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# Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

# **Report of the Sub-Committee of Experts on the Transport of Dangerous Goods on its forty-eighth session**

held in Geneva from 30 November to 9 December 2015

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# I. Attendance

1. The Sub-Committee of Experts on the Transport of Dangerous Goods held its fortyeighth session from 30 November to 9 December 2015 with Mr. D. Pfund (United States of America) as Chair and Mr. C. Pfauvadel (France) as Vice-Chair.

2. Experts from the following countries took part in the session: Argentina, Australia, Australia, Belgium, Canada, China, Finland, France, Germany, Italy, Japan, Kenya, Netherlands, Norway, Poland, Portugal, Republic of Korea, Russian Federation, South Africa, Spain, Sweden, Switzerland, United Kingdom and United States of America.

3. Under rule 72 of the rules of procedure of the Economic and Social Council, observers from the following countries also took part: Qatar, Romania, Slovakia.

4. Representatives of the European Union and the Intergovernmental Organization for International Carriage by Rail (OTIF) also attended.

5. Representatives of the Food and Agriculture Organization (FAO), the International Atomic Energy Agency (IAEA), the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO) and the World Health Organization (WHO) were also present.

6. Representatives of the following non-governmental organizations took part in the discussion on items of concern to those organizations: Association of Hazmat Shippers, Inc. (AHS); 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); Institute of Makers of Explosives (IME); International Air Transport Association (IATA); International Association of the Soap, Detergent and Maintenance Products Industry (AISE); 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 Fishmeal and Fish Oil Organization (IFFO); International Fibre Drum Institute (IFDI); International Organization for Standardisation (ISO), International Organization of Motor Vehicle Manufacturers (OICA); International Paint and Printing Ink Council (IPPIC); International Petroleum Industry Environmental Conservation Association (IPIECA); 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).

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

Documents:	ST/SG/AC.10/C.3/95 (Provisional agenda) ST/SG/AC.10/C.3/95/Add.1 (List of documents)
Informal documents:	INF.1, INF.2/Rev.1 (List of documents) INF.18 (Provisional timetable) INF.51 (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.63). Document

ST/SG/AC.10/C.3/2015/58 which was not included in informal document INF.2/Rev.1 was placed under sub-item 6 (e) and discussed under agenda item 7.

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

8. Following preliminary consideration in the plenary session, most issues related to this agenda item were referred to the Working Group on Explosives, which met from 30 November to 4 December, with Mr. E. de Jong (Netherlands) as Chair.

9. Document ST/SG/AC.10/C.3/2015/50 and informal documents INF.46 and INF.47, to be considered under sub-item 10 (g) on the Use of the Manual of Tests and Criteria in the context of the GHS, together with informal document INF.34 on the classification of ammonium nitrate based fertilizers under item 3 and informal document INF.36 on GHS precautionary statement P502 under agenda sub-item 10 (h), were also referred to the Working Group on Explosives.

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

Informal document: INF.53 (Chairman of the Working Group)

10. The Sub-Committee endorsed the conclusions of the Working Group as follows or with the following comments:

# A. Tests and criteria for flash compositions

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

Document: ST/SG/AC.10/C.3/2015/34 (Japan)

11. The Sub-Committee accepted the proposals 1 - 8 in the annex to the document with some modifications but the adopted texts were placed between square brackets for confirmation at the next session (see annex I).

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

# Expansion of Test Series 6(d) for certain explosives of Division 1.4 other than those of compatibility group S

Document:

ST/SG/AC.10/C.3/2015/40 (Canada)

12. No conclusion was reached by the Working group on Explosives. The expert from Canada said he would consider some revision to acceptance criteria of 6(a) and 6(b) to address the issue and return with a new proposal in the next twelve months.

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

Use of Minimum Burning Pressure test as a replacement for the 8(c) Koenen Test and 8(d) Vented Pipe Test

Document:	ST/SG/AC.10/C.3/2015/41 (Canada)
Informal document:	INF.22 (Spain)

13. The expert from Canada said that he planned to establish an informal correspondence group to amend the current proposal. Members of the Working Group on Explosives should expect an invitation to participate in this informal correspondence group sometime in January, since he intended to submit a revised proposal at the next session.

# D. Review of packing instructions for explosives

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

## E. Globally harmonized standard for explosives security markings

Informal document: INF.19 (IME)

15. The Sub-Committee noted that discussions on the development of a harmonized standard were taking place between IME and the European Commission of the European Union.

### F. Classification of fireworks

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

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

17. No documents were submitted. However the question of assignment of special provision 347 to additional entries, including UN No. 0349, was discussed under sub-item 2 (i).

# H. Review of Chapter 2.1 of the GHS

Documents:	ST/SG/AC.10/C.3/94, paras 21-22 and annex 1
	ST/SG/AC.10/C.4/58, paras 8-10

Informal document: INF.32 (Sweden)

18. The Sub-Committee noted that work on this issue was being carried out by a correspondence group led by Sweden. There was wide support within the Working Group on Explosives for the four basic principles identified in INF.32. In regards the three work streams identified by the leader of the correspondence group, feedback was still pending (due 10 January 2016). Once collected and reviewed, the goal was to complete the work in this biennium. The Working Group on Explosives identified some work complementary to the three work streams that should also be addressed, although priority is to resolve the work streams. Intersessionally, the chairman of the Working Group on Explosives would better define this additional work and the review was expected to progress during the current, and possibly the next, biennium.

# I. Miscellaneous

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

#### Document:

#### ST/SG/AC.10/C.3/2015/42 (Canada)

19. The Sub-Committee noted that there was little support within the Working Group on Explosives for expanding the application of the 6 (d) test to ten additional entries, except for the N.O.S. entries (UN Nos 0349, 0384 and 0481) and UN No. 0367 (Fuzes, detonating). The expert from Canada said that he would develop a new proposal accordingly for the next session and that he might take on the issue of clarifying the meaning of "hazardous effects", after consultation with interested delegations. He was invited to address the question of transitional provisions.

### 2. Classification by analogy

#### Document:

## ST/SG/AC.10/C.3/2015/43 (SAAMI)

20. The Sub-Committee noted the conclusions of the Working Group that the concept of classification by analogy needed to be explicitly mentioned in the Model Regulations. Also, some form of guidance similar to that provided in sections 1 and 2 of the proposed appendix was supported, although it should be somewhat less detailed. There was very little support for a checklist of parameters described in Section 3 of the proposed appendix, and it was felt that this should be left to Competent Authorities. It was noted that, in section 1.1.2 of the Manual, a reference to "testing authority" should really be "competent authority".

21. The Sub-Committee noted that, to take account of these conclusions, SAAMI would further refine the proposal for the next session and that IME would submit a proposal to correct the "testing authority" reference.

#### 3. Application of security provisions to Explosives, N.O.S.

Document:	ST/SG/AC.10/C.3/2015/47 (United Kingdom)
Informal documents:	INF.17 (United Kingdom) INF.25 (Sweden) INF.44 (Italy)

22. For the issue of the application of security provisions to N.O.S. entries for explosives, as described in paragraph 13 of the report, most experts who took the floor said that they preferred the option 2 proposed. However some delegations feared that defining "high consequence" dangerous goods as "security sensitive" dangerous goods might complicate the current situation in the sense that competent authorities might have to be consulted frequently including for classes other than Class 1. They would prefer an intermediate solution that would retain the current system of identifying in the Model Regulations those dangerous goods which are deemed to be high-consequence dangerous goods, but would also, for example, associate a quantity factor in the case of explosives of Division 1.4. The expert from the United Kingdom said that he intended to submit a new proposal for the next session.

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

# A. Assignment of BK codes

Document:ST/SG/AC.10/C.3/2015/31 (Germany)Informal documents:INF.3 and INF.11 (Germany)

23. The Sub-Committee agreed to allocate the code BK2 to UN numbers 1363, 1386, 1398, 1435, 2071, 2216, 2217 and 2793 (see annex II).

24. The Sub-Committee noted that UN numbers 2071 and 2216 were subject to regulation only for air and sea transport, and that the IMDG Code did not allow the code BK1 for bulk transport. It was therefore considered unnecessary to allocate the code BK1 to those UN numbers.

# **B.** Transport of toxic metal powders

Document:

ST/SG/AC.10/C.3/2015/32 (France)

25. The Sub-Committee agreed to introduce a new N.O.S. entry for flammable inorganic toxic solids, but with some amendments to the proposal (see annex II).

# C. Introduction of a new entry for Phosphorothioic acid, O-[(cyanophenylmethylene)azanyl]O,O-diethyl ester ("Phoxim") in nbutanol

Document:

ST/SG/AC.10/C.3/2015/35 (CEFIC)

26. The proposal to add a new substance to the table in 2.4.2.3.2.3 and a related remark (10) was adopted (see annex II).

# D. New organic peroxide formulations

Document:	ST/SG/AC.10/C.3/2015/37 (CEFIC)
Informal document:	INF.50 (CEFIC)

27. The proposal made in informal document INF.50, to systematically permit transport of organic peroxides in packagings of OP8 where transport in IBCs or tanks is permitted in accordance with instructions IBC520 or T23, providing that the control and emergency temperatures specified in the instructions are complied with, gave rise to a heated debate, with some delegations considering that all formulations for which carriage in packaging was permitted should be mentioned by name in the table in 2.5.3.2.4.

28. After the discussion, the proposals in ST/SG/AC.10/C.3/2015/37 to add substances to instruction IBC520, together with the amendments to 2.5.3.2.4 and 2.4.2.3.2.3 proposed in informal document INF.50, were put to the vote and adopted (see annex II).

# E. New special provision for the transport of consumer and pharmaceutical products containing ethyl alcohol

Document: ST/SG/AC.10/C.3/2015/45 (AHS)

29. The members of the Sub-Committee did not support the proposal made by AHS. The AHS representative therefore withdrew it, stating that he would reconsider the issue.

# F. Classification procedures related to sodium-ion batteries

#### Informal document: INF.6 (United Kingdom)

30. Several delegations expressed interest in the work on classification of the batteries to keep pace with technological progress. However, they highlighted the need to involve industry representatives. The United Kingdom expert would submit a more detailed document at the next session and it should be possible to decide whether to expand the current mandate of the informal working group on lithium batteries to include the issue or to set up a specific working group.

# G. Use of the terms "boiling point" and "initial boiling point"

#### Informal document:

#### INF.27 (Germany)

31. Several delegations pointed out that the term "boiling point" was used in the context of pure substances or a zeotropic mixtures, and that the terms "initial boiling point" and "boiling range" pertained to zeotropic mixtures. They therefore did not consider it appropriate to systematically replace the term "boiling point" by "initial boiling point".

32. The expert from Germany said that she would inform the group that had raised the issue of the discussion and might return to the matter if seemed necessary to make adaptations according to the context.

# H. Fishmeal, stabilized (UN No. 2216), Class 9

Informal document:

INF.9 (IFFO)

33. The Sub-Committee took note of the results of tests carried out to develop new stabilization methods to reduce ethoxyquin concentrations in fishmeal. Further results would be presented at the next session, possibly with a proposal for amendments to the current provisions if the results were conclusive.

## I. Amendment of packing instruction P902

Informal document:

INF.29 (COSTHA)

34. Several experts were not in favour of the proposed amendment because they considered that the reference to transport from the place of manufacture to an assembly plant also covered the intermediate stops that were essential for transport operations, including multimodal transport operations. The representative of COSTHA noted that that might follow from certain regulations, such as ADR, but that the competent authorities in some countries did not necessarily have the same understanding of those regulations. He

said that he would prepare a formal proposal for the next session with a view to resolving the issue.

# J. Clarification relating to the test method for readily combustible solids (Test N.1)

Informal document: INF.42 (Germany)

35. Several delegations shared the view of the expert from Germany that it would be useful to clarify the points mentioned in her informal document. Additional points requiring clarification, such as the definition of friability and the type of wetting solution to be used, were raised. Interested delegations were invited to study the document and to transmit their comments to the expert from Germany, who would prepare a formal proposal for the next session.

36. It was also pointed out that the GHS Sub-Committee was currently working on nanomaterials. Although that work focused mainly on health hazards, it also appeared to indicate that the presence of nanomaterials had an impact on physical hazards, such as the flammability of solids. It was thus suggested that the issue should be addressed during the joint meeting of the two Sub-Committees (see also paras 130 and 138 in this report).

# K. Additional criteria for polymerizing substances

Document:	ST/SG/AC.10/C.3/2015/36 (CEFIC)
Informal document:	INF.55 (CEFIC)

37. After an initial discussion in plenary meeting, the representative of CEFIC drafted a revised proposal for the insertion, in appendix 6 of the Manual of Tests and Criteria, of a new section 5.2 that would allow certain substances to be excluded, by means of screening procedures, from the procedure to be followed for polymerizing substances of Division 4.1. That proposal, contained in informal document INF.55, was adopted (see annex I).

# L. Allowance for dangerous in excepted quantities in chemical kits and first aid kits, special provision 251

Document:	ST/SG/AC.10/C.3/2015/53 (IATA)
Informal documents:	INF.45, INF.57 and INF.63 (IATA)

38. The proposal of amendment to special provision 251 in informal document INF.63 and consequential amendments to the dangerous goods list and packing instruction P901 were adopted (see annex II).

# M. Information regarding on-going work on possible revision of the UN classification of ammonium nitrate based fertilizers

Informal document:

INF.34 (Sweden)

39. The chairman of the Working Group on Explosives reported orally on the outcome of the discussion of this document by the Working Group on Explosives. The Working Group had expressed a lot of interest for the idea of a flowchart that would clarify the procedure for classification of ammonium nitrate based fertilizers and had provided several

comments that the expert from Sweden might wish to take into consideration should an official proposal be prepared on this subject.

# N. Classification of crude oil

Informal documents:	INF.38 (United States of America)
	INF.62 (Canada)

40. The Sub-Committee noted that the experts from Canada and the United States of America were currently working on issues relating to the classification of crude oil, in the context of follow-up to the various accidents that happened in the recent years in North America during rail transport of crude oil (see ST/SG/AC.10/C.3/2014/49 and informal document INF.37 submitted at the 46<sup>th</sup> session). They were considering in particular the relevance of the current criteria for classes 2 and 3 when applied to complex mixtures of gases and liquids such as crude oil, and of the test methods.

41. Questioned by the expert from the United States about the current definition of gases, a member of the secretariat said that when the Committee discussed the definition of Class 2 in the 1950s, it could not find a solution to reconcile the system of regulations applicable in North America with those for rail transport in Europe (RID and SMGS). As a consequence, two methods of differentiation between a liquefied gas exerting a low pressure at a certain temperature and a flammable liquid were introduced as two diverging set of criteria for Class 2:

(a) The European criteria: substances with a critical temperature lower than 50 °C or which exerts, at 50 °C, a vapour pressure greater than  $3 \text{ kg/cm}^2$ ;

(b) The US criteria (two different criteria): (i) substance exerting an absolute pressure exceeding 2.8 kg/cm<sup>2</sup> at 21.1 °C or 7.3 kg/cm<sup>2</sup> at 54.4 °C; or (ii) substance exerting a Reid vapour pressure exceeding 2.8 kg/cm<sup>2</sup> at 37.8 °C.

The second European criterion still remains in the current Model Regulations, but the US criteria were changed to a single one (entirely gaseous at 20 °C and a standard pressure of 101.3 kPa) in the 7<sup>th</sup> revised edition published in 1991.

42. Several delegations expressed interest for this work but felt that any proposal for change to the current definitions and criteria would have to be carefully considered, as it did not seem obvious to them that different classification criteria would have prevented the said accidents. They felt that it was also important to draw lessons from the accidents and to analyse the current tank-wagon construction requirements and operational requirements applicable to rail transport of crude oil.

43. Interested delegations were invited to liaise with the expert from Canada and to provide information as deemed appropriate. Depending on the outcome of this information sharing, it would be decided whether it is relevant to develop terms of reference for a possible informal working group.

# V. Electric storage systems (agenda item 4)

# A. Testing of lithium batteries

Report of the informal working group on lithium batteries

*Informal document:* INF.54 (France, PRBA, RECHARGE and COSTHA)

44. The Sub-Committee considered the various questions raised by the working group to allow it to continue its work.

45. In respect of paragraph 3.2, the Sub-Committee was of the opinion that the proposed wording of the special provision on hybrid batteries (lithium-metal and lithium-ion) should be improved and the issue was referred to a lunchtime working group (see paras 60-62 under agenda sub-item 4 (d))

46. Paragraph 3.3 (Definition of equipment) had been discussed under agenda sub-item 4 (d) (see paragraphs 55 and 56).

47. Some delegations provided comments on the model test report presented in table 2. The informal working group would continue its work on the subject.

48. The Sub-Committee took note of the tables summarizing the test requirements for rechargeable cells and batteries and for primary cells and batteries presented in appendix 1. The working group intended to improve the tables and, once that was done, the Sub-Committee could discuss whether the tables should replace the requirements or be used in addition to illustrate them.

49. The delegations concerned were asked to provide the information requested on the other issues mentioned in table 1 of the report.

50. The Sub-Committee noted that the group was to meet again in Bordeaux from 30 March to 1 April 2016. It hoped that the report would be submitted in good time to allow the delegations to familiarize themselves with it in advance, and that the proposed amendments to the Model Regulations and the Manual of Tests and Criteria would be submitted as official documents.

# **B.** Large batteries

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

## C. Thermal batteries

52. As no document has been submitted under this sub-item, no discussion took place on this subject

### **D.** Miscellaneous

#### 1. Use of overpacks within the framework of Special Provision 188 (f)

Document:

ST/SG/AC.10/C.3/2015/29 (Germany)

53. The Sub-Committee adopted the proposal on the marking of overpacks when used within the framework of Special Provision 188 (f) (see annex II).

54. Some delegations would have liked the amendment to refer to 5.1.2 in order to avoid having to amend the text of Special Provision 188, should 5.1.2 be amended. However, it was preferred at the present stage, for the sake of user-friendliness, to reproduce the relevant parts of 5.1.2 in the special provision. The Sub-Committee further noted that certain other special provisions of Chapter 3.3 (for example 376 and 377) contained requirements for marking packages that did not reproduce the specifications of 5.1.2.

# 2. Review of the meaning of "equipment" for the purposes of Special Provision 188 and Packing Instruction P903

Document:ST/SG/AC.10/C.3/2015/52 (IATA)Informal document:INF.37 (PRBA)

55. Several delegations were in favour of clarifying the definition of the term "equipment" in the context of the provisions of the Model Regulations applicable to lithium batteries. However, some delegations did not consider the proposed solution satisfactory, fearing that it might lead to unexpected problems. The informal working group on lithium batteries had expressed its opinion on that issue (INF.37). It also seemed that it would be difficult to develop a definition that could be used in the context of both transport conditions and tests.

56. The Sub-Committee agreed to a proposal by the representative of IATA that the amendments put forward in document ST/SG/AC.10/C.3/2015/52 should be adopted provisionally (in square brackets) (see annex II). The informal working group on lithium batteries should consider the issue to the extent it may have an impact on tests and the provisional amendments could be reviewed if it was able to produce a consensus solution.

### 3. Provisions for lithium batteries installed in closed cargo transport units

Document:

# ST/SG/AC.10/C.3/2015/56 (PRBA)

57. The Sub-Committee noted that some cargo transport units were fitted for the installation of lithium battery systems used to store electrical energy produced, for instance, by wind turbines or to provide electrical power. Such units could also contain cooling systems or extinguishers that were themselves considered to be dangerous goods. The document was intended to clarify transport conditions for such units.

58. Several delegations requested more time to study the issue, and the representative of PRBA withdrew the proposal, saying that he would take the comments made into account when he returned to the matter.

# 4. Harmonization of the energy rating under Special Provision 188 for rechargeable lithium metal polymer and lithium-ion batteries

#### Informal document: INF.10 (RECHARGE and PRBA)

59. Following the information provided by the expert from the Republic of Korea at the previous session (informal document INF.13/Rev.1 from the forty-seventh session) on the introduction of new types of lithium batteries (rechargeable lithium metal/polymer batteries) onto the market, the Sub-Committee took note of the proposed amendments to Special Provision 188 suggested by RECHARGE and PRBA. However, opinions on the issue diverged, with some experts suggesting that new UN numbers should be allocated to the new types of battery and others that it was preferable not to complicate the current provisions because, in their view, the new types were still lithium metal batteries and covered by the existing provisions. RECHARGE and PRBA were asked to take account of the comments if they wished to follow up their proposal.

### 5. Classification of hybrid lithium ion and lithium metal batteries

Informal document: INF.61 (France)

60. The question of classification of hybrid batteries which had been raised in paragraph 3.2 of the report of the informal working group on lithium batteries (INF.54) (see para. 45 above) was referred to a lunchtime working group. When discussing the report of this group

(INF.61), the Sub-Committee agreed to adopt provisionally the amendments proposed (new special provision 387 applicable to UN Nos 3090, 3091, 3480, 3481, and new 2.9.4 (f)) limited to hybrid batteries with primary lithium metal cells and rechargeable lithium ion cells (see annex II).

61. The value of the total lithium content of all lithium metal cells, and the total capacity of all lithium ion cells were left between brackets for further discussion.

62. Two options for the drafting of 2.9.4 (f) were placed between square brackets for decision at the next session. The first one would imply that the paragraph would apply only to batteries not designed to be externally charged and would leave the possibility to manufacture batteries designed to be externally charged, which would then have to be tested differently as rechargeable batteries. The second one would imply that all hybrid batteries of that type would have to be designed not to be externally charged.

#### 6. Transport of damaged/defective lithium batteries

Document:	ST/SG/AC.10/C.3/2015/51 (OICA)
Informal documents:	INF.23 (RECHARGE) INF.60 (France)

63. Several delegations supported the principle of developing appropriate provisions for the transport of damaged or defective batteries, but the discussions showed that many related issues had to be clarified. The Sub-Committee agreed that the mandate of the informal working group on lithium batteries should be extended to deal with such issues, and the following terms of reference were agreed.

(a) Evaluate and quantify the effects of thermal runaway or other reactions (heat, mechanical stresses, gas emissions...) of damaged lithium batteries and possible mitigations measures of these effects (packaging design and testing, transport conditions...)

(b) Consider prevention measures to avoid such reactions such as deactivation, cooling..., and their scope of applicability.

(c) Consider different cases of battery technologies, types and sizes and study suitable prevention and mitigation mesures as appropriate.

# VI. Transport of gases (agenda item 5)

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

#### Informal document: INF.31 (CGA)

64. The representative of CGA informed the Sub-Committee of the current status of the discussions within the informal working group on global recognition of UN and non-UN pressure receptacles, notably of the steps taken by CGA and EIGA to start a petition for rule-making in the United States of America, aiming at authorizing the import of UN and non-UN pressure receptacles in the United States and of the intention of EIGA to submit amendment proposals to the RID/ADR/ADN Joint Meeting to facilitate the acceptance of US DOT cylinders in Europe.

# **B.** Miscellaneous

#### 1. Insertion of references to new or revised ISO standards

Document:	ST/SG/AC.10/C.3/2015/39 (ISO)
Informal document:	INF.49 (Canada)

65. The Sub-Committee adopted the first two proposals, concerning ISO standards 11118:2015 and 11120:2015 (see annex II).

66. With regard to the third proposal, concerning pressure drums (ISO standard 21172-1:2015), the expert from Canada wished to amend the ISO proposal so as to continue to use, for corrosive gases, drums with dished ends convex to pressure, which was prohibited by section 6.3.3.4 of the standard but which was previously authorized. He noted that that type of drum had been used since 1936 at least in North America for chlorine and sulphur dioxide without any problems.

67. The representative of ISO said that the experts of ISO/TC58/SC.3 had decided, after careful consideration, to rule out the use of those drums for corrosive substances; they had done so on the basis of technical arguments that were well founded from a safety standpoint, in order to promote the use of new products affording the level of safety currently appropriate. Other delegates noted safety had been demonstrated with 80 years of experience with no known safety problems.

68. The proposal by Canada was put to the vote and was rejected, while the proposal by ISO for a reference to ISO standard 21172-1:2015 was adopted.

#### 2. Provisions for closures of pressure receptacles

Informal documents:	INF.4 (EIGA)
	INF.35 (CGA)

69. The Sub-Committee took note of the work of the RID/ADR/ADN Joint Meeting on the matter and of the proposal by EIGA to insert provisions in the UN Model Regulations. The Sub-Committee noted that, as had been emphasized by CGA, the issue was complex, notably because of the different approaches taken in different parts of the world to assessing conformity.

70. The representatives of EIGA and CGA said that they would work together in order to submit, at the next or subsequent session, a proposal that took account of the different practices; interested delegations were invited to contact the representative of EIGA.

#### 3. Transport of gas tanks for motor vehicles

#### Informal document: INF.12 (Germany)

71. The document was submitted in follow-up to the discussions at the previous session (ST/SG/AC.10/C.3/94, paras. 63-65). Provisions on the transport of gas tanks for motor vehicles had been inserted in RID/ADR/ADN, but, since the issue also affected maritime transport, notably in the context of maintaining and servicing tanks for vehicles used on islands, the expert from Germany wished appropriate provisions to be inserted in the Model Regulations too.

72. The representatives of OICA and COSTHA underlined the importance of such provisions for the automotive industry.

73. The expert from Germany took note of the many comments from different delegations on her proposal and, after providing clarifications, said that she would submit an official proposal to the next session.

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

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

Document:	ST/SG/AC.10/C.3/2015/33 (United Kingdom)
Informal document:	INF.5 (United Kingdom)

74. These documents were referred to a lunchtime working group. There are still a number of challenging issues to address including scope. However consensus was reached in the use of the term "dangerous goods" instead of "dangerous substances" and that for now lithium batteries should be excluded from the scope. The expert from the United Kingdom said that he would prepare a revised proposed for the next session to taken account of the outcome of the working group discussions. He invited interested delegations to provide him with their comments in writing by February 2016.

# **B.** Marking and labelling

## 1. Reduced dimensions of labels

Document:

ST/SG/AC.10/C.3/2015/30 (Germany)

75. The proposed amendment to 5.2.2.2.1.1.3 was adopted (see annex II).

### 2. Revision of paragraph 5.2.2.2.2

Document:

ST/SG/AC.10/C.3/2015/46 (Russian Federation)

76. The proposed amendment to the presentation of danger labels in the Model Regulations was adopted (see annex II).

# C. Packagings

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

Informal document: INF.13 (Germany)

77. The proposals by Germany followed up on the discussions on document ST/SG/AC.10/C.3/2015/15, which had been submitted at the previous session (see ST/SG/AC.10/C.3/94, para. 71). Opinions on the subject remained divided. Some delegations considered that the measures proposed would have no significant impact on improving safety and favoured retaining the current provisions. Other delegations were of the opinion than more harmonized requirements would improve the comparability of the test results.

78. The expert from Germany said that the temperature of the water during the test had a significant effect on the test results and that the packagings and IBCs would withstand the

test more easily if cold water were used. She would submit a new proposal to the next session and provide test results to demonstrate the problem.

# 2. References to conductivity in some provisions and packing instructions in the Model Regulations

#### Informal document: INF.14 (Russian Federation)

79. The expert from the Russian Federation said that the terms "conductive" and "nonconductive" used in some provisions had sometimes been poorly translated in the Russian version because it was not specified whether they concerned electrical or thermal conductivity. He therefore suggested using the terms "electrically conductive" or "electrically non-conductive" and making a few adjustments. He was asked to submit an official proposal for the next session.

#### 3. Packagings for infectious substances

Document:	ST/SG/AC.10/C.3/2015/48 (Norway)
Informal documents:	INF.30 (Germany) INF.59 (Norway)

80. The Sub-Committee supported the principle of revising the packing provisions in order to overcome the problems encountered in practice with waste contaminated with infectious substances, for example in the recent context of the treatment of solid wastes generated in relation to the outbreak of the Ebola virus in Africa. The documents were referred to a working group but no consensus could be found on the proposals made.

81. The expert from Germany will submit a new proposal at the next session to take account of the debates within the working group.

## **D.** Portable tanks

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

# E. Other miscellaneous proposals

#### Polymerizing substances - information on emergency and control temperatures

Document:

#### ST/SG/AC.10/C.3/2015/38 (Germany)

83. The Sub-Committee supported the proposal to require the emergency and control temperatures to be indicated in the transport document for polymerizing substances which require temperature control during transport, by analogy with the provisions applicable to the carriage of organic peroxides and self-reactive substances which require temperature control during transport. It seemed that the amendment had inadvertently not been included when prescriptions on polymerizing substances had been introduced.

84. It was pointed out that other aspects, such as the wording in section 7.1.5 on temperature control during transport, also seemed to have been forgotten. The expert from Germany said that she would prepare a proposal to cover those aspects for the next session. The Sub-Committee decided to adopt the proposal submitted in document ST/SG/AC.10/C.3/2015/38, but to place the text in brackets in case the proposals to be submitted at the next session also had an effect on the provisions concerning documentation (see annex II).

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

# A. Issues related to the work of the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods (RID/ADR/ADN Joint Meeting)

## 1. Report of the RID/ADR/ADN Joint Meeting on its autumn 2015 session

Informal document: INF.7 (Secretariat)

85. The Sub-Committee took note of the relevant paragraphs in the report of the Joint Meeting and the related comments, where appropriate.

86. Concerning paragraph 7, which dealt with an editorial issue, it seemed logical, in paragraph 2 of packing instruction P906, to replace "device" by "article" in the English text, for the sake of consistency with the title and final sentence of the section of 2.9.2 that dealt with substances and articles which, in the event of fire, might form dioxins. It was thus decided to introduce an amendment, but to place it in brackets in order to check that there were no unexpected consequences (see annex II).

87. In respect of paragraph 12, the Sub-Committee considered that the French text of special provision 310 should be corrected.

88. Under paragraph 14, several experts pointed out that IBCs were not intended to contain articles, were not tested for that purpose and could therefore not be permitted for use as salvage packagings.

89. Concerning paragraphs 48 and 49 (marking of some cargo transport units containing gas containers or expandable polymeric beads), the Sub-Committee noted that RID, ADR, ADN and the IMDG Code contained provisions that were not included in the Model Regulations. As RID, ADR and ADN accepted marking in conformity with the IMDG Code, it did not seem essential to plan for harmonization. Delegations were invited to consider the issue.

90. In respect of paragraph 59 (marking of cargo transport units when transporting dangerous goods in limited quantities), the Chair stated that the marking was intended to apply to packages; the issue of placarding had been deliberately left to the discretion of the organizations dealing with the specific modes of transport.

#### 2. Proposals for corrections to the Model Regulations

Informal document: INF.8 (Secretariat)

91. The secretariat was asked to prepare an official proposal in respect of the first correction (deletion of the words "and mixtures" in the title of 2.4.2.5).

92 Proposal 3 was accepted (see annex III).

93. Proposals 2, 4 and 5 were also agreed to but would, as a matter of principle, be placed in brackets because they had been proposed in an informal document and needed to be checked and confirmed at the next session (see annex III).

#### 3. Special provisions concerning transport of vehicles

#### Document:

#### ST/SG/AC.10/C.3/2015/58 (France)

94. The expert from France said that the proposal followed on from the discussions of the RID/ADR/ADN Joint Meeting at its autumn 2015 session (also see informal document INF.7, para. 34). There had been a proposal to merge special provisions 312 and 385 but the Joint Meeting had asked for the subject to be discussed first by the Sub-Committee.

95. Most of the delegations were in favour of the proposal, with a majority preferring the second option.

96. Opinions were divided on the second proposal, on special provision 363, and the proposed new combined special provision, as the delegations had not had time to examine the proposal; furthermore, in the meantime, IMO had adopted different texts in paragraph 4 of special provision 962 of the IMDG Code.

97. The expert from France said that the second proposal would not affect RID, ADR and ADN because the relevant provisions would still be adapted to the context of land transport. He would draw up a new proposal to take account of the texts adopted by IMO.

98. The expert from France would thus submit a new document at the next session, covering the two proposals and modified in line with the discussions.

## 4. Definitions of "Reference steel" and "Mild steel" in section 1.2.1

Documents:	ST/SG/AC.10/C.3/2015/44 (Romania) (for
	reference steel)
	ST/SG/AC.10/C.3/2015/55 (Romania) (for mild
	steel)

99. The Sub-Committee noted that in RID and ADR, the definitions of "mild steel" and of "reference steel" were located in section 1.2.1 and in Chapter 6.7, while in the Model Regulations they were located only in Chapter 6.7. Some delegations were reluctant to move these definitions to section 1.2.1 because the definition of reference steel is not the same when applied to IBCs, and the term "mild steel" is used in other chapters, e.g. Chapter 6.4 and experts for Class 7 should be consulted to check whether the definition in Chapter 6.7 was also appropriate in the context of Chapter 6.4.

100. After discussion it was decided not to proceed with the proposed changes at this stage.

#### 5. Placarding and marking of bulk containers

#### Informal document: INF.16 (Secretariat)

101. A member of the secretariat explained that the introduction into RID, ADR and ADN of provisions concerning flexible bulk containers had highlighted a gap in the Model Regulations, as there was no indication whether a flexible bulk container should be labelled as a package or be subject to the provisions of Chapter 5.3 on placarding and marking.

102. The Sub-Committee considered that it was indeed an oversight and that bulk containers that did not meet the definition of cargo transport units, including flexible bulk containers, should be subject to the provisions of Chapter 5.3. The expert from the United States of America said that he would draw up an appropriate proposed amendment to Chapter 5.3.

# B. Issues related to the work of the ICAO Dangerous Goods Panel

## 1. Classification of infected animals

#### Informal document: INF.39 (ICAO)

103. The representative of ICAO drew the Sub-Committee's attention to draft amendments to the ICAO Technical Instructions that would differ from paragraph 2.6.3.6.2, restricting its scope to animals intentionally infected for the purpose of propagating pathogens.

104. Several delegations expressed concern because the paragraph was not related to paragraph 2.6.3.6.1 and was intended particularly to cover cases of animals that die from epidemics, such as foot-and-mouth disease or avian influenza. The proposed amendment would lead to uncertainty in the classification of dead animals.

105. The WHO representative pointed out that the current paragraph, which mentioned the term "animal material", went against the classification principles given in 2.6.3.2. Animal material contaminated by Category A pathogens in cultures only should actually be assigned to Category B. It was difficult to understand why an organ taken from a person infected with avian influenza was assigned to Category B but an organ taken from an animal infected with the same disease would be assigned to Category A.

106. The representative of ICAO would cooperate with the representatives of WHO and FAO in drawing up a new proposal that would take the comments into account.

#### 2. Information on decisions taken by the ICAO Dangerous Goods Panel

#### Informal document:

INF.40 (ICAO)

107. The Sub-Committee took note of the information provided concerning the outcome of the twenty-fifth meeting of the ICAO Dangerous Goods Panel held in Montreal from 13-30 October 2015, in particular the additional restrictions on the transport by air of lithium batteries, and the revised training material that will be made available on the ICAO public website for public consultation.

### 3. Incident involving Catecholborane

#### Informal document:

#### INF.41 (ICAO)

108. The Sub-Committee noted that, following an incident involving this substance which had been classified by the shipper under UN No. 2924, flammable liquid, corrosive, n.o.s., ICAO had decided to prohibit its transport by air except with approval by the appropriate State authorities, pending consideration of the issue by this Sub-Committee.

109. The representative of ICCA said that the substance had probably been wrongly classified. From the chemical structure, it could be expected that the substance would release hydrogen in contact with water or humidity. Due to slow decomposition borane, which is pyrophoric, might be formed, which could also lead to pressure build-up. Several structurally borane compounds are known to present low thermal stability. Subject to further checking, he felt that this substance probably presents hazards of divisions 4.1 (as self-reactive) and 4.3, and that special transport conditions should apply, including probably temperature control and pressure-proof receptacles.

110. The representative of ICAO said that the issue would be raised formally at the next session if deemed necessary.

# C. Issues related to the work of the IMO Sub-Committee on the Carriage of Containers and Cargo and of its Editorial and Technical Group

#### Informal document: INF.56 (IMO)

111. The Sub-Committee noted that the IMO Editorial and Technical Group met from 21 to 25 September 2015 and finalized amendment 38-16 to the IMDG Code. It also noted the information provided concerning special provisions 961, 962 and 972 in relation to lithium batteries installed in vehicles, engines or machinery.

112. The Sub-Committee confirmed that special packing provision z should have been assigned to UN No. 1058 in Packing Instruction P200 when special packing provision ra was deleted, and asked the secretariat to include this correction in an erratum.

113. The Sub-Committee also noted the issuance of revised guidance on the continued use of existing IMO type portable tank and road tank vehicles (CCC.1/Circ.3), of contact information on designated national competent authorities (MSC.1/Circ.1517), and of a circular letter on implementation testing, inspection and approval relating to the International Convention for Safe Containers (CSC), 1972 (CSC.1/Circ.150).

# **D.** Issues related to the work of the UNECE Working Party on the Transport of Dangerous Goods (WP.15)

Informal document: INF.52 (Secretariat)

114. The Sub-Committee noted the problem of terminology concerning Packing Instruction P200 (3)(e). On a proposal by the representative of ISO, the Sub-Committee agreed that the text of P 200 (3)(e) should be corrected (see annex III). The text of P206 might also need to be looked at.

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

#### Informal document:

INF.33 (IAEA)

115. The Sub-Committee noted the outcome of the thirty-first session of the IAEA Transport Safety Standards Committee (TRANSSC 26), held in Vienna from 2 to 6 November 2015. It took particular note of the decision to publish a revised version of the IAEA Regulations for the Safe Transport of Radioactive Material in 2018, which should lead to increased cooperation in the near future to ensure that the new IAEA provisions were reflected in the UN Model Regulations.

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

116. 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

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

# B. Tests and criteria for oxidizing liquids and solids

Document:

ST/SG/AC.10/C.3/2015/49 (France)

118. The Sub-Committee took note of the progress report and thanked the expert from France for leading this work on determining new grades of cellulose suitable for use in tests on oxidizing liquids and solids.

# C. Classification criteria for flammable gases

### 1. Work of the informal working group on classification criteria for flammable gases

Informal documents:	INF.15 (Belgium, Japan)
	INF.24 (Japan, Belgium)
	INF.43 (CEFIC)

119. The Sub-Committee agreed to recommend to the GHS Sub-Committee the adoption of option 3 described in the report INF.15 consisting in dividing current category 1 in sub-categories 1A and 1B.

### 2. Other proposals for classification of flammable gases

Informal document:

INF.26 (Germany, EIGA, CEFIC)

120. The expert from Germany proposed to use the cut-off limit as proposed by the informal working group between category 1 and category 2 by restricting category 1 to subcategory 1A proposed by the working group, and including in category 2 the proposed subcategory 1B. She also proposed to include in division 2.1 of the Model Regulations on the Transport of Dangerous Goods both categories 1 and 2 which would imply amending the criteria for Division 2.1. This led to long discussions since several delegations were opposed to changes that would affect current transport classification. This was further discussed by a coffee-break working group where it was agreed that this could be further debated but that it should not lead to changes to the current transport classification of gases and gas mixtures in Division 2.1.

# D. Expert judgement/weight of evidence

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

# E. Corrosivity criteria

#### **Revision of Chapter 2.8**

Informal documents:

INF.20 (CEFIC and AISE) INF.48 (Canada)

122. The Sub-Committee thanked the authors of these documents for their efforts to address the question of the revision of Chapter 2.8, but as the proposals had been submitted rather late and as informal documents, most delegations had not had time to study them in detail. It was recalled that the criteria of the Model Regulations for Class 8 were harmonized with those of the GHS for corrosivity, but the main problem was for the assignment of packing groups within Class 8 since this had to be done in accordance with the test methods specified in Chapter 2.8, which could be particularly difficult to the industry in the case of mixtures.

123. Nevertheless, these documents provided an opportunity for delegations to discuss how to further proceed, and it was agreed that CEFIC would prepare an official proposal for the next session taking into account bridging principles, additivity and extreme pH values as alternative methods for classification. CEFIC would also provide, in an informal document, relevant data relating to mixtures containing well-known corrosive substances for which information is available in order to illustrate the adequacy of the packing group assignment methods proposed.

# F. Updating of references to OECD Guidelines

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

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

Document:	ST/SG/AC.10/C.3/2015/50 (Chairman of the Working Group on Explosives)
Background document:	ST/SG/AC.10/C.3/2014/61 (Secretariat)
Informal documents:	INF.8 and Add.1-5 (45th session) (Secretariat)

125. These documents had been referred to the Working Group on Explosives for consideration (see also paragraph 9 of this report). The Sub-Committee noted the conclusions as follows:

(a) For references to substances and mixtures, rather than adjusting all references in the Manual, a note should be added to paragraph 1.1.1 of the Manual explaining that, where the term "substance" appears, it includes substances and mixtures, unless specified otherwise;

(b) For the expansion of references to transport to include other sectors, the Chairman of the Working Group should distribute a marked up draft so that it can be determined whether each reference to transport is necessary or if no sector mention would be appropriate;

(c) Since there was no consensus, the issue of replacement of transport specific classification flowcharts in the Manual should be considered further to try to determine an acceptable solution;

(d) For the proposal to add guidance about how to address changes in physical state, in general, the text previously suggested by the secretariat was acceptable but some clarification was needed and should be addressed by the Working Group.

(e) References to the class, for example Explosives "of Class 1": The Working Group on Explosives agreed that references to the class (i.e., "of Class 1) were unnecessary (i.e., "Explosives" is descriptive enough).

(f) The recommendations concerning references to packing group and/or category in Part III of the Manual was accepted.

126. The recommendations made by the expert from Canada in INF.46 and INF.47 were accepted for further review.

## H. Miscellaneous

# 1. Prohibition in transport of non-transport GHS pictograms when not in a complete GHS label

#### *Document*: ST/SG/AC.10/C.3/2015/54 (DGAC)

127. The Sub-Committee agreed to introduce a new NOTE at the end of 5.1.1.2 on the basis of the DGAC proposal which was slightly amended, consistently with paragraph 1.4.10.4.4 of the GHS (see annex II).

#### 2. Safety data sheets (SDS) and transport

#### Informal document: INF.28 (COSTHA)

128. The Sub-Committee noted that, although the GHS was not supposed to apply to articles, the industry was often requested to supply SDS when offering certain articles containing dangerous substances for shipment, e.g. vehicles, safety devices, batteries, fire-extinguishers etc. In such cases it was not clear how to fill SDS, since section 14 of SDS had to apply to the article as offered for shipment while the rest of the SDS would have to apply to the substance contained in the article.

129. The Sub-Committee recognized that this was a problem and that it would be useful that both sub-committees develop joint guidance in this respect. A member of the secretariat suggested that the list of articles subject to the Model regulations on the Transport of Dangerous Goods be submitted to the GHS Sub-Committee to seek their advice as to whether or not the GHS, including SDS, was deemed to apply.

#### 3. Nanomaterials

#### Informal document: INF.58 (France)

130. The expert from France explained the problems encountered in trying to determine the physical hazards of nanomaterials when using the usual test methods of the Manual and explained that this issue would be submitted to the GHS Sub-Committee working group dealing with nanomaterials.

# 4. GHS labels in transport on outer packagings not subject to the transport of dangerous goods regulations

#### Document:

#### ST/SG/AC.10/C.3/2015/57 (DGAC)

131. The Sub-Committee noted that DGAC had submitted this document to both subcommittees to draw attention to the practical problems caused during transport when authorities require the GHS labelling of transport packages (i.e. outer packagings of combination packagings) that contain chemicals which are not subject to transport of dangerous goods regulations.

#### 5. GHS precautionary statement P502

Document: Informal document:

INF.36 (France)

ST/SG/AC.10/C.4/2015/9 (Sweden)

132. The Sub-Committee noted that the Working Group found the options proposed in -/C.4/2015/9 to be very difficult to comprehend and it recommended that a separate precautionary statement for explosives be developed, as originally proposed by Sweden in informal document INF.18 submitted to the 25<sup>th</sup> session of the GHS Sub-Committee.

# XII. Other business (agenda item 11)

# A. Economic and Social Council resolution 2015/7

#### Informal document: INF.21 (Secretariat)

133. The Sub-Committee noted that the text of resolution 2015/7 of 8 June 2015 was now available in all United Nations languages. It also noted with great satisfaction that, pursuant to this resolution, the 19<sup>th</sup> revised edition of the Recommendations on the Transport of Dangerous Goods had already been issued in English, French, Spanish; the sixth revised edition of the Manual of Tests and Criteria had been published in English, French and Spanish; and the sixth revised edition of the GHS had been published in English, French, Chinese and Russian, Spanish. The remaining linguistic versions should be available by the end of the year.

# **B.** Evaluation of the global and regional impact of the United Nations Economic Commission for Europe regulations and United Nations recommendations on the transport of dangerous goods

134. Referring to the information provided at the last session (ST/SG/AC.10/C.3/94, para. 105–106) a member of the secretariat thanked delegations who had kindly responded to the questionnaire which had been circulated. He said that the secretariat had received very little feedback from governmental experts of non-UNECE countries especially from Asia and Africa and he said that the secretariat would still be interested in receiving answers from them. The questionnaire is available at <u>https://www.surveymonkey.com/r/UNGovs</u>.

135. He also recalled that, in accordance with resolution 2015/7, the secretariat would have to seek information on competent authorities in countries that have not yet provided the requested information.

# C. Condolences

136. The Sub-Committee was informed that Mr. Lance Grainger (United Kingdom), who had chaired the Sub-Committee and the Committee from 1988 to 1996 had passed away in early October 2015. The Chairman invited the expert from the United Kingdom to transmit the Sub-Committee's most sincere condolences to Mr. Grainger's spouse and family.

# **D.** Dates of the next session

137. The Sub-Committee noted that the next session had been scheduled from 27 June to 6 July 2016, but that since then it had been decided that 6 July 2016 (Eid Al-Fitr) would be an official holiday in the United Nations, which meant that no secretariat services would be available on that day which was the one which had been scheduled for a joint session for both sub-committees. Rooms could be made available for informal meetings but no interpretation would be provided. As a consequence the arrangements for the next session would have to be discussed with the GHS Sub-Committee.

## E. Joint session of the TDG and GHS sub-committees

138. A joint session of the TDG and GHS sub-committees was held during the first halfday of the session of the twenty-sixth session of the GHS Sub-Committee (9 December afternoon). The report is contained in the report of the GHS Sub-Committee (ST/SG/AC.10/C.4/60, para 8 and annex II). Due to lack of time, some issues could not be discussed and were addressed by the GHS Sub-Committee separately (ST/SG/AC.10/C.4/60, para 9-12).

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

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