



**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-first session**

held in Geneva from 25 June to 4 July 2012

**Contents**

|   | <i>Paragraphs</i> | <i>Page</i> |
|---|-------------------|-------------|
| I. Attendance.....  | 1–6               | 6           |
| II. Adoption of the agenda (agenda item 1) .....  | 7–8               | 6           |
| III. Explosives and related matters (agenda item 2) .....                                     | 9–12              | 7           |
| A. Preliminary consideration in the plenary .....   | 9–12              | 7           |
| B. Report of the Working Group on Explosives.....   | 13–45             | 7           |
| 1. Test Series 8 .....  | 14–15             | 7           |
| (a) Improvement of the Series 8 gap tests and other<br>gap tests.....                         | 14–15             | 7           |
| (b) Test 8(a) Thermal Stability Test for Ammonium Nitrate<br>Emulsions (ANEs) .....           | 16–17             | 8           |
| 2. Screening test for substances that may have explosive properties .....                     | 17                | 8           |
| 3. Desensitized explosives.....   | 19                | 8           |
| 4. DDT Test and Criteria for flash composition .....  | 20–21             | 8           |
| Alternate flash composition test for fireworks classification<br>using the default table..... | 20–21             | 8           |
| 5. Additional criteria for Division 1.4 classification .....                                  | 22                | 9           |
| 6. Miscellaneous.....   | 23–42             | 9           |
| (a) Portable tank instructions.....   | 23                | 9           |
| (b) Transport of blasting explosives, types B and E,<br>in portable tanks .....               | 24                | 9           |

|     |   |       |    |
|-----|---|-------|----|
| (c) | Special Provision 309 (ANEs) .....  | 25    | 9  |
| (d) | IBCs for transporting UN 3375 .....   | 26    | 9  |
| (e) | Ammonium nitrate – IBCs .....   | 27    | 9  |
| (f) | Special Provision 306 .....   | 28    | 9  |
| (g) | Classification of ammonium nitrate .....  | 29    | 10 |
| (h) | Packing Instructions P116, P131 and P137 .....  | 30    | 10 |
| (i) | Substances and mixtures with explosive properties which are<br>exempted from classification as explosives ..... | 31    | 10 |
| (j) | 6(c) Test .....   | 32    | 10 |
| (k) | Transport of blasting explosives, Types B and E, and UN 3375<br>ANEs in bulk containers .....                   | 33    | 10 |
| (l) | Test series 6 .....   | 34    | 11 |
| (m) | Novelty fireworks (snakes and sparklers) .....  | 35    | 11 |
| (n) | Novelty fireworks (snappers and party poppers) .....  | 36    | 11 |
| (o) | Hand held signal devices .....  | 37    | 11 |
| (p) | Rockets/default classification .....  | 38    | 11 |
| (q) | Difficulties in carrying out classification tests .....   | 39    | 11 |
| (r) | Multilateral recognition of laboratory testing .....  | 40–41 | 11 |
| (s) | Availability of primed cambric .....  | 42    | 12 |
| 7.  | Proposals of amendments to the list of dangerous goods of<br>Chapter 3.2 listed under agenda item 3 .....       | 43–44 | 12 |
| (a) | Ammonium nitrate description .....  | 43    | 12 |
| (b) | Safety devices .....  | 44    | 12 |
| C.  | Desensitized explosives .....   | 45    | 12 |
| IV. | Listing, classification and packing (agenda item 3) .....   | 46–97 | 13 |
| A.  | Proposals of amendments to the list of dangerous goods<br>of Chapter 3.2 .....                                  | 46–73 | 13 |
| 1.  | New UN number and special provision for a new type of<br>confetti-shooter .....                                 | 46–47 | 13 |
| 2.  | Special provisions requiring reconsideration .....  | 48    | 13 |
| 3.  | Neutron radiation detectors .....   | 49–51 | 13 |
| 4.  | Dangerous goods contained in heat pipes .....   | 52–53 | 14 |
| 5.  | Fuel cell cartridges in excepted quantities .....   | 54–55 | 14 |
| 6.  | Packing group for UN No. 3316 .....   | 56–57 | 14 |
| 7.  | Assignment of E codes for transport in excepted quantities .....  | 58–61 | 14 |
| 8.  | Ammonia dispensers or cartridges for ammonia dispensers .....   | 62–64 | 15 |
| 9.  | Assignment of packing groups to articles .....  | 65–67 | 15 |

|  |         |    |
|--|---------|----|
| 10. Classification criteria and packing requirements for gases adsorbed on solids .....  | 68–70   | 15 |
| 11. Asbestos .....   | 71–72   | 16 |
| 12. Assignment of Special Provision 223 to aluminium hydride, UN 2463 ...  | 73      | 16 |
| B. Miscellaneous .....   | 74–97   | 16 |
| 1. Assignment of IBC packing instructions to UN No. 3089 .....   | 74      | 16 |
| 2. Packing instruction P602.....   | 75–78   | 16 |
| 3. Special provision 335: Exemption for small quantities of environmentally hazardous substances .....   | 79–81   | 17 |
| 4. Medical devices or equipment containing infectious substances .....   | 82–85   | 17 |
| 5. Decision logic for classification of organic peroxides and self-reactive substances.....  | 86      | 18 |
| 6. Fire extinguishers .....  | 87–88   | 18 |
| 7. Classification of self-reactive substances .....  | 89–90   | 18 |
| 8. Transport of packaging waste with residues of dangerous goods .....   | 91–93   | 18 |
| 9. Expert judgement and weight of evidence .....   | 94      | 19 |
| 10. Environmentally hazardous paints, printing inks and adhesives .....  | 95      | 19 |
| 11. Corrosive subsidiary risk of peroxyacetic acid, 41% with water .....   | 96      | 19 |
| 12. Editorial corrections to PP90.....   | 97      | 19 |
| V. Electric storage systems (agenda item 4) .....  | 98–108  | 19 |
| A. Testing of lithium batteries .....  | 98      | 19 |
| 1. T6 tests for lithium cells.....   | 98      | 19 |
| 2. Testing of lithium batteries assemblies .....   | 99      | 20 |
| B. Lithium-ion capacitors.....   | 100     | 20 |
| New proper shipping name for asymmetric capacitors .....   | 100     | 20 |
| C. Waste or damaged/defective lithium batteries .....  | 101–103 | 20 |
| D. Packagings for large batteries .....  | 104–106 | 20 |
| 1. Lithium cells: clarification of packing instructions P903.....  | 105–105 | 20 |
| 2. Large packagings (LP) packing instruction for lithium batteries .....   | 106     | 21 |
| E. Miscellaneous .....   | 107–108 | 21 |
| 1. Energy storage devices.....   | 107     | 21 |
| 2. Summary of decisions taken by ICAO regarding lithium batteries.....   | 108     | 21 |
| VI. Miscellaneous proposals of amendments to the Model Regulations on the Transport of Dangerous goods (agenda item 5) .....                                   | 109–121 | 21 |
| A. Packagings .....  | 109–113 | 21 |
| 1. Alternatives to the hot water bath test for small receptacles containing gas (UN No. 2037) and fuel cell cartridges containing liquefied flammable gas..... | 109–110 | 21 |

|       |  |         |    |
|-------|--|---------|----|
| 2.    | References to ISO standards in section 6.2.2 .....   | 111     | 22 |
| 3.    | Transition provisions for ISO standards referred to in section 6.2.2 .....   | 112–113 | 22 |
| B.    | Portable tanks.....  | 114     | 22 |
| C.    | Marking and labelling.....   | 115–116 | 22 |
|       | Description of labels, placards, symbols, markings and marks.....  | 115–116 | 22 |
| D.    | Miscellaneous .....  | 117–121 | 22 |
| 1.    | Description of pollutants .....  | 117     | 22 |
| 2.    | Exemptions for machinery and equipment permanently fixed to vehicles .....   | 118     | 23 |
| 3.    | Amendments to section 5.5.3 .....  | 119     | 23 |
| 4.    | Corrections to the Model Regulations.....  | 120     | 23 |
| 5.    | Lamps containing small quantities of dangerous goods.....  | 121     | 23 |
| VII.  | Electronic data interchange for documentation purposes (agenda item 6) .....   | 122–124 | 23 |
| VIII. | Cooperation with the International Atomic Energy Agency (agenda item 7) .....  | 125–139 | 24 |
| A.    | Harmonization with the IAEA Regulations for the Safe Transport of Radioactive material .....                                     | 125–131 | 24 |
| B.    | Uranium hexafluoride samples .....   | 132–138 | 24 |
| C.    | Special provision 172 .....  | 139     | 25 |
| IX.   | Global harmonization of transport of dangerous goods regulations with the Model Regulations (agenda item 8) .....                | 140–141 | 26 |
| X.    | Guiding principles for the Model Regulations (agenda item 9) .....   | 142–145 | 26 |
| A.    | Packagings.....  | 142     | 26 |
| B.    | Tank instruction assignment for UN portable tanks .....  | 143–144 | 26 |
| C.    | Guiding principles for use with the seventeenth revised edition of the Recommendations on the Transport of Dangerous Goods ..... | 145     | 26 |
| XI.   | Issues relating to the Globally Harmonized System of Classification and Labelling of Chemicals (agenda item 10) .....            | 146–159 | 27 |
| A.    | Corrosivity criteria.....  | 146–150 | 27 |
| 1.    | Work of the Joint TDG/GHS correspondence group on corrosivity classification .....   | 146     | 27 |
| 2.    | Assignment of categories/packing groups.....   | 147–150 | 27 |
| B.    | Criteria for water-reactivity .....  | 151     | 27 |
| C.    | Test and criteria for oxidizing solids .....   | 152–157 | 28 |
| D.    | Know experience .....  | 158     | 28 |
| E.    | Miscellaneous .....  | 159     | 29 |
|       | Editorial correction to Chapter 2.3 of the GHS.....  | 159     | 29 |
| XII.  | Other business (agenda item 11) .....  | 160–161 | 29 |
|       | Tribute to Mr. N. Reader (United Kingdom) and to Ms. O. Lefèvre Pestel (France) .....  | 160–161 | 29 |
| XIII. | Adoption of the report (agenda item 12) .....  | 162     | 29 |

## Annexes

- I. Draft amendments to the Fifth revised edition of the Recommendations on the Transport of Dangerous Goods, Manual of tests and Criteria <sup>1</sup>
- II. Draft amendments to the seventeenth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations<sup>1</sup>
- III. Draft amendments to the Guiding Principles<sup>1</sup>

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<sup>1</sup> For practical reasons, this annex has been published in an addendum with the symbol ST/SG/AC.10/C.3/82/Add.1.

## I. Attendance

1. The Sub-Committee of Experts on the Transport of Dangerous Goods held its forty-first session from 25 June to 4 July 2012.
2. Experts from the following countries took part in this session: Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Finland, France, Germany, Italy, Japan, Netherlands, Norway, 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 Chile, Romania, Slovakia and Zambia also took part.
4. The Intergovernmental Organisation for International Carriage by Rail (OTIF) was also represented.
5. Representatives of the European Union (EU), the International Atomic Energy Agency (IAEA) and the International Civil Aviation Organization (ICAO) were also present.
6. Representatives of the following non-governmental organizations took part in the discussion of items of concern to their organizations: Association of Hazmat Shippers, Inc. (AHS); Australian Explosives Industry Safety Group (AEISG); Compressed Gas Association (CGA); Cosmetics Europe (formerly COLIPA); Council on Safe Transportation of Hazardous Articles (COSTHA); Dangerous Goods Advisory Council (DGAC); Dangerous Goods Trainers Association (DGTA); European Aerosol Federation (FEA); European Association of Automotive Suppliers (CLEPA); European Battery Recycling Association (EBRA); European Chemical Industry Council (CEFIC); European Cylinder Makers Association (ECMA); European Industrial Gases Association (EIGA); European Metal Packaging (EMPAC); Fuel Cell and Hydrogen Energy Association (FCHEA); European Cylinder Makers Association (ECMA); Institute of Makers of Explosives (IME); International Air Transport Association (IATA); International Association for the Promotion and Management of Portable Rechargeable Batteries (RECHARGE); International Association for Soaps, Detergents and Maintenance Products (AISE); International Confederation of Drum Manufacturers (ICDM); International Confederation of Container Reconditioners (ICCR); International Confederation of Plastics Packaging Manufacturers (ICPP); International Council of Chemical Associations (ICCA); International Council of Intermediate Bulk Container Associations (ICIBCA); International Dangerous Goods and Containers Association (IDGCA); International Federation of Airline Pilot's Association (IFALPA); International Federation of Freight Forwarders Associations (FIATA); International Organization for Standardization (ISO); International Paint and Printing Ink Council (IPPIC); International Tank Container Organisation (ITCO); KiloFarad International (KFI); Portable Rechargeable Battery Association (PRBA); Responsible Packaging Management Association of Southern Africa (RPMASA); Sporting Arms and Ammunition Manufacturers' Institute (SAAMI); and World Nuclear Transport Institute (WNTI).

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

|                            |   |
|----------------------------|---|
| <i>Documents:</i>          | ST/SG/AC.10/C.3/81 (Provisional agenda)<br>ST/SG/AC.10/C.3/81/Add.1 (List of documents)                                   |
| <i>Informal documents:</i> | INF.1, INF.2/Rev.1 (List of documents)<br>INF.13 and INF.14 (Provisional timetable)<br>INF.36 (SAAMI) (Reception by NGOs) |

7. The Sub-Committee adopted the provisional agenda prepared by the secretariat after amending it to take account of informal documents (INF.1 to INF.73 and INF.75).

8. The Chairman, noting the large number of informal documents submitted late, recalled that in principle decisions were taken on the basis of official documents, and that informal documents should contain only comments on already submitted proposals or proposals related to corrections or questions of interpretation. They should also be submitted earlier.

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

#### **A. Preliminary consideration in the plenary**

9. Following a preliminary discussion in the plenary, most of the questions relating to this agenda item were referred to the Working Group on Explosives, which met from 25 to 27 June 2012, with Mr. E. de Jong (Netherlands) chairing.

10. For sub-item 2 (c) on desensitized explosives, the Chairman pointed out that the Working Group on Explosives could proceed with a preliminary discussion of the documents, but noted that a special working group was scheduled to consider them on 3 July, so as to facilitate participation by experts from the Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals (the GHS Sub-Committee).

11. Several experts said that they preferred to discuss the question of improving reciprocal recognition of test results obtained by various laboratories, raised in informal document INF.37 (Spain), in the plenary. They also expressed uncertainty as to whether the issue could be resolved by the Sub-Committee insofar as such reciprocal recognition was rather the responsibility of the competent authorities within the framework of national law or international agreements or conventions.

12. The Sub-Committee also requested that the Working Group consider the following questions under sub-item 3 (a) of the agenda:

- Description of ammonium nitrate (ST/SG/AC.10/C.3/2012/19, from AEISG)
- Descriptions of UN Nos. 0503 and 3268 (ST/SG/AC.10/C.3/2012/35 and informal document INF.44, from COSTHA)

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

*Informal documents:* INF.67 (Report of the Working Group)  
INF.68 (France)

13. The Sub-Committee took note of the report of the Working Group on Explosives and approved its conclusions and adopted texts, subject to the following.

##### **1. Test Series 8**

###### **(a) Improvement of the Series 8 gap tests and other gap tests**

*Documents:* ST/SG/AC.10/C.3/2012/1 (IME)  
ST/SG/AC.10/C.3/2012/21 (AEISG)

*Informal document:* INF.10 (IME)

14. Regarding the proposals to amend sections 11 and 12 of the Manual of Tests and Criteria, the Sub-Committee agreed that further study was needed as to whether a future revision changing the wall thickness specification of the steel tube to "nominally  $4.0 \pm 0.1$  mm" might be appropriate. Experts from Germany, France, Canada, Netherlands, United Kingdom, and the United States of America offered to collect data for tests 1(a), 2(a), A.5 to examine this possibility.

15. The Sub-Committee adopted amendments to Section 18 of the Manual (see annex I).

**(b) Test 8(a) Thermal Stability Test for Ammonium Nitrate Emulsions (ANEs)**

*Informal document:* INF.21 (AEISG)

16. The Sub-Committee noted that water can be used to establish heat loss characteristics of the system, up to a temperature of 60 °C, but for higher temperatures, it is better to use a less volatile liquid.

17. The Sub-Committee agreed to amend the formula in paragraph 18.4.1.2.5 of Section 18 and paragraph 28.3.5 of Section 28 of the Manual, as well as paragraph 18.4.1.2.6 of Section 18 (see annex I).

**2. Screening test for substances that may have explosive properties**

*Document:* ST/SG/AC.10/C.3/2012/22 (Japan and ICCA)

18. The Sub-Committee agreed to amend the first sentence of paragraph 20.3.3.3 of the Manual, and to add a new sentence after the first sentence (see annex I).

**3. Desensitized explosives**

*Document:* ST/SG/AC.10/C.3/2012/28 (ICCA)

*Informal document:* INF.38 (Germany)

19. The Sub-Committee noted the conclusions of the Working Group in informal document INF.67, paragraph 6, and considered that they should be transmitted to the Working Group on desensitized explosive (see para. 45).

**4. DDT Test and Criteria for flash composition**

*Alternate flash composition test for fireworks classification using the default table.*

*Documents:* ST/SG/AC.10/C.3/2012/30 (United States of America)  
ST/SG/AC.10/C.3/2012/51 (United Kingdom)

*Informal documents:* INF.42 (Japan)  
INF.49 (United States of America)

20. The Sub-Committee agreed to amend Note 2 of paragraph 2.1.3.5.5 of the Model Regulations and to add a new US Flash Composition Test as an Appendix 7 to the Manual (see annexes I and II).

21. The expert from China called for the preferred test to be indicated, so as to avoid problems of recognition of classification. The Chairman of the Working Group indicated that the data on the test results showed that both test methods led to the same results, and said that there should not be any problem from that point of view.



## 5. Additional criteria for Division 1.4 classification

22. No document had been submitted under this agenda sub-item.

## 6. Miscellaneous

### (a) Portable tank instructions

*Document:* ST/SG/AC.10/C.3/2012/13 (AEISG)

23. The Sub-Committee agreed to amend the header to the tabulated portable tank instructions for T1 – T22 in Chapter 6.7 of the Model Regulations (see annex II).

### (b) Transport of blasting explosives, types B and E, in portable tanks

*Document:* ST/SG/AC.10/C.3/2012/14 (AEISG)

24. The Sub-Committee agreed to clarify that the requirement in paragraph (b) of Special Provision TP32 applies only to Ammonium Nitrate Explosives (ANEs) of UN No. 3375 when transported in tanks by revising paragraph (b) of Special Provision TP32 in paragraph 4.2.5.3 of the Model Regulations (see annex II).

### (c) Special Provision 309 (ANEs)

*Document:* ST/SG/AC.10/C.3/2012/15 (AEISG)

25. The Sub-Committee agreed to clarify that only the 8(a), 8(b) and 8(c) tests are required for classification of UN 3375 (see annex I). It did not agree to remove the requirement for competent authority approval.

### (d) IBCs for transporting UN 3375

*Document:* ST/SG/AC.10/C.3/2012/16 (AEISG)

26. The Sub-Committee adopted a new packing instruction, P505 and agreed to authorize IBCs for UN 3375 ANEs. Consequential amendments to the UN 3375 entry in the Dangerous Goods List were also necessary (see annex II).

### (e) Ammonium nitrate – IBCs

*Document:* ST/SG/AC.10/C.3/2012/17 (AEISG)

27. The Sub-Committee agreed to amend the entry for UN No. 0222 as proposed by AEISG. However, the expert from France considered that, given the current provisions made for transport in IBCs of UN 0082, EXPLOSIVE, BLASTING, TYPE B, there was no reason to authorize the transport of UN 0222, AMMONIUM NITRATE, in metal IBCs. The expert also considered that provision should be made for transport in closed cargo transport units (special provision B2). The corresponding provisions were therefore added in brackets in the adopted texts, to be verified at the next session (see annex II)

### (f) Special Provision 306

*Document:* ST/SG/AC.10/C.3/2012/18 (AEISG)

28. The Sub-Committee agreed to amend Special Provision 306 (see annex II).

**(g) Classification of ammonium nitrate**

*Document:* ST/SG/AC.10/C.3/2012/20 (AEISG)

*Informal document:* INF.68 (France)

29. With respect to paragraph 15, the expert from France considered that there was a contradiction between the description included in column (2) of the dangerous goods list for UN 0222 and the new special provision proposed by the Working Group. She proposed a different solution (informal document INF.68) which was adopted with a minor editorial correction (see annex II).

**(h) Packing Instructions P116, P131 and P137**

*Document:* ST/SG/AC.10/C.3/2012/41 (Canada)

30. With respect to paragraph 16, the Sub-Committee did not agree with the amendments to packing instructions P116, P131 and P137 because the packagings authorized for specific substances are already indicated in particular packing requirements. The expert from Canada might wish to submit a new proposal in this respect.

**(i) Substances and mixtures with explosive properties which are exempted from classification as explosives**

*Document:* ST/SG/AC.10/C.3/2012/56 (Germany, United States of America and Canada)

31. The Sub-Committee considered and supported the principles of the document for GHS purposes, and concluded that the version in the third column of the table in the annex ("Changes by GHS") is the preferred solution. The Sub-Committee also agreed that clear guidance of how to avoid the potential explosive hazard should be provided (for example, "Do not heat under confinement").

**(j) 6(c) Test**

*Document:* ST/SG/AC.10/C.3/2012/57 (United States of America)

*Informal document:* INF.34 (SAAMI)

32. The Sub-Committee noted that the Working Group did not support the proposals from the United States of America and observed that the test procedure, as currently written, is adequate. Several comments were provided to assist the United States of America in solving the problems they have encountered without creating additional test prescriptions and criteria.

**(k) Transport of blasting explosives, Types B and E, and UN 3375 ANEs in bulk containers**

*Informal document:* INF.20 (AEISG)

33. There was general support for the idea, with some concern that BK2 may be too broad. AEISG may develop a future proposal taking into account the comments of the working Group.

**(l) Test Series 6**

*Informal document:* INF.33 (IME)

34. The Sub-Committee agreed that the reply deadline for the survey could be extended until 1 October 2012 and that IME contact other interested groups or organizations, as supported by the Working Group, to broaden the base of potential commenters. IME agreed to continue the coordination of the review of Test Series 6 and promised a follow-up report at the forty-third session.

**(m) Novelty fireworks (snakes and sparklers)**

*Informal document:* INF.8 (DGAC)

35. This document was withdrawn from consideration.

**(n) Novelty fireworks (snappers and party poppers)**

*Informal document:* INF.9 (DGAC)

36. This document was withdrawn from consideration.

**(o) Hand held signal devices**

*Informal document:* INF.17 (DGAC)

37. The Sub-Committee noted that the Working Group did not support the proposal.

**(p) Rockets/default classification**

*Informal document:* INF.25 (Germany)

38. The Sub-Committee noted that the Working Group did not support the proposal. Germany will consider the comments of the Working Group and may present a new proposal in the future.

**(q) Difficulties in carrying out classification tests**

*Informal document:* INF.26 (Chairman of the Working Group)

39. The Sub-Committee accepted the general principle outlined as regards Parts I and II of the Manual of Tests and Criteria and agreed to include this activity in its next programme of work, subject to concurrence by the GHS Sub-Committee.

**(r) Multilateral recognition of laboratory testing**

*Informal document:* INF.37 (Spain)

40. The Sub-Committee noted the Working Group observation that appropriately completed testing performed in one country should not be summarily dismissed simply because the tests were not performed in the country from which a classification is being sought. The group was supportive of the suggestion from SAAMI but did not develop any specific recommendations.

41. The expert from Spain said that she would submit an official proposal at the next session. The expert from France drew her attention to paragraphs 1.1.1 and 1.1.2 of the Manual of Tests and Criteria which provide useful information on the use of the Manual by competent authorities. The Chairman said that the last session of the biennium might not be the most appropriate one for raising such controversial issues (see also para 11).

(s) **Availability of primed cambric**

*Informal document:* INF.55 (CEFIC)

42. The Sub-Committee noted that the expert from the United Kingdom would explore this critical issue further and would report back to the Sub-Committee.

**7. Proposals of amendments to the list of dangerous goods of Chapter 3.2 listed under agenda item 3**

(a) **Ammonium nitrate description**

*Document:* ST/SG/AC.10/C.3/2012/19 (AEISG)

43. The Sub-Committee adopted the amendment to the description of UN 1942 as proposed by the Working Group (see annex II). It further noted that these changes do not necessarily apply to all language versions of the Model Regulations.

(b) **Safety devices**

*Document:* ST/SG/AC.10/C.3/2012/35 (COSTHA)

*Informal documents:* INF.44 (COSTHA)  
INF.70 (Chairman of the Working Group)

44. The Sub-Committee approved in principle the texts proposed by the Working Group concerning UN Nos 0503 and 3268, the glossary of terms and special provisions 235, 280 and 289, but several experts expressed concern at the name “Safety device” proposed for UN 3268 as this name could cover any type of safety devices, including some articles already listed such as life-saving appliances. Some amendments were proposed in informal document INF.70 to take account of these concerns, and were adopted with some modifications (see annex II).

**C. Desensitized explosives**

*Document:* ST/SG/AC.10/C.3/2012/28 (ICCA)

*Informal documents:* INF.38 (Germany)  
INF.67 (Report of the Working Group on Explosives)  
INF.75 (Report of the Working Group on Desensitized Explosives)

45. The Sub-Committee endorsed the conclusions of the Working Group on Desensitized Explosives as follows:

- (a) The conclusions of the Working Group on Explosives as reflected in informal document INF.67, para. 6 were confirmed;
- (b) A new chapter on desensitized explosives in the GHS is needed;
- (c) The German methodology is a good starting point to develop a comprehensive approach;
- (d) The properties of the mixtures, when the diluent has fallen below the specified level need not be included in the classification method since they would then be considered as explosives;

- (e) Since a number of experts are considering to prepare a formal proposal to deal with the details of implementation within the GHS system in the next biennium, this issue should be included in the programme of work for the next biennium.

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

### **A. Proposals of amendments to the list of dangerous goods of Chapter 3.2**

#### **1. New UN number and special provision for a new type of confetti-shooter**

*Document:* ST/SG/AC.10/C.3/2012/45 (Germany)

*Informal document:* INF.60 (Germany)

46. Several experts considered that such confetti-shooters were not transported in sufficient quantities to warrant a specific UN number, and that it would probably be preferable to deal with the question under a generic or n.o.s. entry, which would also be applicable to various kinds of similar systems.

47. The expert from Germany said that she would submit a new proposal that would consist in using existing UN 3164. Experts opposing such a proposal should inform her of their objections so that her work would not be to no avail.

#### **2. Special provisions requiring reconsideration**

*Document:* ST/SG/AC.10/C.3/2012/4 (DGAC)

48. The Sub-Committee thanked DGAC for the research done following the decision at the last session to amend special provision 135. While recognizing that the special provision in question might have become incorrect since the introduction of criteria for the classification of substances hazardous to the aquatic environment, the Sub-Committee felt that further work was required. Several solutions were possible: the classification of the substances in question could be checked against the criteria; the provisions could be reworded; or the special provisions could be deleted, thus leaving it for consignors to classify the products concerned.

#### **3. Neutron radiation detectors**

*Document:* ST/SG/AC.10/C.3/2012/5 (DGAC)

*Informal document:* INF.32 (DGAC)

49. The Sub-Committee was generally in favour of finding a solution facilitating the international transport of such radiation detectors, which were increasingly essential to security checks throughout the world.

50. Views diverged, however, on the conditions of transport. Some experts considered that since the detectors contained toxic gases, they should be covered by Division 2.3. Others pointed out that the articles in question contained only minute quantities of toxic gas. Some considered that a generic solution should be found, with an entry similar to UN 3363, but instead covering the articles in question.

51. The representative of DGAC said that he would discuss the matter with the interested parties.

**4. Dangerous goods contained in heat pipes**

*Document:* ST/SG/AC.10/C.3/2012/8 (Spain)

*Informal documents:* INF.5 and INF.6 (Spain)

52. Several experts supported in principle the proposal to allow the transport of heat pipes containing dangerous goods. On the whole, however, most experts would have preferred that the conditions of transport, in particular the packing specifications and provisions for communicating the danger, should be set out in more detail.

53. The expert from Spain was asked to consult with the other experts concerned. She said that she intended to submit a new proposal at the next session.

**5. Fuel cell cartridges in excepted quantities**

*Document:* ST/SG/AC.10/C.3/2012/10 (DGAC)

54. Very little enthusiasm was shown for applying the concept of excepted quantities (in Chapter 3.2) to fuel cells. Some experts considered that it would be preferable to hold a more general discussion about how to handle the articles containing the dangerous goods. As the concept of excepted quantities came from ICAO, it would also be useful for DGAC to consult that organization, in particular for cells containing flammable gases; ICAO had called into question the system currently used in the Model Regulations for the assignment of E codes (see ST/SG/AC.10/C.3/2012/25).

55. The representative of DGAC took note of the comments and said that he might bring the matter up again later.

**6. Packing group for UN 3316**

*Document:* ST/SG/AC.10/C.3/2012/12 (Germany)

56. The proposal to amend the entry for UN No. 3316 was adopted, with a few amendments (see annex II).

57. The decision did not call into question the amendments to special provision 251 or packing instruction P901 adopted at the thirty-ninth session, and relating to kits containing only dangerous goods to which no packing groups were assigned.

**7. Assignment of E codes for transport in excepted quantities**

*Document:* ST/SG/AC.10/C.3/2012/25 (ICAO)

58. The representative of ICAO pointed out that the E codes assigned to the various entries in the Model Regulations diverged in many cases from those assigned to the same entries in the ICAO Technical Instructions, resulting in serious problems of harmonization.

59. The system of excepted quantities had been introduced to ensure harmonization with the ICAO Technical Instructions. The codes had been assigned based on criteria from the Guiding Principles, which supposedly reflected the ICAO criteria. One reason for the differences appeared to be it did not reflect the prohibition of some substances on passenger aircraft. Some prohibitions of transport in packages excepted by ICAO, for example for self-heating substances of Division 4.2, packing group III, were difficult to comprehend, as such substances by definition did not manifest self-heating properties unless there was a specific quantity of them.

60. Several experts emphasized the need both to ensure harmony with the ICAO Technical Instructions and to assign E codes on the basis of known criteria, applied systematically.

61. The Sub-Committee therefore asked ICAO first to review the list of differences and to provide justifications, if possible. If all the differences were justified, it would be useful for ICAO to present new criteria, thus enabling the Sub-Committee on the one hand to adopt the required amendments, and on the other hand to avoid such problems of harmonization in the future.

## **8. Ammonia dispensers or cartridges for ammonia dispensers**

*Document:* ST/SG/AC.10/C.3/2012/33 (France)

*Informal document:* INF.57 (France)

62. Several experts supported classifying such articles in Class 9. Others considered that it might be best to establish an n.o.s. system of entries for articles containing dangerous goods. Some experts wanted to receive more information on the actual dangers presented by the contents.

63. In response to questions, the expert from France pointed out that:

- The contained product was ammonia gas adsorbed by a salt, in solid form;
- When exposed to the air at normal temperatures, the product released no gas, but produced an odour similar to that of an ammonia solution of less than 25%;
- A slight release of ammonia gas could occur upon contact with humidity, but not in the presence of greater quantities of water, which would dissolve the gas;
- The main danger during transport would be an explosion of the cartridge or dispenser owing to an increase in internal pressure if the article was exposed to heat, resulting in a release of ammonia gas within it.

64. The expert from France said that he would submit a new proposal at the next session.

## **9. Assignment of packing groups to articles**

*Document:* ST/SG/AC.10/C.3/2012/34 (IATA)

65. Most experts agreed with IATA that there was no reason to assign articles to packing groups in the dangerous goods list, as the danger was not related only to the nature of the contained substance.

66. Some experts considered, however, that it was useful in practice to indicate a packing group in the list of dangerous goods, in order to specify conditions of transport. It was noted, though, that when tested packagings were required, performance levels were indicated in the packing instructions.

67. The representative of IATA was requested to verify that the proposal covered all the articles mentioned in the list and that, as necessary, the required performance levels for the packagings were specified in the packing instructions in question. He was asked to submit a new proposal at the next session.

## **10. Classification criteria and packing requirements for gases adsorbed on solids**

*Document:* ST/SG/AC.10/C.3/2012/36 (COSTHA)

68. On the whole, the Sub-Committee supported introducing provisions for the transport of gases adsorbed on solids. However, several comments were made on various technical aspects of the proposal.

69. It was also noted that the introduction of new n.o.s. entries for such gases was problematic because of the principles currently used for classifying goods and determining proper shipping names. The gases in question were all already cited by name, and they all had specific UN numbers. Transporting them under a generic entry could, in the context of emergency response, lead to errors and undermine safety. Opinions differed, with several experts supporting the use of n.o.s. entries, as long as such entries covered all possible cases, taking into account subsidiary risks.

70. The representative of COSTHA would present a new proposal at the next session.

## **11. Asbestos**

*Document:* ST/SG/AC.10/C.3/2012/48 (IDGCA)

71. The proposal to amend the proper shipping name for UN Nos. 2212 and 2590 was adopted, on the condition that the word “asbestos” would continue to appear (see annex II).

72. The representative of IDGCA said that the asbestos manufacturing industry did not consider it necessary to provide for a transitional measure.

## **12. Assignment of Special Provision 223 to aluminium hydride, UN 2463**

*Informal document:* INF.58 (COSTHA)

73. It was noted that it was unusual to assign special provision 223 to substances of packing group I. Should derogations be granted for this substance, it would be preferable to do this through a special provision specifying the type of substance concerned, provided that COSTHA provide the relevant information.

## **B. Miscellaneous**

### **1. Assignment of IBC packing instructions to UN 3089**

*Document:* ST/SG/AC.10/C.3/2012/11 (Germany)

74. The proposal to replace “IBC06” with “IBC08”, with an added reference in column (9) to instructions B2 and B4, was adopted (see annex II).

### **2. Packing instruction P602**

*Document:* ST/SG/AC.10/C.3/2012/26 (ICCA)

75. Several experts opposed authorizing an increase in the maximum content of inner packagings when such packagings contained supplementary packagings with filling.

76. Others considered that on the contrary, the primary receptacle containing the dangerous goods should be considered as the inner packaging. The intermediate packagings containing those receptacles and the filling material provided additional safety.

77. For some experts, the issue went beyond packing instruction P602, and should be addressed more globally. For example, it was not always very clear in the packing instructions whether the prescribed values for inner packagings referred to the capacities of the packagings, or to the actual volume of the contents.

78. The representative of ICCA was requested to consult with the experts concerned and to submit a new proposal at the next session.



### 3. Special provision 335: Exemption for small quantities of environmentally hazardous substances

*Document:* ST/SG/AC.10/C.3/2012/27 (ICCA)

*Informal document:* INF.39 (DGAC)

79. Some experts considered the proposal to settle the problem of exempting small quantities of environmentally hazardous substances by means of the provisions on excepted quantities to be too complicated.

80. It was decided to adopt, on a provisional basis, the amendment to special provision 335 as it appeared in the annex to document ST/SG/AC.10/C.3/2012/27.

81. The Sub-Committee also considered that it would be useful more generally to reconsider all the conditions of transport of environmentally hazardous goods. That task was assigned to a correspondence group, with the following mandate:

- (a) To identify and compare approaches used in current national, regional, and modal regulations with respect to the transport of small quantities of packaged environmentally hazardous substances;
- (b) To consider current industry practices and applications with regard to transport of packages containing small quantities of environmentally hazardous substances, and outline the impact that the implementation of the GHS-based aquatic toxicity criteria has had within the transport regime;
- (c) To consider the current provisions for the transport of packages containing small quantities of environmentally hazardous substances and their applicability based on the risk posed in transport; work to identify where improvements to the current system could be made to address the concerns raised by interested parties that maintain transport safety;
- (d) To consider amendments to Special Provision 335 that have been agreed in principle for adoption by the Sub-Committee at its forty-second session;
- (e) To develop a proposal with options for ways forward to be considered by the Sub-Committee at its forty-second session.

### 4. Medical devices or equipment containing infectious substances

*Documents:* ST/SG/AC.10/C.3/2012/24 (ICAO)

ST/SG/AC.10/C.3/2012/31 (COSTHA)

82. The documents were presented in connection with the interpretation given to paragraphs 2.6.3.2.3.7 and 2.6.3.2.3.3. Some questions had already been raised with the Sub-Committee at its thirty-ninth session, following discussions held in the framework of the RID/ADR/ADN Joint Meeting (see ST/SG/AC.10/C.3/78, para. 91).

83. Opinions differed regarding the drop test capability requirement for large devices. Some experts considered that the tests could be carried out on packages with contents simulating the devices in question. Others said that it was useless to require such tests if it was not possible to judge the state of the material in question once the test was completed, though they recognized that it was impractical to subject such expensive equipment to a drop test.

84. It was pointed out that the drop test capability requirement was applied to ensure the integrity of the package without requiring UN specification packaging. However some experts stated that the use of the term “capable of” in 2.6.3.2.3.7 posed a problem of

interpretation, as it would be difficult to judge or justify that a packaging was capable of resisting a drop test if the test was not performed on packages as prepared for transport.

85. It was eventually decided that COSTHA and ICAO should hold additional discussions with the interested parties, consulting preferably with WHO as well, and that a new proposal should be presented, if necessary.

## **5. Decision logic for classification of organic peroxides and self-reactive substances**

*Document:* ST/SG/AC.10/C.3/2012/49 (ICCA)

86. The proposed amendment to the decision logic was adopted (see annex II).

## **6. Fire extinguishers**

*Document:* ST/SG/AC.10/C.3/2012/44 (Germany)

*Informal documents:* INF.7 and INF.59 (Germany)

87. The Sub-Committee was in favour of more precisely defining the fire extinguishers covered by UN No. 1044 and the requirements they had to meet.

88. The expert from Germany would present a new proposal taking into account the various comments made. She asked the IATA representative to provide information on fire extinguishers placed in aircraft.

## **7. Classification of self-reactive substances**

*Document:* ST/SG/AC.10/C.3/2012/50 (DGAC)

89. Several experts considered that there was no direct link between self-reactive substances and substances that could polymerize. Substances that could polymerize were often intended for polymerization, and they were stabilized during transport to avoid the occurrence of polymerization before use. Some experts considered that there was no need to amend the current provisions. Others were willing to take up the issue of substances prone to polymerization in cooperation with DGAC.

90. The representative of DGAC said that he would revert to the issue after consultations with the experts concerned.

## **8. Transport of packaging waste with residues of dangerous goods**

*Informal documents:* INF.19 (France, on behalf of a working group of the RID/ADR/ADN Joint Meeting)  
INF.24 (CEFIC)  
INF.48 and -/Add.1 (ICCR)

91. The Sub-Committee noted that the proposal submitted by France was related to practical problems caused by the implementation of European legislation on collection of wastes for disposal, recycling or recovery. Some experts felt that this was a regional problem only, since no such legislation difficulties existed in their countries. They were also reluctant to describe these products as “waste” since this could result in the application of environmental law regulations besides transport regulations.

92. The discussion showed that it would be difficult to find a compromise on the different issues at stake, but since a UN number was needed for defining transport conditions for such waste packagings, it should be possible to develop at least an entry in the list of dangerous goods during this biennium, even if the transport conditions had to be left to the decision of competent authorities.

93. Since this proposal had been submitted as an informal document due to time constraints, and that again, it would not be possible to submit in due time a new proposal as an official document after the next session of the RID/ADR/ADN Joint Meeting, it was agreed that the expert from France would submit his proposal as an official document for the next session. Any change resulting from RID/ADR/ADN Joint Meeting decisions would be communicated to the Sub-Committee in informal documents.

## **9. Expert judgement and weight of evidence**

*Informal document:* INF.28 (CEFIC)

94. The Sub-Committee noted that the text prepared was extracted from the GHS. Some experts expressed support for the proposal, however most experts were reluctant to adopt such a text on the basis of an informal paper and the Chairman suggested that experts should discuss this issue with their counterparts in the GHS Sub-Committee.

## **10. Environmentally hazardous paints, printing inks and adhesives**

*Informal document:* INF.31 (IPPIC)

95. Although the proposal was supported by one expert, most experts felt that the issue was one of classification and that less stringent packaging and hazard communication provisions were not appropriate. However if a change to packaging hazard communication provisions had to be provided for this type of products, this should be considered also for all environmentally hazardous substances with relevant justifications bearing in mind the requirements of legal instruments such as the MARPOL Convention.

## **11. Corrosive subsidiary risk of peroxyacetic acid, 41% with water**

*Informal document:* INF.35 (Finland)

96. The proposal was adopted (see annex II).

## **12. Editorial corrections to PP90**

*Informal document:* INF.46 (Romania)

97. The proposal was adopted. The corrections should be included in ST/SG/AC.10/1/Rev.17/Corr.2.

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

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

### **1. T6 tests for lithium cells**

*Document:* ST/SG/AC.10/C.3/2012/6 (China)

98. The proposal to apply the crush test to all cylindrical cells with diameters under 18 mm (instead of those with diameters under 20 mm) and the impact test to cells with diameters of 18 mm or greater (instead of 20 mm or greater), put to the vote, was adopted (see annex I).

## **2. Testing of lithium batteries assemblies**

*Informal document:* INF.62 (RECHARGE/PRBA)

99. Interested delegations were invited to submit their comments to RECHARGE or PRBA.

## **B. Lithium-ion capacitors**

### **New proper shipping name for asymmetric capacitors**

*Document:* ST/SG/AC.10/C.3/2012/23 (Japan)

*Informal document:* INF.64 (Japan)

100. Following a preliminary discussion in plenary session, the expert from Japan prepared a new proposal (INF.64) to take into account the various comments made. Some experts had reservations about certain points in the new proposal. At the Chairman's request, the expert from Japan agreed to submit a new proposal at the next session, taking into account some of those comments, particularly involving editorial questions.

## **C. Waste or damaged/defective lithium batteries**

*Documents:* ST/SG/AC.10/C.3/2012/37 (PRBA and RECHARGE)  
(damaged or defective lithium batteries)  
ST/SG/AC.10/C.3/2012/38 (PRBA and RECHARGE) (waste batteries)

101. The two documents elicited many comments and were entrusted to a lunchtime working group.

102. For damaged or defective lithium batteries, PRBA and RECHARGE were invited to submit a new proposal taking into account the group's discussions.

103. For waste batteries, the Sub-Committee noted that the group still disagreed on some points, in particular concerning exemptions that could cover the transport of such batteries. Nevertheless, the Sub-Committee considered that it was essential to reach an agreement that would allow for the transport of such waste batteries for all modes of transport, in particular in respect of packing conditions, even if the issue of exemptions could not be settled during the current biennium. PRBA and RECHARGE were therefore requested to submit a new proposal, accordingly.

## **D. Packagings for large batteries**

### **1. Lithium cells: clarification of packing instruction P903**

*Document:* ST/SG/AC.10/C.3/2012/29 (PRBA/RECHARGE)

104. The Sub-Committee agreed with PRBA and RECHARGE that paragraph (2) (a) of packing instruction P903, as it appeared in the seventeenth revised edition of the Recommendations on the Transport of Dangerous Goods Model Regulations, was incorrect, as the corresponding text in the sixteenth revised edition allowed the use of strong outer packagings or protective enclosures, and not strong outer packagings in protective enclosures. The error apparently was due to editing of the packing instructions during the previous two-year period, and should be corrected in the next version (see annex II).

105. Modal organizations such as IMO, ICAO, UNECE and OTIF and national regulatory authorities were invited to take the correction into account to the extent legally possible in the 2013 versions of their respective instruments.

## **2. Large packaging (LP) packing instruction for lithium batteries**

*Document:* ST/SG/AC.10/C.3/2012/39 (PRBA/RECHARGE)

106. Proposed packing instruction LP903 was adopted, on the condition that it would apply only to the transport of a single battery or a single battery contained in equipment (see annex II).

## **E. Miscellaneous**

### **1. Energy storage devices**

*Informal document:* INF.50 (ICAO)

107. The Sub-Committee noted the proposal by ICAO that energy storage devices should constitute a specific group of dangerous goods with specific provisions and agreed that this issue should be considered in the next biennium.

### **2. Summary of decisions taken by ICAO regarding lithium batteries**

*Informal document:* INF.51 (ICAO)

108. The Sub-Committee welcomed the information provided by ICAO. Although lithium cells and batteries that meet the conditions of special provision 188 are exempted from the UN Model Regulations, ICAO regulates the transport by air of such lithium cells and batteries. The Sub-Committee also noted that the Universal Postal Union (UPU) allows the transport of such cells and batteries by post.

## **VI. Miscellaneous proposals of amendments to the Model Regulations on the Transport of Dangerous Goods (agenda item 5)**

### **A. Packagings**

#### **1. Alternatives to the hot water bath test for small receptacles containing gas (UN No. 2037) and fuel cell cartridges containing liquefied flammable gas**

*Document:* ST/SG/AC.10/C.3/2012/3 (ECMA)

*Informal document:* INF.16 (ECMA)

109. Several experts supported in principle the proposal to provide for an alternative test method, on the condition that the text should be improved, in particular by aligning it with the text for alternative test methods for aerosol dispensers. It was also emphasized that the pressure of the gases contained in such receptacles could far exceed the pressure of the contents of aerosol dispensers.

110. The representative of ECMA said that he would present a new proposal taking into account the comments made, but emphasized that a complete alignment of the texts with those for aerosol dispensers would not be possible, as the pressure test methods were

different. Aerosol dispensers could be subjected to pressure tests when empty, prior to filling, while the pressure tests for gas receptacles were done when the receptacles were full.

## **2. References to ISO standards in section 6.2.2**

*Document:* ST/SG/AC.10/C.3/2012/40 (ISO)

*Informal document:* INF.54 (CGA)

111. The amendments related to the introduction of references to ISO 10961:2010 and ISO 11114-1:2012 proposed by ISO and CGA were adopted (see annex II).

## **3 Transition provisions for ISO standards referred to in section 6.2.2**

*Document:* ST/SG/AC.10/C.3/2012/52 (ISO)

112. Proposal 1 for introduction in the Guiding Principles of a system for providing a period of transition when new standards replace existing referenced standards for UN pressure receptacles, their service equipment and periodic inspection and test was adopted with some editorial changes (see annex IV).

113. Proposals 2 (a) and 2 (b) for addition of references to ISO 9809-1:2010, ISO 9809-2 :2010 and ISO 9809-3 :2010, as well as proposal 2 (c) for the application of proposal 1 in the text of section 6.2.2 were also adopted with minor editorial changes (see annex II).

## **B. Portable tanks**

*Document:* ST/SG/AC.10/C.3/2012/2 (Spain)

*Informal document:* INF.3 (Spain)

114. After discussion, the expert from Spain said that he would submit a revised proposal.

## **C. Marking and labelling**

### **Description of labels, placards, symbols, markings and marks**

*Document:* ST/SG/AC.10/C.3/2012/32 (United Kingdom)

115. All proposals, except proposal 7, contained in this document were adopted with some modifications (see annex II).

116. The Sub-Committee agreed that a transitional period would be necessary to allow the running down of existing stocks when the existing provisions have been amended. The proposed date of 1 January 2017 appeared to be acceptable to the industry. The expert from the United Kingdom will provide the list of paragraphs requiring a transitional period at the next session.

## **D. Miscellaneous**

### **1. Description of pollutants**

*Informal document:* INF.30 (IPPIC)

117. The Sub-Committee noted that IPPIC had submitted a proposal on the documentation on marine pollutants to the IMO Sub-Committee on Dangerous Goods,

Solid Cargoes and Containers (DSC Sub-Committee). Interested experts may wish to submit their comments to IPPIC.

## **2. Exemptions for machinery and equipment permanently fixed to vehicles**

*Document:* ST/SG/AC.10/C.3/2012/9 (Switzerland)

*Informal document:* INF.47 (Switzerland)

118. The Sub-Committee adopted the amendment to special provision 363, paragraph (c), as proposed in informal document INF.47 (see annex II). The expert from Switzerland said that he would submit a proposal aiming at clarifying the meaning of special provision 363 as regards vehicles.

## **3. Amendments to section 5.5.3**

*Document:* ST/SG/AC.10/C.3/2012/53 (Germany)

119. The Sub-Committee adopted the proposal with some modifications (see annex II).

## **4. Corrections to the Model Regulations**

*Informal document:* INF.66 (Secretariat)

120. The Sub-Committee adopted the corrections proposed by the secretariat, to be published as ST/SG/AC.10/1/Rev.17/Corr.2.

## **5. Lamps containing small quantities of dangerous goods**

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

121. Most experts agreed that work on this issue should be pursued. Some aspects of the proposal should be clarified, notably the question of waste lamps since the industry argue that used lamps no longer contain dangerous goods, and the question of lamps containing radioactive material, since such lamps should not be exempted if they are not exempted under the Class 7 provisions as agreed by IAEA. The expert from the United Kingdom welcomed further explanations from other experts intersessionally as regards lamps containing dangerous goods so that a further developed proposal could be submitted at a later session.

# **VII. Electronic data interchange for documentation purposes (agenda item 6)**

*Documents:* ST/SG/AC.10/C.3/2012/47 (United Kingdom)

ST/SG/AC.10/C.3/2012/55 (IATA)

*Informal document:* INF.61 (IATA)

122. The Sub-Committee noted with interest the information provided by IATA on proof of concept on the use of electronic data transmission in lieu of a paper dangerous goods transport document.

123. For the suggestion by the United Kingdom that there is still potential value in developing a primary key identifier system at global level for multi-modal use, views diverged. Some experts supported this idea bearing in mind work currently under way not only at IATA level but also for land transport in the RID/ADR/ADN Joint Meeting. Others felt that the development of electronic data interchange (EDI) should be encouraged, but that the role of the Sub-Committee was to define the elements of safety and security

information that had to be communicated through EDI rather than the technical details. Representatives of the industry in particular were reluctant to this suggestion since they considered that many systems had already been developed and they preferred flexibility in their use.

124. Following the discussion, the Chairman encouraged all delegations involved in developing systems to keep the Sub-Committee informed.

## **VIII. Cooperation with the International Atomic Energy Agency (agenda item 7)**

### **A. Harmonization with the IAEA Regulations for the Safe Transport of Radioactive Material**

*Document:* ST/SG/AC.10/C.3/2012/58 (Secretariat)

*Informal documents:* INF.12 (Secretariat)  
INF.29 and Add.1 (Secretariat)  
INF.25 and Add.1 and 2 (fortieth session) (IAEA)  
INF.65 (IAEA)

125. The Sub-Committee adopted the texts proposed by the secretariat, with a few amendments.

126. The Sub-Committee noted that the UPU authorized radioactive material to be transported by post in excepted packages, but prohibited other dangerous goods, apart from Category B infectious substances. Consequently, paragraphs 580 and 581 of the IAEA Regulations should exclude radioactive material in excepted packages that posed subsidiary risks, and not only uranium hexafluoride, which constituted a particular case.

127. The Sub-Committee also noted that paragraphs 584 to 586 of the IAEA Regulations were not in conformity with the corresponding provisions of the UN Model Regulations, and should not be replicated, as they would unjustifiably change the provisions applicable to the transport of all dangerous goods. IAEA was invited to consider aligning those paragraphs with the corresponding provisions of the Model Regulations.

128. The Sub-Committee noted that the texts in question would be verified by the IAEA Transport Safety Standards Committee (TRANSSC), which could, if necessary, propose further corrections before the next session.

129. The Sub-Committee noted in particular that IAEA planned to set up a working group to align the texts relating to certificates of approval.

130. The UNECE and IAEA secretariats would cooperate to settle certain issues raised and prepare corrections if necessary. A new consolidated list of amendments should be prepared for the next session for final checking and adoption.

131. The secretariat drew attention to certain problems with the French text, identified in informal document INF.29/Add.1, and invited French-speaking delegations to bring them to the attention of the competent authorities for Class 7, as they also affected the French version of the IAEA Regulations.



## B. Uranium hexafluoride samples

*Document:* ST/SG/AC.10/C.3/2012/80, paras 79-88  
(Report on the last session)

*Informal documents:* INF.52 (IAEA)  
INF.71/Rev.1 (United States of America)

132. The proposal by the IAEA secretariat was discussed by a working group which produced a new proposal as laid down in informal document INF.71/Rev.1.

133. When considering this proposal, the Sub-Committee agreed that:

- (a) These samples should be classified in Class 7 with a subsidiary risk of Class 8;
- (b) The words: "RADIOACTIVE MATERIAL, EXCEPTED PACKAGE" should be deleted from the proper shipping name.

134. Some delegations said it would be difficult to understand that this material was of Class 7 if the Class 7 hazard was not communicated.

135. Other issues were raised, in particular regarding special provision 369. It was agreed to request the secretariat to review this special provision and to present a new text that would be placed between square brackets (see informal document INF.73).

*Informal document:* INF.73 (Secretariat)

136. The Sub-Committee agreed that the proposal prepared by the secretariat should be transmitted to TRANSSC for comments and feedback.

137. The Sub-Committee noted the remark by the secretariat that, for radioactive material, classification as excepted packages is already an exception to the general rules. Classification of excepted packages of radioactive material possessing corrosive properties in Class 7 is another exception to the rule for classification of excepted packages containing radioactive material possessing other hazardous properties. This exception to an exception makes it difficult to determine precisely which provisions are applicable. As a consequence it was necessary to list precisely all possible relevant provisions that should apply.

138. Some experts found that the text of this special provision had become more complicated. Others considered that this listing was necessary at this stage so that both experts of the Sub-Committee and those of TRANSSC could check that nothing had been forgotten. They considered that this listing could be useful for users as well. After checking it would be possible to consider how to simplify the drafting of this special provision.

## C. Special provision 172

*Document:* ST/SG/AC.10/C.3/2012/54 (IATA)

*Informal document:* INF.69 (IATA)

139. The Sub-Committee adopted the proposed amendments to special provision 172, but kept the words "and as marked on the package" in paragraph (d) between square brackets for confirmation at the next session.

## **IX. Global harmonization of transport of dangerous goods regulations with the Model Regulations (agenda item 8)**

### **Application of Chapter 3.4 provisions to 1.4S articles**

*Document:* ST/SG/AC.10/C.3/2012/7 (Switzerland)

*Informal document:* INF.15 (SAAMI)

140. These documents were submitted in relation to the ICAO decision not to apply the provisions of Chapter 3.4 to the transport of 1.4S articles. Following this decision, it was realized that packages marked with the surface transport limited quantity mark and labelled with a hazard label might be impeded in air and surface transport as a matter of carrier and enforcement policy. Some experts suggested returning with a proposal for a clarification of Chapter 3.4.

141. The expert from Switzerland and the representative of SAAMI were invited to bring their concerns to the attention of ICAO and to seek clarification on what kind of marking/labelling is accepted for air transport of such packages.

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

### **A. Packagings**

*Document:* ST/SG/AC.10/C.3/2012/42 (United Kingdom)

142. The proposed amendments to section 4.1 of the Guiding Principles were adopted with some modifications (see annex III).

### **B. Tank instruction assignments for UN portable tanks**

*Document:* ST/SG/AC.10/C.3/2012/43 (United Kingdom)

143. In general, experts of the Sub-Committee considered that there was a contradiction between the recommendation to use a rationalized approach for the assignment of tank instructions and the recommendation to use cost benefit analysis for any change to such assignment for particular substances. They recognized that changes had economic effects on the industry, but they felt that their role was to issue recommendations for safe transport based on a rationalized scientific basis and on lessons drawn from accidents. The economic effects on the industry are normally addressed through transitional measures but these have to be considered on the case by case basis depending on the safety considerations that have justified the changes.

144. The expert from the United Kingdom noted the comments and said she would reconsider her proposal.

### **C. Guiding Principles for use with the seventeenth revised edition of the Recommendations on the Transport of Dangerous Goods**

*Informal document:* INF.45 (Secretariat)

145. The Sub-Committee expressed its gratitude to the secretariat for the preparation of this new version of the Guiding Principles and requested that it be made available on the UNECE website.

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

### **A. Corrosivity criteria**

#### **1. Work of the joint TDG/GHS correspondence group on corrosivity classification**

*Informal documents:* INF.40 and INF.41 (United Kingdom)

146. The Sub-Committee noted the report on the work of the correspondence group and a contribution from the expert from the United Kingdom to that work concerning approaches for classifying corrosive mixtures under Class 8 which would be useful to the work of the Joint TDG/GHS Working Group on Corrosivity Criteria that would meet on 4 July during the session of the GHS Sub-Committee.

#### **2. Assignment of categories/packing groups**

*Informal documents:* INF.27 (CEFIC)  
INF.53 (United Kingdom)

147. The representative of CEFIC said that she would withdraw her informal document if the suggestions made by the expert from the United Kingdom in INF.53 were taken forward by the Sub-Committee.

148. Nevertheless, delegations had divergent views on this proposal. It was recalled that for the supply sector the pictogram and the hazard statement required for sub-categories 1A, 1B and 1C are the same, but the transport conditions for Packing Group I are much more stringent than for packing groups II and III. Therefore some experts supported the United Kingdom's suggestion in INF.53.

149. Other experts did not agree with this suggestion as they felt that the current correlations between each category and each packing group ensured harmonization with the GHS and this should be the basis for any further development. It was pointed out that this industry should provide more data evidence of the proposed correlation on the basis of currently classified substances. Furthermore it was unclear how substances would be assigned to Packing Group I, notably in case of self-classification under n.o.s entries.

150. These issues should be further discussed by the TDG/GHS Working Group.

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

*Document:* ST/SG/AC.10/C.3/2012/46 (France)

*Informal documents:* INF.4 (France)  
INF.76 and Add.1 (Report of the Working Group)

151. The consideration of these documents was entrusted to a working group. The Sub-Committee endorsed the conclusions of the working group as follows:

- (a) Competent authorities, testing laboratories and other organizations engaged in research and analysis should continue to share data and experience;

- (b) Competent authorities should consult producers of water-reactive materials and testing laboratories in order to identify water-reactive materials other than those evolving flammable gases;
- (c) The issues identified are:
  - (i) Identifying improvements to the current N.5 test method as it applies to evolution of flammable gases; and
  - (ii) Establishing relevant criteria and test methods for the evolution of toxic gases.
- (d) Intersessional cooperation should continue so that substantive proposals may be submitted during the next biennium; a progress report should be submitted at the next session.

### **C. Test and criteria for oxidizing solids**

*Informal document:* INF.43 (Germany)

152. Bearing in mind the difficulties for carrying out the O.1 Test because of the carcinogenicity and oral acute toxicity of the reference substance (potassium bromate), and because the visual determination of the burning time is highly subjective, the Sub-Committee agreed that the proposed alternative test should be considered for inclusion in the Manual of Tests and Criteria.

153. Most experts considered that the alternative test should replace the current test O.1 after a transitional period. To determine this transitional period, test laboratories should provide information on when they should be able to replace the current test apparatuses.

154. It was suggested that ammonium nitrate should be excluded from the examples of results because of its explosive properties. Similarly, some experts felt that the negative results for potassium nitrate and sodium nitrate (prills) should be excluded since experience had also to be taken into account in classification.

155. The observer from Chile expressed concern at the possible exclusion of larger particle size samples used for the test. He underlined that, to prevent the oxidizing effect, the industry was developing large particle size products, less oxidizing, and that this practice should be encouraged to improve safety.

156. The expert from Belgium requested that test results be made available. It was noted that they are available at the website of the Federal Institute for Materials Research and Testing (BAM).

157. A member of the secretariat underlined that, should the Sub-Committee wish to include this new test in the Manual of Tests and Criteria at its next session, it would also be necessary to prepare a proposal for all consequential amendments to the UN Model Regulations and the GHS.

### **D. Known experience**

158. No document had been submitted under this agenda sub-item.

## **E. Miscellaneous**

### **Editorial corrections to Chapter 2.3 of the GHS**

*Informal document:* INF.11 (Sweden)

159. The Sub-Committee noted the editorial corrections proposed but felt that these should be discussed by the GHS Sub-Committee.

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

### **Tribute to Mr. N. Reader (United Kingdom) and to Ms. O. Lefèvre Pestel (France)**

160. The Sub-Committee, informed that Mr. N. Reader was retiring soon, paid tribute to his long-standing contribution to the work of the Sub-Committee in the United Kingdom delegation.

161. The Sub-Committee also noted that Ms. O. Lefèvre Pestel was moving to another position in the French administration, and paid tribute to her active contribution not only to the work of the Sub-Committee as member of the French delegation, but also to her commitment to multimodal harmonization and to implementation of the UN Model Regulations through the International Maritime Dangerous Goods Code as Chair at the IMO DSC Sub-Committee.

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

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

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