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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 Globally Harmonized  
System of Classification and Labelling of Chemicals

REPORT OF THE SUB-COMMITTEE OF EXPERTS  
ON ITS THIRTEENTH SESSION  
(Geneva, 9-10 July 2007)

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## REPORT

### I. ATTENDANCE

1. The Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals held its thirteenth session in Geneva from 9 to 10 July 2007 with Ms. Kim Headrick (Canada) as Chairperson, and Mr. Roque Puiatti (Brazil) and Mr. Gregory Moore (Sweden) as Vice-Chairpersons.
2. Experts from the following countries took part in the session: Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Denmark, France, Germany, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Poland, Portugal, Qatar, Senegal, South Africa, Spain, Sweden, 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 took part: Cambodia, Jamaica, Kenya, Lao People's Democratic Republic, Nigeria, Republic of Korea, Romania, Russian Federation, Slovenia, Switzerland and Thailand.
4. Representatives of the United Nations Institute for Training and Research (UNITAR) and of the following specialized agencies were present: International Labour Office (ILO) and World Health Organization (WHO).
5. The following intergovernmental organizations were represented: European Commission (EC) and Organization for Economic Co-operation and Development (OECD).
6. Representatives of the following non-governmental organizations took part in the discussion of items of concern to their organizations: Compressed Gas Association (CGA), Croplife International, European Chemical Industry Council (CEFIC), European Industrial Gases Association (EIGA), European Liquefied Petroleum Gas Association (AEGPL), Federation of European Aerosol Associations (FEA), Industrial Federation of Paints and Coats of Mercosul (IFPCM), International Association of the Soap, Detergent and Maintenance Products Industry (AISE), International Confederation of Plastics Packaging Manufacturers (ICPP), International Council of Chemical Associations (ICCA), International Organization for Standardization (ISO), International Paint and Printing Ink Council (IPPIC), International Petroleum Industry Environmental Conservation Association (IPIECA), Responsible Container Management Association of Southern Africa (RCMASA), Sporting Arms and Ammunition Manufacturers' Institute (SAAMI) and Soap and Detergent Association (SDA).

### II. ADOPTION OF THE AGENDA (agenda item 1)

Documents: ST/SG/AC.10/C.4/25 (Secretariat)  
ST/SG/AC.10/C.4/25/Add.1 (Secretariat)  
Informal document: UN/SCEGHS/13/INF.1 (Secretariat)

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.19).

### **III. UPDATING OF THE SECOND REVISED EDITION OF THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS) (agenda item 2)**

#### **A. Physical hazards**

##### *Substances having explosive properties*

Document: ST/SG/AC.10/C.4/2007/1 (Germany)

Informal document: UN/SCEGHS/13/INF.15 (Secretariat)

8. The Sub-Committee took note of the recommendation made by the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee) to amend the text to include a reference to Test Series 1, as proposed in paragraph 3 of the annex to the report of the TDG Sub-Committee's Working Group on Explosives (UN/SCEGHS/13/INF.15, Annex 1).

9. At the request of the expert from the United States of America, the final decision was deferred to the next session on the grounds that some consultations at national level might be necessary before agreeing on the proposed changes. The Sub-Committee will consider this proposal again at its fourteenth session on the basis of an official document to be prepared by the secretariat.

10. Regarding hazard communication, and following the recommendations made by the TDG Sub-Committee, the Sub-Committee noted the offer from the expert from Germany to consider further developing the proposal, taking into account the comments made by the TDG Sub-Committee's Working Group on Explosives.

##### *Desensitized explosives*

Informal documents: UN/SCEGHS/13/INF.7 (Germany)

UN/SCEGHS/13/INF.15 (Secretariat)

UN/SCEGHS/13/INF.19 (Germany, United States of America and Norway)

15. The Sub-Committee took note of the two possible options identified by the TDG Sub-Committee's Working Group on Explosives to address the classification and labelling of desensitized explosives under the GHS.

16. Following the recommendation made by the TDG Sub-Committee, the Sub-Committee accepted the proposal by the expert from Germany to host an informal working group with the following terms of reference (circulated as information document UN/SCEGHS/13/INF.19):

- (a) Scope: Classification of desensitized explosives.
- (b) Tasks:

- (i) To develop classification criteria for desensitized explosives, to be included in Part 2 of the GHS; and
- (ii) To develop a proposal for suitable hazard communication elements for desensitized explosives.

17. The expert from Germany offered to lead the working group and said that an invitation for participation would be sent to the heads of delegation of both Sub-Committees.

***Amendments to Chapter 2.1 of the GHS (1.4S explosives)***

Document: ST/SG/AC.10/C.4/2007/3 (SAAMI)

Informal document: UN/SCEGHS/13/INF.15 (Secretariat)

18. The Sub-Committee endorsed the decision of the TDG Sub-Committee to defer the decision on the amendments proposed in the document from SAAMI, to allow for consultations at national level. Bearing in mind that the issue raised would be discussed again by the TDG Sub-Committee in July 2008, it was agreed that the proposal would be placed on the agenda for the fifteenth session of the Sub-Committee.

***Additional tests for the classification of 1.4S explosives and proposal for the review of UN Test Series 7***

Informal document: UN/SCEGHS/13/INF.15 (Secretariat)

19. The Sub-Committee took note of the decision of the TDG Sub-Committee to provisionally adopt the amendments to Test Series 6 of the Manual of Tests and Criteria as proposed by Canada in document ST/SG/AC.10/C.3/2007/29. Experts were invited to make the necessary consultations to be in a position to take a decision when this issue is discussed again.

20. The Sub-Committee endorsed the recommendation of the TDG Sub-Committee to entrust the review of UN Test Series 7, as proposed by the United Kingdom in document ST/SG/AC.10/C.3/2007/30, to an inter-sessional informal working group lead by the expert from the United Kingdom. Experts interested in participating in the work of this group were invited to contact the expert from the United Kingdom.

***Flammable liquids***

Document: ST/SG/AC.10/C.4/2007/2 (Germany)

Informal document: UN/SCEGHS/13/INF.15 (Secretariat)

21. The Sub-Committee endorsed the decision of the TDG Sub-Committee regarding the adoption of proposals 2, 3 (as amended to take into account the deletion of the list of British Standards) and 4 as contained in the document submitted by the expert from Germany (see annex).

22. There was no consensus on proposal 1, intended to amend the test temperatures given in the sustained combustibility test to make them applicable to flammable liquids of Category 3 only. The expert from Germany said that he might present a revised proposal for consideration

by the Sub-Committee in the future.

***Flammable aerosols***

Document: ST/SG/AC.10/C.4/2007/4 (FEA)

23. The proposal to introduce a new note in 2.3.2.2 was adopted with some editorial amendments (see annex).

***Report of the first meeting of the informal Working Group on chemically unstable gases***

Informal documents: UN/SCEGHS/13/INF.5 (Germany)  
UN/SCEGHS/13/INF.15 (Secretariat)

24. The expert from Germany informed the Sub-Committee about the results of the first meeting of the informal Working Group on chemically unstable gases.

25. She said that even though her initial proposal for a test method for the classification of chemically unstable gases was based on ISO Standards 10156:1999 and 10156-2:2006, she was now considering the possibility of following a similar approach to that used in the American Standard NFPA 704.

26. She concluded that, depending on that decision, she would submit a proposal to the Sub-Committee at its next session or she would convene a second meeting of the informal Working Group to continue the work on this issue. The second meeting of the informal Working Group would be hosted by EIGA at a date to be determined.

**B. Health hazards**

***Strong versus weak sensitizers***

27. The representative of the OECD updated the Sub-Committee about progress on the development of classification criteria for strong and weak sensitizers. She said that the expert group had reached a general agreement on having one general category for “skin sensitizers”, with the same criteria as the existing classification criteria in the GHS, and a new sub-category (to be used by some competent authorities only) for “strong sensitizers”. However, she said that the expert group had not yet decided on how both categories would be accommodated into the hazard class “skin sensitizers” in the GHS.

28. She announced that the final proposal would be submitted as an information document to the Sub-Committee at its fifteenth session (July 2008) provided that the expert group was able to reach consensus on the draft proposal by March 2008. Otherwise, the agreed proposal would be submitted for consideration by the Sub-Committee at its December 2008 session.

## **C. Environmental hazards**

### ***Terrestrial hazards***

29. Regarding the work of the expert group for the development of classification criteria and labelling for terrestrial hazards, the representative of the OECD said that an expert group, led by Spain, intended to meet in October 2007 to consider documents relating to existing classification of hazards to the terrestrial environment; available options for hazard communication; new information on test methods, and available data and information available to industry.

### ***Ozone Depleting Chemicals***

30. In relation to the development of a new hazard class in the GHS for ozone depleting chemicals, the representative of the OECD said that, at its 16th meeting, the OECD Task Force on harmonization of classification and labelling had reached consensus on the classification criteria for this new hazard class but not on its hazard communication elements. She added that, if the group managed to achieve an agreement on the hazard communication elements by the end of August 2007, the proposal could be submitted to the Sub-Committee at its fourteenth session (December 2007). Otherwise, the proposal might be finalized by the OECD Joint Meeting in February 2008 and be submitted for consideration by the Sub-Committee at its fifteenth session (July 2008).

31. The observer from Thailand welcomed the work on the development of a hazard class for ozone depleting chemicals within the GHS, as he thought that hazard communication would help preventing the illegal trade of ozone depleting chemicals.

### ***Proposal for the revision of Chapter 4.1 of the GHS (Hazards to the aquatic environment)***

32. Regarding the work on aquatic hazards to accommodate chronic toxicity into the GHS, the representative of the OECD said that the Task Force on harmonization of classification and labelling had agreed on a proposal at its 16th meeting. She said that the proposal would be sent to the OECD Joint Meeting as soon as possible and, if endorsed, it would be submitted to the fourteenth session of the Sub-Committee (December 2007) for consideration.

### ***Validation of the protocol on transformation/dissolution of metals and metal compounds in aqueous media***

33. The representative of OECD informed the Sub-Committee that the first phase of the work was expected to be approved by the OECD Task Force on harmonization of classification and labelling in 2007-2008 and the second phase by April 2008. She added that, on condition that these deadlines are met, an information document would be submitted to the Sub-Committee at its July 2008 session, prior to the submission of an official document at the December 2008 session.

**D. Annexes**

***Revision of Annexes 1, 2 and 3 of the GHS***

Informal document: UN/SCEGHS/13/INF.8 (United Kingdom)

34. The Sub-Committee took note of the outcome of the discussions of the correspondence group on the scope and intended audiences of annexes 1, 2 and 3 of the GHS, as reflected in paragraphs 9 and 10 of the document.

35. Regarding the future areas of work proposed in paragraphs 11 to 14, the Sub-Committee concluded that priority should be given to the work on the development of combined hazard statements and combined precautionary statements as well as to proposals to eliminate current redundancies in some precautionary statements. Only if enough resources were available, could work on the general improvement of annexes 1, 2 and 3 be carried out simultaneously.

**E. Miscellaneous**

***Draft corrections to the second revised edition of the GHS***

Informal document: UN/SCEGHS/13/INF.17 (Secretariat)

36. The Sub-Committee noted that some corrections to the second revised edition of the GHS had to be made and would be issued in a corrigendum.

**IV. HAZARD COMMUNICATION ISSUES (agenda item 3)**

**Labelling of very small packagings**

Document: ST/SG/AC.10/C.4/2007/5 (CEFIC)

37. The representative of CEFIC provided a brief update on the progress of the work of the correspondence group on the labelling of very small packagings. She said that the group was working to reach a common agreement on what could be considered to be a very small packaging as well as on other issues such as the definition of a minimum size for pictograms and the order of precedence of the hazard information on the label.

38. She said that the correspondence group intended to submit a proposal to the Sub-Committee at its fourteenth session.



## **V. DEVELOPMENT OF GUIDANCE ON THE APPLICATION OF GHS CRITERIA (agenda item 4)**

### **Application of GHS criteria to substances of unknown and variable composition, complex reaction products or biological materials (UVCBs) in specific petroleum substances**

Informal document: UN/SCEGHS/13/INF.4 (IPIECA)

39. The representative of IPIECA informed the Sub-Committee about the establishment of a global Task Force on the application of GHS criteria to petroleum substances. She said that for the forthcoming sessions of the Sub-Committee, IPIECA intended to submit an overview of issues that could result in divergent classification of petroleum substances in December 2007 and draft harmonized guidance in July 2008. A document containing the proposed final guidance would be submitted in December 2008 for consideration by the Sub-Committee.

### **Pilot programme for the classification of mixtures according to GHS criteria**

Informal document: UN/SCEGHS/13/INF.6 (United States of America)

40. The expert from the United States presented the results of the pilot programme for the classification of mixtures according to GHS criteria. She explained that the classification exercise had revealed some inconsistencies in the application of GHS criteria for the classification of mixtures, regarding for instance:

- (a) Application of bridging principles;
- (b) Interpretation of paragraph 3.1.3.2;
- (c) Differences between the tables and the decision logics in Chapter 3.3 (Serious eye damage/eye irritation); and
- (d) Division of categories throughout chapters 3.5 (Mutagenicity), 3.6 (Carcinogenicity) and 3.7 (Reproductive toxicity).

41. She informed the Sub-Committee that the informal working group would continue to explore possible ways to solve the difficulties encountered with a view to presenting its recommendations to the Sub-Committee in July 2008.

## **VI. IMPLEMENTATION OF THE GHS (agenda item 5)**

### **A. Reports from Governments or organizations**

Informal documents: UN/SCEGHS/13/INF.10 (South Africa)  
UN/SCEGHS/13/INF.12 (Brazil)  
UN/SCEGHS/13/INF.14 (Australia)  
UN/SCEGHS/13/INF.16 (European Commission)

42. The expert from South Africa informed the Sub-Committee, among other things, about the expected publication of a draft regulation on the GHS, the promulgation of which was foreseen by the end of 2007, with a five-year transitional period.

43. She noted that one of the GHS implementation issues in South Africa was related to the format of the GHS itself, given that it had not been drafted as a legal text and therefore, it was not possible to transpose the text directly into national legislation. As a consequence, national legislation based on the GHS would require extensive revision every two years. The expert from South Africa requested the Sub-Committee to consider reformatting the GHS document following the model of the Model Regulations on the Transport of Dangerous Goods.

44. The expert from Brazil briefly presented the different activities related to GHS implementation which had been undertaken in his country in the first half of 2007, underlining in particular the translation of the first revised edition of the GHS into Portuguese.

45. He also pointed out that the President of the Republic of Brazil had signed on 26 June 2007 a presidential decree formalizing the GHS working group (“GT-GHS-Brazil”).

46. The expert from Japan said that the GHS classification manual, the technical guidance and the classification results which were currently only available in Japanese, were being translated into English and that they would be made available on the website of the Ministry of Economy, Trade and Industry (METI).

47. The expert from Australia suggested that now that a number of countries had started to effectively implement the GHS, the Sub-Committee should focus on the different implementation issues identified by countries or organizations. He invited the Sub-Committee to provide feedback on how to improve the exchange of experiences related to the implementation of the GHS as a way to find solutions to the difficulties encountered during the implementation process.

48. He said that he intended to prepare a document for the fourteenth session of the Sub-Committee as a basis for discussion.

49. The Sub-Committee welcomed the idea of the expert from Australia and encouraged all those who might be interested in participating in the development of such a proposal, to contact the expert from Australia.

50. The representative of the European Commission informed the Sub-Committee about the adoption, on 27 June 2007, of a “Proposal for a Regulation of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, and amending Directive 67/548/EEC and Regulation (EC) No 1907/2006”. She noted that this proposal would align the European Union system of classification, labelling and packaging of substances and mixtures with the GHS and that the text would be soon made available on the website of the Commission in 23 languages.

51. She said that the proposed deadline for reclassification of substances after entry into force of this regulation was 1 December 2010 and for mixtures, 1 June 2015.

## **Implementation through transport of dangerous goods regulations**

Informal document: UN/SCEGHS/13/INF.2 (Secretariat)

52. The Sub-Committee took note of the progress on the implementation of the GHS through transport of dangerous goods regulations.

53. A member of the secretariat explained that following the decision of the International Maritime Organization (IMO) to regulate the carriage of dangerous goods in packaged form which meet the GHS hazard to the aquatic environment criteria of categories Acute 1 and Chronic 1 and 2, the implementation of GHS criteria through inland transport regulations (RID/ADR/ADN) would be discussed again in September 2007 for possible application as from 1 January 2009. For carriage of bulk liquids in inland navigation tank-vessels, proposals of amendments to ADN had been made, which would cover three groups: Acute 1 or Chronic 1; Chronic 2 or Chronic 3; Acute 2 or Acute 3.

## **Report on the preparation for GHS implementation by OECD and non-OECD countries**

Informal documents: UN/SCEGHS/13/INF.3 (OECD)  
UN/SCEGHS/13/INF.13 (UNITAR)

54. The representative of OECD said that 27 out of 30 OECD member countries had answered the questionnaire and pointed out that the responses from the European Commission were also relevant for eight of its member countries which are not OECD countries.

55. She explained that the report showed that most countries intended to implement the GHS in four main sectors (Transport, Industry/Workplace, Consumer products and Agriculture/pesticides) through legally binding instruments.

56. For the transport sector, the responses revealed that most countries were implementing the GHS through ADR and RID, amended every two years in order to reflect the latest edition of the UN Model Regulations for the Transport of Dangerous Goods.

57. She concluded that, according to the report, the expected date of entry into force of the GHS in most OECD countries would be 2008, with some kind of transitional period and that, according to the building block approach, some countries had identified sectors, hazard classes and or categories which they did not intend to implement at this stage.

58. Regarding the preparation for GHS implementation by non-OECD countries, the representative of UNITAR noted that the responses received showed that most non-OECD countries had already started the implementation of the GHS and that the main obstacles identified to achieving its implementation were the lack of resources and capacity and the lack of awareness. She also pointed out that almost all respondent countries (51 out of 53) requested support for capacity building activities.

59. The representative of UNITAR requested that any comments on the draft report (UN/SCEGHS/13/INF.13) be sent to UNITAR before the end of July.

## **B. Cooperation with other international organizations**

### *Cooperation between WHO and the Sub-Committee*

Informal document: UN/SCEGHS/13/INF.18 (WHO)

60. The representative of WHO provided a progress report on the work on implementing the GHS through “WHO Classification of Pesticides by Hazard” and the “International Chemical Safety Cards (ICSC)”.

61. She said that the next edition of the “WHO Classification of Pesticides by Hazard” will include new pesticides as well as a revised list of pesticides classified in accordance with the GHS criteria for acute toxicity. She noted that before publishing a new edition, WHO will allow a period for consultation and transitional implementation.

62. The expert from Austria said that in his opinion the “WHO Classification of Pesticides by Hazard” should take into account all GHS hazard classes and not only the acute toxicity hazard class.

63. Regarding the International Chemical Safety Cards (ICSC), the representative of WHO said that WHO, together with ILO, was currently working on the review and identification of possible inconsistencies between the standard phrases. She added that as a result of that work, criteria are expected to be considered for adoption followed by an implementation period.

64. Finally, she also informed the Sub-Committee about the development of a new database, fully searchable on the internet, which will facilitate the translation of the ICSC. She also mentioned that, as part of the development of the database, a library of sentences used in 1700 ICSC would be available to assist the work of the correspondence group on the revision of annexes 1, 2 and 3 in identifying possible redundancies in current GHS precautionary statements.

## **VII. CAPACITY BUILDING (agenda item 6)**

Informal document: UN/SCEGHS/13/INF.11 (UNITAR)

65. The representative of UNITAR briefly updated the Sub-Committee on the activities carried out during the first half of 2007 in the context of the UNITAR/ILO Global GHS Capacity Building Programme and the UNITAR/ILO/OECD WSSD GHS Partnership.

66. She said that Senegal, Gambia and Nigeria had already developed draft legislation to implement the GHS while other countries had just started (Thailand, Indonesia and the Philippines) or were in the process of doing so (Cambodia and Lao).

67. Regarding training materials, she mentioned that the second edition of the GHS Capacity Building Library had been published and that UNITAR had drafted several GHS training courses.

68. Finally, while acknowledging the financial support from the Government of Switzerland, the European Union and the Organization for the Prohibition of Chemical Weapons (OPCW), she welcomed any suggestion or proposal from the Sub-Committee on how to ensure sustainable funding for UNITAR capacity building activities in connection to the GHS.

### **VIII. OTHER BUSINESS (agenda item 7)**

Informal document: UN/SCEGHS/13/INF.9 (Secretariat)

69. The Sub-Committee took note of the report of the Secretary-General on the work of the Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals which had been submitted to the Economic and Social Council for consideration at its substantive session of 2007.

#### ***OECD Workshop on high production volume chemicals and GHS***

70. The Sub-Committee noted the information provided by the representative of the OECD on an OECD workshop on the application of GHS classification criteria to high production volume (HPV) chemicals which was held in Bern on 5 and 6 July 2007 with the following objectives:

- To share national experiences and identify possible difficulties in the application of GHS criteria;
- To evaluate the suitability of the Screening Information Data Sets (SIDS) Initial Assessment Reports(SIARs) as a basis for the derivation of classification; and
- To identify possible needs for developing further guidance in the application of GHS criteria and for the Manual for the investigation of HPV chemicals.

71. The representative of the OECD said that the conclusions of the workshop would be presented to the Sub-Committee at its fourteenth session.

### **IX. ADOPTION OF THE REPORT (agenda item 8)**

72. The Sub-Committee adopted the report on its thirteenth session and its annex thereto on the basis of a draft prepared by the secretariat.

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## Annex

### **Draft amendments to the second revised edition of the Globally Harmonized System of classification and labelling of chemicals (GHS)**

#### **Chapter 2.3**

2.3.2.2 Add a new Note at the end to read as follows:

*"NOTE: Aerosols not submitted to the flammability classification procedures in this Chapter should be classified as extremely flammable in Category 1."*

#### **Chapter 2.6**

2.6.4.2.2 Amend the last line of the introductory text preceding sub-paragraphs (a) to (d) to read as follows:

“below, is at least 5 °C<sup>4</sup> greater than the relevant classification criterion (23 °C and 60 °C, respectively) and provided that:”

Amend (b) to read as follows:

“(b) The lower explosion limit of each ingredient is known (an appropriate correlation has to be applied when these data are extrapolated to other temperatures that test conditions) as well as a method for calculating the lower explosion limit of the mixture;”

Amend (c) to read as follows:

“The temperature dependence of the saturated vapour pressure and of the activity coefficient is known for each component as present in the mixture;”

Amend the text of footnote 3 to read as follows:

*“Up to now, the calculation method is validated for mixtures containing up to 6 volatile components. These components may be flammable liquids like hydrocarbons, ethers, alcohols, esters (except acrylates), and water. It is however not yet validated for mixtures containing halogenated, sulphurous, and/or phosphoric compounds as well as reactive acrylates.”*

Insert a new footnote “4” to read as follows:

*“<sup>4</sup> If the calculated flash point is less than 5 °C greater than the relevant classification criterion, the calculation method may not be used and the flash point should be determined experimentally.”*

2.6.4.2.5 Amend the introductory sentence before the list of standards to read as follows:

"The following methods for determining the flash point of flammable liquids should be used:".

Under "International Standards" add "ISO 2719" and "ISO 13736" before "ISO 3679"

Under "National Standards":

- Delete the references to the British Standards Institute standards (from "*British Standards Institute*" to "BS 2000 Part 170"); and
- In the list of *Deutsches Institut für Normung* standards, replace "*Burggraffenst 6*" with "*Burggrafenstr. 6*" in the address and delete the two last standards (DIN 51758 and DIN 53213).

2.6.4.2.6 Add a new 2.6.4.2.6 to read as follows:

"2.6.4.2.6 The following methods for determining the initial boiling point of flammable liquids should be used:

International standards:

ISO 3924

ISO 4626

ISO 3405

National standards:

*American Society for Testing Materials International, 100 Barr Harbor Drive, PO Box C 700, West Conshohocken, Pennsylvania, USA 19428-2959:*

ASTM D86-07a Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure

ASTM D1078-05 Standard Test Method for Distillation Range of Volatile Organic Liquids

Further acceptable methods:

Method A.2 as described in 1.4.2 and 1.4.3 of Annex V to Directive 67/548/EEC<sup>9</sup> as amended"

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<sup>9</sup> Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances, as amended.