of Sporting Ammunition (AFEMS), 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), European Metal Packaging (EMPAC), 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 Plastics Packaging Manufacturers (ICPP), International Council of Intermediate Bulk Container Associations (ICIBCA), , International Fibre Drum Institute (IFDI), International Organization for Standardization (ISO), International Organization of Motor Vehicle Manufacturers (OICA), International Paint and Printing Ink Council (IPPIC), International Tank Container Organisation (ITCO), Medical Devices Battery Transport Council (MDBTC), PRBA — The Rechargeable Battery Association (PRBA), Responsible Packaging Management Association of Southern Africa (RPMASA), Sporting Arms and Ammunition Manufacturers' Institute (SAAMI) and World Liquefied Petroleum Gas Association (WLPGA).

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

<i>Documents:</i>	ST/SG/AC.10/C.3/101 (Provisional agenda) ST/SG/AC.10/C.3/101/Add.1 (List of documents)
<i>Informal documents:</i>	INF.1 and INF.2 (List of documents) INF.16 (Provisional timetable) INF.23 (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 and the withdrawal of document ST/SG/AC.10/C.3/2017/24 by IATA.

8. The Sub-Committee was informed that the resolution prepared by the Committee at its eighth session (ST/SG/AC.10/44, annex IV) had been adopted without change by the Economic and Social Council on 8 June 2017 but that it had not yet been assigned a number. The secretariat had already published the English and French hard copies of the twentieth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations and the seventh revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

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

9. After preliminary consideration in plenary, most of the questions relating to the agenda item were referred to the Working Group on Explosives, which met from 3 to 6 July 2017 under the chairmanship of Mr. E. de Jong (Netherlands).

10. Similarly, informal documents INF.7 and Add.1-2, on the use of the Manual of Test and Criteria in the context of GHS, presented under agenda item 10, were also referred to the Working Group on Explosives.

11. The documents submitted by France relating to tests for oxidizing substances under agenda item 10 (b) (ST/SG/AC.10/C.3/2017/28 and INF.12) were also brought to the attention of the Working Group for possible comments.

12. As some delegations expressed misgivings about the consideration of recommendations set out in an informal document (INF.19) by IME for the improvement of the series 8 (c) Koenen test, under agenda item 2 (b), the Working Group was asked not to consider that document unless time permitted.

13. Most of the experts opposed introducing provisions allowing for the transport of fireworks under an exemption regime, as proposed by the expert from Switzerland under agenda item 3 (j) (ST/SG/AC.10/C.3/2017/23 and INF.34). However, it was recognized that there was a problem with the transport of dangerous goods ordered by Internet and that it would be appropriate to tackle that problem in general terms in the future. The Working Group was thus requested to consider those documents as well in order to issue a preliminary opinion.

14. The Sub-Committee accepted that a separate group should discuss informal document INF.15 on the revision of GHS Chapter 2.1, under agenda item 2 (i).

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

*Informal document:* INF.38 (Chairman of the Working Group)

15. Having considered the report of the Working Group on Explosives and heard the explanations provided by its chairman, the Sub-Committee reached the conclusions listed below for each subject under consideration under agenda item 2.

#### **A. Review of test series 6**

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

## **B. Review of tests in parts I, II and III of the Manual of Tests and Criteria**

### **1. Amendment of section 10.3.3.4 of the Manual of Tests and Criteria**

*Informal document:* INF.6 (Sweden)

17. The Sub-Committee noted that the revisions suggested by Sweden were intended to prevent misinterpretation of section 10.3.3.4 in line with adopted revisions to 10.3.3.2 and 10.3.3.3 of the Manual.

18. The Sub-Committee agreed that the amendments proposed by the Working Group could be included in the new document to be prepared in relation to the use of the Manual in the context of the GHS (see para. 96).

### **2. Improvement of the 8(c) Koenen test**

*Informal document:* INF.19 (IME)

19. The Sub-Committee noted that the Working Group had agreed that ammonium nitrate (AN) suspensions and gels could be successfully classified using data from the 8(c) Koenen test, but AN emulsions, due to their high water content, presented a unique challenge and the 8(c) Koenen test was not suitable for classifying certain types of emulsions.

20. However, the Sub-Committee noted that there was no consensus on how to deal with this issue, and that IME had been asked if it would lead continued work to investigate the possibility of modifications to the 8(c) Koenen test, to determine suitability of the MBP test as an additional test, and to research other possible tests that could be added to test Series 8 to aid in classification of ANEs including emulsions. IME had agreed that it would work with Spain, AEISG, and others to come up with a future proposal.

### **3. Standard detonators**

*Informal document:* INF.28 (Netherlands)

21. The Sub-Committee noted that the Working Group had welcomed the additional test data provided in INF.28. The data showed that reaching the goal of a single standard detonator specification might be possible, which was encouraging. The work would continue and the target for completion was the end of the current biennium.

## **C. Electronic detonators**

### **New entries for electronic detonators**

*Document:* ST/SG/AC.10/C.3/2017/14 (AEISG)

*Informal document:* INF.33 (Sweden)

22. Some experts supported the AEISG proposal for new entries for electronic detonators, while others preferred the proposal in INF.33 that would expand the current electric detonator entries to include electronic detonators.

23. The Sub-Committee noted that, although agreeing that a distinction between “electronic” and “electric” detonators was needed, the Working Group could not come to consensus on how to do so. AEISG continued to prefer separate entries and would prepare a new proposal taking account of the concerns and comments of the Working Group.

#### **D. Guidance for application of test series 3 and 4**

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

#### **E. Stability tests for industrial nitrocellulose**

##### **1. Proposal to require stability tests for industrial nitrocellulose**

*Document:* ST/SG/AC.10/C.3/2017/3 (Germany)

*Informal documents:* INF.9 (CEFIC)  
INF.24 (SAAMI)

25. The Sub-Committee noted that the Working Group had agreed that additional tests to confirm stability of nitrocellulose (NC) mixtures were needed; agreed that stabilization was required to ensure safe handling of NC; determined that the 3(c) thermal stability test was not suited for evaluating NC stabilization; concluded that the Bergmann Junk test and the Methyl Violet Paper tests were suitable tests for such assessment; recommended their performance in place of the 3(c) test when classifying NC; and decided that the autoignition temperature test was not beneficial.

26. The Sub-Committee noted that CEFIC would lead intersessional work on the details of implementation, test procedures, placement of the Bergmann Junk test and the Methyl Violet Paper test in the Model Regulations and the Manual of Tests and Criteria, and would consider some allowance for grandfathering currently existing NC approvals and prepare a new proposal for the next session.

##### **2. Classification of desensitized explosives**

*Informal document:* INF.10 (CEFIC)

27. The Sub-Committee noted that the Working Group had concluded that the data provided would be useful in relation to the classification of industrial nitrocellulose products in accordance with Chapter 2.17 of the GHS, and agreed that how to include it in the GHS could be addressed in the context of the intersessional work referred to in para. 26.

#### **F. Application of security provisions to explosives N.O.S.**

*Documents:* ST/SG/AC.10/C.3/2017/19 (United Kingdom)  
ST/SG/AC.10/C.3/2017/20 (United Kingdom)

28. The Sub-Committee noted that the Working Group generally felt that goods that are freely available to the general public do not present security risks and should not be subject to Chapter 1.4 requirements. The Working Group had also unanimously agreed with ST/SG/AC.10/C.3/2017/20 that, although presently there is only one 1.6 entry mentioned in Table 1.4.1, all 1.6 explosives should be included in Table 1.4.1. The Sub-Committee noted that the expert from the United Kingdom would consider the comments made by the Working Group and might return with an updated proposal.

#### **G. Review of packing instructions for explosives**

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



## H. Classification of articles under UN No. 0349

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

## I. Review of Chapter 2.1 of the GHS

*Informal documents :* INF.15 (Sweden)  
INF.44 (Sweden)

31. The Sub-Committee noted that this issue had not been discussed by the Working Group. It had been discussed separately during an informal session which led to the elaboration of an amended draft programme of work for the revision of Chapter 2.1 of the GHS (INF.44). The expert from Sweden expressed hopefulness regarding work progress.

## J. Miscellaneous

### 1. Transporting fireworks in small quantities

*Document:* ST/SG/AC.10/C.3/2017/23 (Switzerland)

*Informal document:* INF.34 (Switzerland)

32. The Sub-Committee noted that four principles had been previously used by the Working Group and SAAMI to develop the final proposal leading to a limited quantity option for certain small arms ammunition<sup>1</sup>:

- (a) The items must not propagate independent of packaging;
- (b) No entries on high consequence list were selected;
- (c) No generic entries or n.o.s. entries were selected; and
- (d) The item must present no hazardous effects outside the package in the event of accidental initiation (as determined by use of the 6(d) test).

33. As the Working Group was not optimistic that fireworks could be made to meet all of these principles, the expert from Switzerland was invited to consider these principles and determine if an amended proposal should be submitted.

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

### A. Clarification of special packing provisions PP13 and PP33

*Document:* ST/SG/AC.10/C.3/2017/2 (Germany)

34. For the vast majority of delegations, the wording of special provisions PP13 and PP33 was clear and allowed only for the use of combination packagings. They saw no reason to change it and were concerned that, if the proposal of Germany were adopted, it would be necessary to check all the special provisions of that type. Furthermore, the proposed amendments would imply that composite packagings were allowed, which in their opinion was not the case.

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<sup>1</sup> Informal document INF.73 (thirty-seventh session), para. 4.

35. The expert from Germany said that she would perhaps prepare a new proposal for the next session.

## **B. Exemption in special provision 375 for environmentally hazardous substances of UN Nos. 3077 and 3082**

*Document:* ST/SG/AC.10/C.3/2017/5 (Switzerland)

36. The document followed up on the discussions held during the December 2014 session (see ST/SG/AC.10/C.3/92, para. 19) in which the Sub-Committee had confirmed that the application of special provision 375 was optional, meaning that a consignor could choose not to take advantage of the exemption, in which case all the requirements provided for such substances had to be met. The expert from Switzerland wanted that principle to be reflected generally in 2.0.0.1 or at least in special provision 375. A majority of delegations, however, considered that the proposed texts might lead to confusion and that it was clear that consignors were not obliged to take advantage of possible exemptions. The Sub-Committee thus considered that it was not necessary to take a decision on the proposals put forward by Switzerland.

## **C. Interpretation of special provision 366**

*Document:* ST/SG/AC.10/C.3/2017/10 (Germany)

37. Opinions were divided on the interpretation proposed by Germany. The special provision apparently was applicable to manufactured instruments and articles containing mercury and consigned in satisfactory condition. But for manufactured instruments and articles that were sent damaged, as damaged waste or as waste susceptible to damage during transport, such as used mercury-vapour lamps, some experts considered, at least in the case of the lamps, that the mercury quantities were very low, that the vapour was likely to evaporate very rapidly, that the vapour pressure was very low and that transporting damaged lamps was not likely to pose a risk of exposure to toxic vapours. Others considered that the vapours were toxic by inhalation and that there was a risk. However, if there was a risk, several experts considered that special provision 366, which was intended to provide exemptions, was not appropriate for establishing conditions of transport.

38. The expert from Germany said that she would revisit the issue.

## **D. Application of packing instruction P003 to large articles**

*Document:* ST/SG/AC.10/C.3/2017/12 (Germany)

39. Several delegations supported the principle of adapting packing instruction P003 to allow for the transport of large articles with a mass exceeding 400 kg in packagings not meeting the specifications of Chapter 6.1. However, several comments were made about the way the question should be addressed and the details of the proposal. The expert from Germany said that she would submit a new proposal to take into consideration such comments.

**E. Correction to table note “d” in packing instruction P410**

*Informal document:* INF.5 (Secretariat)

40. The Sub-Committee adopted the proposed corrections to the English and French texts of table note “d” (see annex I).

**F. Revision of packing instruction P801**

*Informal document:* INF.32 (Canada)

41. Several delegations agreed with the principle of having separate packing instructions for batteries that were damaged or being transported for recycling. However, they wanted the proposal to be discussed on the basis of an official document. The expert from Canada said that he would draw up a new proposal for the next session, taking account of the various comments made.

**G. Classification and packaging for infectious waste of category A**

*Document:* ST/SG/AC.10/C.3/2017/25 (Canada, United Kingdom)

*Informal documents:* INF.11 (Switzerland)  
INF.36 (United Kingdom)  
INF.40 (Canada and United Kingdom)  
INF.43 (Canada and United Kingdom on behalf of a lunch time working group)

42. The Sub-Committee noted that there was not yet full consensus on the texts elaborated by a lunch time working group on the basis of the proposals by Canada and the United Kingdom, notably with regard to additional requirements 8 and 9 in packing instructions P6XX and LP6XX. However, the Sub-Committee considered that the revised approach introduced in INF.43 could provide suitable guidance to public health authorities in case of crisis such as the 2014 Ebola outbreak and therefore decided to adopt provisionally these provisions that were placed between square brackets to allow delegations to consult public health authorities on the current approach and to allow the opportunity for additional clarifications within the current biennium (see annex II).

**V. Electric storage systems (agenda item 4)****A. Testing of lithium batteries****Lithium battery test summary document**

*Document:* ST/SG/AC.10/C.3/2017/27 (MDBTC)

*Informal documents:* INF.25 (PRBA)  
INF.42 (MDBTC on behalf of a lunch time working group)

43. The Sub-Committee adopted the proposals made by the working group with some modifications (see annexes II and III). It recommended that they be taken account by modal organizations when reflecting the provisions of the twentieth revised edition of the Recommendations in their respective legal instruments. It also recommended that the test summary should be required only as from 1 January 2020.

## **B. Hazard-based system for classification of lithium batteries**

<i>Document:</i>	ST/SG/AC.10/C.3/2017/16 (France)
<i>Informal documents:</i>	INF.3 (France) INF.26 (France) INF.45 (Report of the lunchtime Working Group)

44. After discussion in plenary, the documents submitted by France on behalf of the informal working group on hazard-based system for classification of lithium batteries were referred to a lunchtime working group, which submitted its report as informal document INF.45.

45. The Sub-Committee approved the report of the working group and the proposed schedule for future work as follows:

(a) The expert from France would host a meeting of a small group of interested delegates who have data on lithium battery tests and are willing to organize and present such existing test data. Potential participants would be experts from OICA, RECHARGE, PRBA, France (INERIS), the United States of America. This group would meet in time in September or October 2017 to provide data that could be made available to the Sub-Committee at its next session. The test data to be provided should be as described in INF.45.

(b) These data will be considered at the next session of the informal working group on lithium battery that will be hosted by RECHARGE in Geneva from 6-8 December 2017.

## **C. Transport provisions**

### **1. Batteries installed in vehicles**

<i>Documents:</i>	ST/SG/AC.10/C.3/2017/6 (Switzerland) ST/SG/AC.10/C.3/2017/8 (Switzerland)
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46. Rather than amend the final sentence of special provision 239, as proposed in document ST/SG/AC.10/C.3/2017/6, the Sub-Committee decided to delete the sentence, since the case of vehicles with batteries installed was addressed in special provision 388 (see annex II).

47. Subsequent to that decision, the expert from Switzerland said that the proposals made in document ST/SG/AC.10/C.3/2017/8 were no longer necessary, and so he withdrew them.

### **2. Assignment of battery-powered equipment and batteries under UN Nos. 2800, 2794, 2795, 3028 and 3496**

<i>Document:</i>	ST/SG/AC.10/C.3/2017/11 (Switzerland)
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48. During the discussions, the expert from Sweden said that, if the proposed text were added to the seventh paragraph of special provision 388, the fifth paragraph would have to include a reference to dry batteries containing solid potassium hydroxide. Following discussions, the expert from Switzerland withdrew his proposal.

### 3. Size of the UN number on the lithium battery mark

*Informal document:* INF.22 (IATA)

49. Several delegations did not agree with the proposal to set a minimum height for the UN number on the lithium battery mark. There was already a provision governing the dimensions of the mark itself, and they could be reduced in certain circumstances. They did not think that setting minimum dimensions for the UN number would represent a significant improvement to safety. Furthermore, many batteries already bore the mark and ready-for-use marks were available on the market. Transitional measures would therefore need to be introduced.

50. The representative of IATA said that, given the comments made, he would not follow up on the proposal, unless any problems were encountered in practice.

## D. Damaged or defective lithium batteries

### Transport of damaged or defective lithium batteries or cells contained in vehicles or their equipment

*Document:* ST/SG/AC.10/C.3/2017/9 (Switzerland)

51. It was noted that, once batteries were removed from the vehicle in which they were installed, they should be transported under the relevant entry for the batteries concerned, and not under UN Nos. 3166 or 3171, which applied to vehicles. As special provision 388 applied only to UN Nos. 3166 or 3171, there was no need to amend them to address the transport of damaged batteries removed from a vehicle. It was also pointed out that, for the Contracting Parties to ADR, the case of batteries contained in a damaged vehicle was addressed in special provision 667 of ADR.

52. In the light of those explanations, the expert from Switzerland withdrew his proposal.

## E. Miscellaneous

### 1. UN No. 3536 and special provision 389

*Document:* ST/SG/AC.10/C.3/2017/4 (Switzerland)

53. The expert from Switzerland wished to clarify some points of special provision 389 applicable to UN No. 3536, LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT.

54. The Sub-Committee confirmed that the term “cargo transport unit” covered not only containers and should be understood as defined in Chapter 1.2, i.e., multimodal freight containers, vehicles or wagons. On that basis, the Sub-Committee adopted proposals 1 and 2 submitted by the expert from Switzerland, concerning special provisions 360 and 388 respectively, with some amendments (see annex II).

55. Several delegations were of the opinion that proposals 3 and 4 were not relevant and the expert from Switzerland withdrew them.

56. After some discussion, the expert from Switzerland also withdrew proposals 5 and 6, but said that he might resubmit them, taking account of the comments made, at a future session. He also withdrew proposal 7.

## 2. Exemption for lithium battery powered cargo tracking units and data loggers, scope of exemptions in 1.1.1.2

*Documents:* ST/SG/AC.10/C.3/2017/13 (Germany)  
ST/SG/AC.10/C.3/2017/22 (Switzerland)

*Informal document:* INF.27 (Netherlands)

57. The question of exempting lithium battery powered tracking devices and data loggers attached to cargo transport units or to packages had already been discussed several times at previous sessions. There was still no full consensus on how to best solve the problem, but the Sub-Committee decided by a majority vote to adopt provisionally the addition of a new sub-paragraph (c) to paragraph 1.1.1.2 as proposed by the expert from Germany with some modifications (see annex II).

58. Some delegations expressed concern at this decision because of possible contradiction with technical requirements and administrative procedures related to air operations such as those contained in Commission Regulation (EU) No. 965/2012 or similar ICAO provisions. It was pointed out that the Model Regulations applied to the safe transport of dangerous goods and recognized modal operational considerations were already properly referred to the relevant modal bodies.

59. The Sub-Committee agreed that the issues raised by the Netherlands in relation to the scope of 1.1.1.2 could be discussed intersessionally in order to broaden the approach, and the proposal made by the expert from Switzerland in ST/SG/AC.10/C.3/2017/22 could be discussed in this context. Delegations interested in participating in such work were invited to contact the expert from the Netherlands.

## VI. Transport of gases (agenda item 5)

### A. Global recognition of UN and non-UN pressure receptacles

*Informal document:* INF.31 (CGA and EIGA)

60. The Sub-Committee took note of the state of discussions on the issue, and specifically the submission by CGA of a “petition for rulemaking” to the United States of America Department of Transportation.

### B. Miscellaneous

#### 1. Adsorbed gases - exemption for gases of Division 2.2 (non-toxic, non-flammable)

*Document:* ST/SG/AC.10/C.3/2017/1 (Germany)

*Informal document:* INF.39 (CGA)

61. As there was no consensus on the issue, a new proposal would be drawn up for the next session.

#### 2. Acetylene cylinders — standards for the requirements according to 6.2.1.1.9

*Document:* ST/SG/AC.10/C.3/2017/15 (Germany)

62. After discussion, the expert from Germany withdrew her proposal.

**3. Update of ISO standards in Class 2**

*Document:* ST/SG/AC.10/C.3/2017/17 (ISO)

63. The Sub-Committee adopted the first three proposals with some corrections (see annex II).

64. The representative of ISO said, in respect of the fourth proposal, that he needed to consult further with the ISO experts and would submit a new proposal after the checks had been carried out.

**4. Miscellaneous amendments to Class 2**

*Document:* ST/SG/AC.10/C.3/2017/18 (ISO)

*Informal document:* INF.8 (ISO)

65. The first proposal, concerning 6.7.5.2.3, was adopted with the deletion of the reference to seamless aluminium (see annex II).

66. The second proposal, as presented in informal document INF.8, was more controversial, as practices related to the approval of pressure receptacles varied between countries. It was temporarily withdrawn.

67. In respect of the third proposal, CGA asked for more time to allow the industry to assess the implications of a requirement for minimum wall thickness for pressure drums. Some delegations were not convinced of the need for such a requirement, even though it was recognized to facilitate transport by avoiding the imposition of contradictory requirements by competent authorities in the case of international transport. There would also be a need for transitional measures if the proposal were accepted. The ISO representative was asked to draft a new proposal if he deemed it appropriate.

**5. Provisions for closures of pressure receptacles**

*Informal document:* INF.30 (CGA and EIGA)

68. The representative of EIGA explained that there were different approaches for conformity assessment of closures of pressure receptacles depending on countries and that CGA and EIGA were intending to initiate discussions to develop a common position. Interested parties were invited to contact either EIGA or CGA to advise of their interest.

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

**A. Marking and labelling****Specification of hazard labels and marks**

*Informal documents:* INF.17 and INF.41 (IATA)

69. The Sub-Committee noted that the requirement that the minimum width of the line inside the edge forming the diamond of hazard labels be 2 mm, introduced in the eighteenth revised edition of the Recommendations, caused problems in the procedure of acceptance of consignments offered for air transport, as sometimes consignments were rejected if the width was not exactly 2 mm. The Sub-Committee agreed that specifying a minimum

thickness for the line was not necessary for safety and agreed to adopt an amendment as proposed in informal document INF.41 (see annex II). Organizations responsible for modal regulations were invited to amend their respective instruments accordingly.

70. It was noted that the same kind of requirement could be found in various places, e.g. for placards, and IATA was invited to check the Model Regulations in this respect and to propose the same kind of amendment if deemed appropriate. Certain delegations felt that there was no need to amend the current texts when this kind of requirement had been in place for a long time and no problem had been noticed.

## **B. Packagings**

### **1. Additional marking of the maximum stacking load of IBC**

*Informal document:* INF.20 (Germany)

71. The Sub-Committee agreed that the current provisions of 6.5.2.2.1 and 6.5.2.2.2 should be clarified to avoid the interpretation that the maximum permitted stacking load is required to be marked both on a metal plate as it could be understood from 6.5.2.2.1 and on the pictogram described in 6.5.2.2.2, when this mark is in fact only required on the pictogram. Furthermore it was recalled that the maximum permitted stacking load is different from the stacking test load that has to be reflected in the primary marking in accordance with 6.5.2.1.1, and that the maximum permitted stacking load indicated on the pictogram of figure 6.5.1 must not exceed the stacking test load divided by 1.8.

72. The expert from Germany was invited to prepare an official proposal for the next session to reflect more clearly the correct interpretation.

### **2. New packaging tests in chapters 6.1 and 6.6**

*Informal document:* INF.35 (United Kingdom)

73. The Sub-Committee noted the intention of the United Kingdom to develop a new packaging testing scheme for articles of dangerous goods that may inadvertently catch fire, or evolve excessive heat, or have the possibility of violent rupture. Several experts noted that this initiative seemed to be related to that taken by ICAO in relation to lithium batteries, and expressed some reluctance at the idea of modifying Chapters 6.1 and 6.6 for including such tests. Delegations and interested parties were invited to transmit their thoughts and possible contributions to the expert from the United Kingdom.

## **C. Portable tanks**

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

## **D. Other miscellaneous proposals**

### **Proposal of amendment to section 5.5.3**

*Document:* ST/SG/AC.10/C.3/2017/21 (Russian Federation)

*Informal documents:* INF.4 (Russian version of document  
ST/SG/AC.10/C.3/2017/21)  
INF.29 (Austria)



75. Some delegations agreed that there was a difference between conditioners and protective agents and therefore that the proposal by the expert from the Russian Federation was justified. Others felt that the term conditioner covered protective agents, and that this could be stated in a note. There was support for the proposal of the expert from Austria to avoid the marking of the words “AS COOLANT”, “AS CONDITIONER” or “AS PROTECTIVE AGENT” on the warning mark since these words are not related to hazard communication.

76. The expert from the Russian Federation said that he would consult the expert from Austria and that he would prepare a revised proposal for the next session.

## **VIII. Global harmonization of transport of dangerous goods regulations with the Model Regulations (agenda item 7)**

### **A. Competency based-training**

*Document:* ST/SG/AC.10/C.3/2017/26 (DGTA)

77. The Sub-Committee emphasized the value of training and recalled that Chapter 1.3 of the Model Regulations already offered a global framework for training. However the way these general provisions were implemented in practice depended on competent authorities that had to take account of regional and modal specificities, and several delegations expressed doubts at the possibility of general harmonization in this respect.

78. The Sub-Committee took note of the initiatives by ICAO and Canada to develop a new competency-based approach and expressed interest in obtaining additional information on the outcome of related surveys or preliminary results. It noted that the competency based training approach was not intended to replace the current training principles, but rather to complement the current structures by introducing competence checking measures on the workplace and focusing on competences effectively needed.

79. The Sub-Committee agreed to further discuss this issue at next sessions if additional information was provided.

### **B. Harmonization of RID/ADR/ADN with the Model Regulations**

#### **Issues raised in relation to the April 2017 session of the RID/ADR/ADN Ad Hoc Working group on the Harmonization of RID/ADR/ADN with the United Nations Recommendations on the Transport of Dangerous Goods**

*Informal documents:* INF.18 (Secretariat)  
INF.14 (Germany)

80. The Sub-Committee noted that the Ad Hoc Working Group had spotted some mistakes, inconsistencies or missing consequential amendments in the twentieth revised edition of the Recommendations, and adopted most corrections and amendments proposed, sometimes with some modifications, except as explained below.

81. For paragraph 10, the addition of a NOTE under the title “2.9.4 Lithium batteries” was justified, but an amendment to the first sentence of 2.9.4 could also be made to take account of UN No. 3536, and this should be discussed on the basis of an official proposal.

82. For paragraph 13, paragraph 2.9.4 (f) could be referred to in special provision 188 (c) but only if applicable.

83. For paragraph 14, the title of ECE Regulation No. 110 could be updated as proposed, but special provision 392 should not be assigned to UN No. 1972 because the question of holding time when vehicle fuel gas containment systems containing liquefied natural gas were carried had not been solved notably for air and sea transport.

84. For paragraph 18, some delegations expressed support for the addition of a NOTE under paragraphs (a) and (b) of special provision 188, but this should be proposed in an official document.

85. For paragraph 31, the Sub-Committee confirmed that the placard to be used for UN No. 3536 was a placard corresponding to label No. 9 and not label No. 9A, in the same way as for cargo transport units containing lithium batteries of UN Nos. 3090, 3091, 3480 and 3481. The Sub-Committee noted that the text of the Model Regulations might need to be improved to prevent ambiguities in this respect.

86. For paragraph 20 and informal document INF.14, the Sub-Committee noted that the reference to “devices” in addition to “apparatus” and to “machinery” in paragraph 2.1.5.1 which defines articles containing dangerous goods, n.o.s. appeared to be inconsistent because the word “device” is not mentioned in the proper shipping names for UN No. 3363 nor in special provision 301. Some delegations felt that rather than adding a proper shipping name “DANGEROUS GOODS IN DEVICES” for UN No. 3363, as proposed by Germany, the word “device” could also be deleted from 2.1.5.1. The question then was whether all articles containing dangerous goods defined in 2.1.5.1 could be assimilated only to “apparatus” or to “machinery”. As the deletion of the word “device” could lead to unintended consequences, no decision was taken in this respect. The expert from Germany would submit a proposal at the next session.

### **C. Outcome of the twenty-seventh session of the IMO Editorial and Technical Group (8-12 May 2017)**

*Informal document:* INF.37 (IMO)

87. The Sub-Committee accepted the corrections proposed by IMO, except that the deletion of the reference to Class 7 in 2.0.6.4 of the IMDG Code (2.0.5.4 of the Model Regulations) should be checked with IAEA, and that the change proposed to the second sentence of special provision 392 (c) (closing of all openings instead of closing the valve controlling all openings) should be checked.

### **D. Assignment of special provision 238 to battery-powered equipment and vehicles**

*Informal document:* INF.21 (IATA)

88. The Sub-Committee noted that ICAO had assigned special provision 238, which provides for conditions for exemption of UN 2800, batteries, wet, non-spillable, to UN No. 3171 battery-powered vehicle/battery-powered equipment, on the grounds that if the battery powering the vehicle is exempted, the vehicle powered by the battery should be exempted as well.

89. The Sub-Committee felt that amending the Model Regulations accordingly would require an official proposal so that the consequences may be well assessed.

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

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

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

91. 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)**

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

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

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

*Document:* ST/SG/AC.10/C.3/2017/28 (France)

*Informal document:* INF.12 (France)

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

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

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

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

*Informal documents:* INF.7 and Add. 1-2  
INF.38 (Report of the Working Group on Explosives)

95. The Sub-Committee noted that the Working Group had reviewed the proposed revisions to the Table of Contents and Section 1 (INF.7) and Section 10 (INF.7/Add.1) of the Manual.

96. The Sub-Committee noted also that the chairman of the Working Group will consolidate the comments and suggestions from the Working Group into new working documents and will distribute them to the Working Group for verification and further review.

97. The Sub-Committee noted further the views of the Working Group that:
- (a) Clarification is needed to explain that, in appropriate places, test series 4 and 6 are intended only to be performed on goods in transport configuration. Also, clarification is needed to explain that, in certain instances, the results of test series 1, though not required for classification, may be needed for hazard assessment and hazard communication;
  - (b) There is certain text in the Manual that is recommended for revision and the same text also appears in the Model Regulations and/or the GHS. It was unclear to the Working Group whether, if the changes to the Manual were approved, the same changes would be necessary where the text also appears in the Model Regulations and/or the GHS. The Working Group was seeking guidance from the Sub-Committee as to how this should be addressed; and
  - (c) The Working Group recognized there are numerous references to “product” in the Model Regulations and the Manual. However, due to the sheer volume of revisions that would be required and the potential for unintended consequences, the Working Group did not recommend to replace these occurrences with “substance or article”. The review of Sections 20 – 28 (INF.7/Add.2) would take place at a later session.

## **E. Miscellaneous**

### **Assessing the potential development of a global list of chemicals classified in accordance with the GHS**

*Document:* ST/SG/AC.10/C.3/2017/7 (United States of America)

98. The Sub-Committee expressed gratitude for the work done so far and support for continuing work in this area. It recommended pursuing harmonised classifications recognizing that there are multiple lists worldwide applying to different sectors with conflicting classification results in some cases. It recognized the amount of resources needed, and suggested that the work could perhaps start with a comparison of classification results to identify discrepancies. It underlined that this Sub-Committee had a procedure for updating classification based on data that can be used.

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

### **Changes in the secretariat**

99. The Sub-Committee noted that Ms. Olga Algayerova from Slovakia had been nominated by the Secretary-General as Executive Secretary of the Economic Commission for Europe, and that she had replaced Mr. Christian Friis Bach from 1 June 2017. The Sub-Committee wished both of them all success in their new endeavours.

100. The Director of the Sustainable Transport Division, Ms. Eva Molnar, retired on 30 June 2017 and her post was currently vacant pending the completion of the temporary replacement procedure and recruitment process. The Sub-Committee thanked Ms. Molnar for her support over the past ten years and wished her a long and happy retirement.

101. The Sub-Committee noted also that its Secretary would have reached the mandatory age of retirement of 62 in November 2017 and, as the decision of the General Assembly to

authorize such staff to request retirement at 65 was not likely to be implemented before 1 January 2018, he would probably retire on 30 November 2017. Steps had been undertaken by the secretariat in May 2017 to initiate a recruitment procedure to replace him.

102. The Sub-Committee expressed the wish that all appropriate actions be taken to avoid that these changes entail disruption in secretariat services and in the work of the Dangerous Goods and Special Cargoes Section.

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

103. The Sub-Committee adopted the report on its fifty-first session and its annexes on the basis of a draft prepared by the secretariat.

## **Annex I**

**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.3/102/Add.1)

## **Annex II**

**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.3/102/Add.1)

## **Annex III**

**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) (as amended in accordance with ST/SG/AC.10/44/Add.2)**

(See ST/SG/AC.10/C.3/102/Add.1)

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