

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

2 July 2014

Twenty-seventh session

Geneva, 2 – 4 July 2014

Item 3 of the provisional agenda

Work of the Sub-Committee of Experts on the Transport of Dangerous Goods on its 45th session on matters of interest to the GHS Sub-Committee

Note by the secretariat

1. Introduction

1.1 The Sub-Committee of Experts on the Transport of Dangerous Goods (TDG Sub-Committee) held its forty-fifth session from 23 June to 2 July 2014. It considered the following issues relating to the GHS:

- Desensitized explosives (GHS Sub-Committee agenda item 3 (a) (i))
- Use of cellulose in Test O.2 (test for oxidizing liquids) and Test O.3 (test for oxidizing solids) (GHS Sub-Committee agenda item 3 (a) (i))
- Correction to Figure 2.1.3: procedure for assignment to a division in the class of explosives (GHS Sub-Committee agenda item 3 (a) (i))
- Definition of Division 1.6 articles in Chapter 2.1 (GHS Sub-Committee agenda item 3 (a) (i))
- Criteria for water-reactivity (GHS Sub-Committee agenda item 3 (a) (i))
- Classification of polymerizing substances (GHS Sub-Committee agenda item 3 (a) (i))
- Use of the Manual of Tests and Criteria in the context of the GHS (GHS Sub-Committee agenda item 3 (a) (ii))
- Evaluation of classification criteria and flammability categories for certain refrigerants (GHS Sub-Committee agenda item 3 (a) (ii))
- Corrosivity criteria (GHS Sub-Committee agenda item 3 (c))
- Dust explosion hazards (GHS Sub-Committee agenda item 3 (d))
- Pyrophoric gases (GHS Sub-Committee agenda item 3 (g))

1.2 Following a preliminary examination in the plenary, questions relating to explosives and related matters (TDG Sub-Committee agenda item 2) were referred to the Working Group on Explosives which met from 23 to 26 June 2014 under the chairmanship of Mr. de Jong (Netherlands). Among other issues the Working Group considered several proposals

for the review of tests in the Manual of Tests and Criteria (e.g.: Test Series 6, and tests in parts I and II). The report of the Working Group, including its recommendations, was circulated as informal document INF.61 and addenda 1 to 5 (annexes 1 to 6 to the report of the Working Group), available at: <http://www.unece.org/trans/main/dgdb/dgsubc3/c3inf45.html>.

1.3 The Sub-Committee approved the report of the Working Group as drafted in INF.61 and adopted the proposed amendments in Adds 1 to 5 except as follows:

- Paragraph 11: The expert from France said that the changes to packing provision 48 in section 4.1.4 should be extended to cover other metal parts that may be contained in non-metallic packagings as mentioned in 6.1.4. He was invited to submit a proposal to the next session;
- Paragraph 12: (Classification of ammunition, smoke, containing titanium tetrachloride): some experts did not agree with the advice of the working group that no division 6.1 subsidiary risk label should be required because there was little opportunity for exposure to titanium tetrachloride. The proposal by Austria in document ST/SG/AC.10/C.3/2014/3 to require such a label was put to the vote and adopted with the replacement of the word “toxic” by “toxic by inhalation” in special provision 204;
- Paragraph 17: Several experts considered that the note proposed for addition to special provision 280 would cause problems of interpretation and did not provide sufficient guidance as to when similar packagings of the same article did not need to be retested. The proposed note was not adopted.

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.9, paragraph 68 as amended)

1.4 Other issues considered by the TDG Sub-Committee which may be of interest to the GHS Sub-Committee were:

- Classification and hazard communication provisions for crude oil (refer to paragraph 3.1 in this document)
- Classification of UN Nos. 2211 and 3314 (refer to paragraph 3.2 in this document)

1.5 The excerpts of the draft report¹ of the TDG Sub-Committee on its 45th session on matters of interest to the GHS Sub-Committee are reproduced below for information of the GHS Sub-Committee.

¹ *The excerpts from the report are reproduced as adopted during the report reading on 1 and 2 July 2014. The final version of the report will be circulated as document ST/SG/AC.10/C.3/90.*

2. Classification criteria and hazard communication for physical hazards

2.1 Desensitized explosives

This issue was discussed under TDG Sub-Committee agenda item 2 “Explosives and related matters”.

Document: ST/SG/AC.10/C.3/2014/2 - ST/SG/AC.10/C.4/2014/2 (Germany)

Information document: INF.61 (Report of the working group on explosives), paragraph 19 and INF.61/Add.5 (Annex 6 to the report of the working group)

“The working group on explosives considered and unanimously supported the changes made to the proposed new chapter for desensitized explosives in the GHS on the basis of comments received since the December 2013 sessions of both sub-committees. The working group also supported deletion of the square brackets from the test method. The TDG Sub-Committee endorsed the changes recommended by the Working Group as indicated in INF.61/Add.5 (annex 6 to the report of the Working Group).”

Note by the secretariat: The proposed changes to the proposal in document ST/SG/AC.10/C.4/2014/2 are reproduced in Annex 1 to this document for ease of reference.

During the presentation of the conclusions of the working group on explosives to the plenary, the following comments were made:

“69. Regarding the texts concerning desensitized explosives, the expert from the United States of America underlined that these texts were likely to have consequences on provisions concerning storage and he asked whether the Working Group had borne this in mind when developing these provisions.

70. It was recalled that the Sub-Committee was the focal point for provisions of the GHS dealing with physical hazards and when acting as focal point the Sub-Committee - and its working groups – had to consider all sectors concerned by the GHS, including storage, supply and use and work in accordance with the principles agreed by the GHS Sub-Committee (see ST/SG/AC.10/C.4/2, paras 42-43). This work on desensitized explosives had been mandated by the GHS Sub-Committee (see ST/SG/AC.10/C.4/40, annex II, section 1 (a)) and in fact was intended specifically for storage, supply and use (see para 50.1 of Part V of the Manual of Tests and Criteria proposed by the Working Group) and it would not affect transport provisions.”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.9. See also ST/SG/AC.10/2014/CRP.1/Add.10, paragraph 90)

2.2 Use of cellulose in Test O.2 (test for oxidizing liquids) and Test O.3 (test for oxidizing solids)

Document: ST/SG/AC.10/C.3/2014/30 - ST/SG/AC.10/C.4/2014/4 (France)

“107. The Sub-Committee was reminded that the cellulose grade that has to be used for performing tests O.2 and O.3 is no longer available on the market and that laboratories have to use stocks that are depleting. Therefore the Sub-Committee, as focal point for GHS physical hazards, accepted the proposals to organize a round robin testing programme in order to define the appropriate replacement cellulose and include classification and testing

of oxidizing liquids and solids in its programme of work for 2015-2016, subject to endorsement by the GHS Sub-Committee.

108. Several experts said they had already expressed interest in participating in the round robin testing programme. The expert from France invited all interested parties to contact him and said that he would propose a calendar for this testing programme at the next session. The expert from the United Kingdom expressed the wish that the data resulting from this testing programme be shared with all experts of the Sub-Committee.”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.12 as amended)

2.3 Correction to Figure 2.1.3: procedure for assignment to a division in the class of explosives

Document: ST/SG/AC.10/C.3/2014/1 - ST/SG/AC.10/C.4/2014/11 (IME/SAAMI)

Information document: INF.61 (Report of the working group on explosives), paragraph 6 and INF.61/Add.3 (Annex 4 to the report of the working group)

The TDG Sub-Committee endorsed the recommendation of the working group on explosives to correct Figure 2.1.3 in Chapter 2.1 of the GHS as indicated in INF.61/Add.3.

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.9, paragraph 68)

Note by the secretariat: The proposed correction is reproduced in Annex 1 to this document for ease of reference.

2.4 Definition of Division 1.6 articles in the GHS

“71. The Chairman of the Working Group said that the Working Group had also considered a question raised by the GHS Sub-Committee at its 26th session (ST/SG/AC.10/C.4/52, paragraph 12) and had concluded that it was not necessary to include the note “the risk from articles of Division 1.6 is limited to the explosion of a single article” under the definition of Division 1.6 in Chapter 2.1, paragraph 2.1.2.1 (f) of the GHS.”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.9)

2.5 Criteria for water-reactivity

“93. The expert from the United States of America informed the Sub-Committee that the US Transportation Research Board (TRB) report on criteria for water-reactivity had now been finalized and would be issued and transmitted to the Sub-Committee soon (see also ST/SG/AC.10/C.3/86, para. 23, ST/SG/AC.10/C.3/2014/21 and informal document INF.39 submitted at the 43rd session).”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.11 as amended)

2.6 Classification of polymerizing substances

Document: ST/SG/AC.10/C.3/2014/31 (DGAC)

Informal documents: INF.31 (Germany)

“21. In general terms the Sub-Committee was in favour of introducing provisions in the current biennium to resolve the problems related to polymerizing substances. However, opinions differed on whether such substances should be placed in Division 4.1 (owing to the release of heat in the event of polymerization and the associated fire hazard) or in Class 9, as some experts considered that such substances would not be covered by the definition of self-reactive substances.

22. The expert from Germany and DGAC would submit a new proposal at the next session, with a classification in Class 9. Delegations that considered that the classification should be in Division 4.1 were invited to send relevant proposals.”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.2)

2.7 Use of the Manual of Tests and Criteria in the context of the GHS

Document: ST/SG/AC.10/C.3/2014/61 - ST/SG/AC.10/C.4/2014/8 (Secretariat)

Informal documents: INF.8 (TDG)- INF.5 (GHS), and supporting Adds 1 to 5, (Secretariat)
INF.35 (IME)

“9. The Sub-Committee agreed with the secretariat that the Manual of Tests and Criteria should be re-edited to take into account its use in the overall context of the GHS, and no longer solely in the context of the transport of dangerous goods. It welcomed the secretariat's initiative and the preparation of a first draft, for discussion.

10. It was, however, noted that editorial changes could have unintended consequences for the interpretation of the texts. The proposed changes should therefore be checked carefully. That would apparently not be possible during the time available in the present biennium.

11. Delegations were therefore requested to identify points requiring more in-depth examination and to send their comments to the secretariat so that they could be discussed during the next biennium.

12. The Sub-Committee agreed that a sixth revised edition of the Manual should be published in 2015, taking into consideration amendments 1 and 2, that had already been published, and the amendments that would be adopted by the Committee at its December 2014 session. A seventh revised edition could be published in 2017, with the editorial changes deemed necessary to facilitate the use of the Manual in the context of the GHS.”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1. See also ST/SG/AC.10/2014/CRP.1/Add.11, paragraph 94)

2.8 Evaluation of classification criteria and flammability categories for certain refrigerants

“109. The Sub-Committee noted that work had been initiated and data obtained, but that it will be necessary to gather additional data before submitting proposals. Therefore the Sub-Committee recommended to the GHS Sub-Committee to keep this item in its programme of work for 2015-2016 as focal point for GHS physical hazards.”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.12)

2.9 Corrosivity criteria

Document: ST/SG/AC.10/C.3/2014/25 (Netherlands)

Informal documents: INF.3 and -/Add.1 (Netherlands)
INF.32 (TDG) - INF.9 (GHS) (Netherlands)
INF.64 (TDG) - INF.18 (GHS) (FEA)
INF.65 (TDG) - INF.19 (GHS) (Spain)

“102. The Sub-Committee expressed gratitude to the expert from the Netherlands and the intersessional correspondence group for the work accomplished and the proposals made. It supported the approach in informal document INF.32 in principle including the flow scheme and formula for the assignment of packing groups to mixtures and default classification.

103. Several experts noted that concentration limits are indicated in the dangerous goods list only for very few substances and therefore data from the industry indicating the concentration thresholds differentiating packing groups for other substances would be necessary for developing examples of calculation. It was recognized that additional work would be needed on the generic concentration limit approach, and in this respect the proposal by the expert of Spain in INF.65, which had been submitted too late for advance consideration, could be further studied.

104. Some experts felt that it would not be necessary to reproduce in Chapter 2.8 of the Model Regulations the whole text of the GHS classification criteria, and that reproducing the information necessary for determining the packing groups and including references to the GHS text would suffice. Other experts felt that Chapter 2.8 should reproduce the whole GHS corrosivity criteria text as proposed in INF.32, in the same way as criteria for aquatic toxicity are reproduced in Chapter 2.9.

105. How to refer to OECD Guidelines in Chapter 2.8 should also be considered, since currently Chapter 2.8 refers to dated guidelines while the GHS refers to undated guidelines.

106. Delegations were invited to submit official proposals for the next session for issues to be solved. In doing so, they should take account of the outcome of the discussion of the Joint TDG/GHS Working Group on corrosivity criteria that would meet on 2 July 2014 (see informal document INF.34).”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.12 as amended)

2.10 Dust explosion hazards

Informal document: INF.14 (TDG) – INF.6 (GHS) (CEFIC)

“95. The Sub-Committee noted the concerns of CEFIC at the possible creation of a class in the GHS for dust explosion. A few delegations expressed support for CEFIC and pointed out that this hazard has been addressed in workplace regulations outside of the scope of the GHS. However, accidents due to dust explosion during storage and on the workplace could not be ignored and the decision to work in this area pertained to the GHS Sub-Committee. If this work had to be pursued, the TDG Sub-Committee, as focal point for physical hazards, was the appropriate body to deal with this issue, even though such accidents did not seem to affect the transport sector. Therefore, if the GHS Sub-Committee decided so, the TDG Sub-Committee could contribute for all GHS sectors.”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.11 as amended)

2.11 Pyrophoric gases

Document: ST/SG/AC.10/C.3/2014/54 - ST/SG/AC.10/C.4/2014/5 (United States of America)

Informal documents: INF.7 (TDG) - INF.4 (GHS) (United States of America)
INF.40 (TDG) - INF.11 (GHS) (United States of America)

“91. Some questions were raised about:

- (a) The rationale for creating an additional separate hazard category for pyrophoric gases instead of a sub-category under Category 1 flammable gases, taking into account that the proposed hazard communication elements only differ in the hazard statement;
- (b) The correlation between the ignition temperature to determine pyrophoricity in DIN Standard 51794 (in paragraph 2.2.4.4.2) and the temperature set out in the definition of pyrophoric gases (in paragraph 2.2.1.2);
- (c) The rationale for 54°C in the definition for pyrophoric gases. The expert from the United States of America explained that this temperature could be reached under normal conditions of transport and therefore this value was kept to ensure that gases able to show a pyrophoric behaviour during transport at this temperature were adequately classified as such.

92. Comments made will be brought to the attention of the GHS Sub-Committee and taken into account by the expert from the United States of America in his next submission.”

(*Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.10 and Add.11*)

3. Other classification and hazard communication issues

3.1 Classification and hazard communication provisions for crude oil

Document: ST/SG/AC.10/C.3/2014/49 (Canada and United States)

Informal documents: INF.17 and INF.26 (IPIECA)

“36. The expert from Canada said that, following a series of accidents involving the rail transport of crude oil in tank cars in North America, she and the expert from the United States had carefully considered the safety implications of such transport and the possible environmental impact of the significant and exponential increase in the inland transport of crude oil. Specifically, they asked the Sub-Committee to consider whether the entries for crude oil were adequate in the light of the significant variations in its composition, in particular the flammable gas content, and whether factors other than the flashpoint or the boiling point should be taken into account for classification, such as the vapour pressure. They also proposed examining the relevance of other classification provisions, such as sampling quality management procedures and systems and classification tests for the substances to be transported.

37. The representative of IPIECA said that the studies done by his association on the crude oil under discussion did not indicate any apparent problems with the classification criteria currently in use. If the Sub-Committee wanted to change them it should also take into consideration similar substances with complex compositions and should work with the GHS Sub-Committee. The American Petroleum Institute (API) was working on a new standard for crude oil classification sampling procedures. He would provide a version of the draft to the Sub-Committee.

38. The expert from China said that his country had become a major importer of crude oil and that difficulties had been encountered with rail transport there too. He endorsed the idea that work should be done on that issue.

39. On the whole, the Sub-Committee was in favour of exchanging experience on the subject and possibly of carrying out work on crude oil classification and testing methods, but several experts considered that the data provided was for the time being insufficient to immediately justify work.

40. In conclusion, the experts from Canada and the United States were invited, along with IPIECA and other interested delegations to report back on the results of their studies on classification and to present more specific proposals on the paths that the Sub-Committee might consider at its December 2014 session, when defining its programme of work for 2015–2016.”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.3, as amended)

3.2 Classification of UN Nos. 2211 (Polimeric beads, expandable, evolving flammable vapour) and 3314 (Plastics moulding compound in dough, sheet or extruded rope form evolving flammable vapour)

Informal document: INF.13 (CEFIC)

“81. Several experts provided technical comments on the proposal to develop criteria for classification in Class 9 of polymeric beads evolving flammable vapours. The representative of CEFIC will prepare a revised proposal to take them into account.

82. The Sub-Committee noted that this proposal was intended to clarify the classification of UN Nos. 2211 and 3314 in the context of transport only, but considered that it could be of interest to the GHS Sub-Committee as well, and it was agreed to transmit INF.13 to the GHS Sub-Committee for information.”

(Ref.Doc: ST/SG/AC.10/2014/CRP.1/Add.10 as amended)

Note by the secretariat: For ease of reference, INF.13 is reproduced in Annex 2 to this document.

Annex 1

Proposed amendments

I. Desensitized explosives

Amend the proposal in document ST/SG/AC.10/C.3/2014/2-ST/SG/AC.10/C.4/2014/2, as follows:

Chapter 2.17

2.17.1.1 In footnote 1 related to the definition of desensitized explosives, replace “should” with “shall” in the second sentence

2.17.2.1 (b) Replace “is too high” with “is greater than 1200 kg/min”

2.17.2.2 Amend Note 1 under table 2.17.1 to read as follows:

“NOTE 1: Desensitized explosives shall be prepared so that they remain homogeneous and do not separate during storage and handling, particularly if desensitized by wetting. The manufacturer/supplier should give adequate information about the shelf-life and an instruction concerning the verification of the desensitization preferentially in the safety data sheet to avoid an increased fire, blast or projection hazard when not sufficiently desensitized.”

In Note 3 under table 2.17.1:

- In the first sentence, replace “have to be determined” with “should be determined”
- Add the following sentence at the end:

“Under certain conditions the content of phlegmatizer (e.g. wetting agent or treatment) may decrease during supply and use, and thus, the hazard potential of the desensitized explosive may increase. This information should be communicated in the safety data sheet.”

2.17.4.1 In the decision logic 2.17.1, amend the text in the first box (“Is the substance or mixture a candidate for the hazard class “Desensitized Explosives”?) to read as follows:

“Is the solid substance or liquid explosive substance or mixture phlegmatized to suppress its explosive properties?”

2.17.4.2.2 In the first sentence, replace “should” with “shall”

Section 50

In footnotes 1 and 2 and in paragraphs 50.2, 51.1, 51.2.1, 51.2.2, 51.3.1, 51.4.2.1 (introductory paragraph and sub-paragraph (c)), 51.4.2.2, 51.4.3.1, 51.4.3.2 and 51.4.3.4: Replace “should” with “shall”

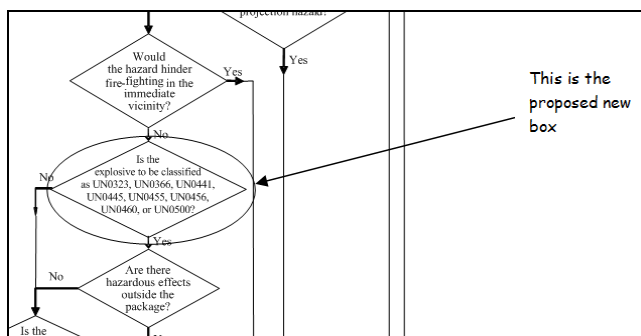
Renumber the paragraph starting with “The signals are continuously recorded. The starting point...” under section 51.4.3 (Procedure) as 51.4.3.3.

List of consequential amendments to the GHS:

- In paragraph 6 (amendments to Annex 3, Section 2, table A3.2.2), remove “due to the risk of explosion” from the text of **P212**
- In paragraph 11 (amendments to Annex 3, Section 3), remove “due to the risk of explosion” from the text of **P212** in both tables for desensitized explosives

**II. GHS Chapter 2.1, Figure 2.1.3:
Procedure for assignment to a division in the class of explosives**

Amend Figure 2.1.3 in the GHS by inserting a new box as indicated below:



(Ref.Doc: ST/SG/AC.10/C.4/2014/11, paragraph 11, and INF.61 and INF.61/Add.3 (TDG, 45th session))

Annex 2

Information document INF.13 on Classification under UN 2211 and UN 3314 submitted by European Chemical Industry Council (CEFIC) to the 45th session of the TDG Sub-Committee

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

23 May 2014

**Sub-Committee of Experts on the
Transport of Dangerous Goods**

Forty-fifth session

Geneva, 23 June – 2 July 2014

Item 4 (c) of the provisional agenda

Listing, classification and packing: miscellaneous

Classification under UN 2211 and UN 3314

Transmitted by the European Chemical Industry Council (CEFIC)

Introduction

1. As earlier has been demonstrated in proposal ST/SG/AC.10/C.3/2011/30 concerning Polymeric beads, expandable and Plastics moulding compounds, evolving flammable vapours, there is a big difference in respect of different materials ability to give off flammable vapours. Due to these differences it was suggested to implement a new method that could determine if there was a risk for formation of flammable atmospheres in the container or not.
2. Several suggestions were received from a number of delegates on the proposal and CEFIC made some modifications and submitted informal document INF.32 (40th session) for amending SP207.
3. Further comments were received, and based on these comments CEFIC hereby proposes this amended proposal.
4. As suggested during the sub-committee meeting December 2011, it is proposed to introduce in the Manual of Tests and Criteria, a test method for the determination of a formation of a flammable atmosphere rather than having the test description included in a Special Provision.

Justification

5. The proposed test method is applicable for the two substances to which SP207 is assigned (UN 2211 and UN 3314).
6. To justify the suggested temperature in the Test method we refer to:
 - Validation of the UN criteria for the uncooled sea transport of liquid organic peroxides: Full-scale test and modeling, Journal of Loss Prevention in the Process Industries 21 (2008) 635–641, M. Steensma, P. Schuurman and W.A. Mak

- The temperature curve (Appendix 1) of last year for Shipment from China to Europe, temperature sensor on pallet close to the doors
 - The temperature readings, as given in the Appendix 2 that were recorded during transports from Sweden to; Japan, Australia, Brazil, US and Mexico. The sensor was placed on the top of the fiber drums, close to the ceiling of the container.
 - Study by BAM, referred to in informal document INF.30 (32nd session), presented during UNSCETDG meeting in December 2007
7. All these investigations show that the temperature of the bulk material of cargo never exceeds +50°C. Therefore, CEFIC is of the opinion that a test with the temperature continuously being held at 50°C for 2 weeks represents a worst case transport condition.

Proposal

Proposal 1

8. CEFIC propose the following test method to be implemented into the “Manual of Tests and Criteria”:
9. Insert in the manual of tests and criteria a new section 38.4 as follows:

38.4 Substances evolving flammable vapour

38.4.1 Purpose

This section of the Manual presents the test procedure to determine whether during handling, transport and storage substances evolving flammable vapours of Class 9 (See UN 2211 and 3314), are able to evolve a dangerous concentration of flammable vapours in closed containers resulting in the formation of a flammable atmosphere and, as a consequence, have to be classified or not.

38.4.2 Scope

The scope of the test method is to determine whether polymeric beads and moulding compounds, with encapsulated blowing agent, fulfilling the description of UN 2211 and 3314, need not to be classified under these two UN numbers.

This test should only be performed when de-classification of a substance is considered.

38.4.3 Classification procedure for Substances liable to evolve flammable vapours

Polymeric beads and moulding compounds, with encapsulated blowing agent shall be tested according to the procedures below to determine whether classification under UN 2211 or 3314 is needed.

38.4.4 Test U 1: Test method for Substances liable to evolve flammable vapours

38.4.4.1 Introduction

The ability to evolve flammable vapours is determined by placing the substance in a hermetically closed glass bottle, at a specified temperature for a prescribed period of time, and then, determine the identity and concentration of flammable vapours.

38.4.4.2 Apparatus and materials

A serum flask equipped with rubber septa with a volume of 50 ml to allow for enough samples to be analyzed. A heating cabinet for storage of samples at prescribed time and temperature. A gas chromatographic (GC) apparatus and accompanying equipment, for analysis of flammable vapour concentration in the gas-phase.

38.4.4.3 Procedure

The substance in its commercial form should be put in a serum flask of 50 ml, with a degree of filling of 50% volume ratio and sealed with rubber septa. The sealed flask is put into a heating cabinet at 50°C for 14 days. After 14 days remove the flask from the heating cabinet and allow cooling. Analyze the gas phase twice on the GC and calculate the average concentration of the flammable vapour. The test should be performed at three samples on the same substance.

38.4.4.3 Test criteria and method of assessing results

Substances need not be classified as Polymeric beads, expandable or Plastics moulding compounds, evolving flammable vapours if the concentration of the flammable vapours is less or equal than 50% of the Lower Explosive Limit (LEL) of the flammable vapour in all of the three samples.

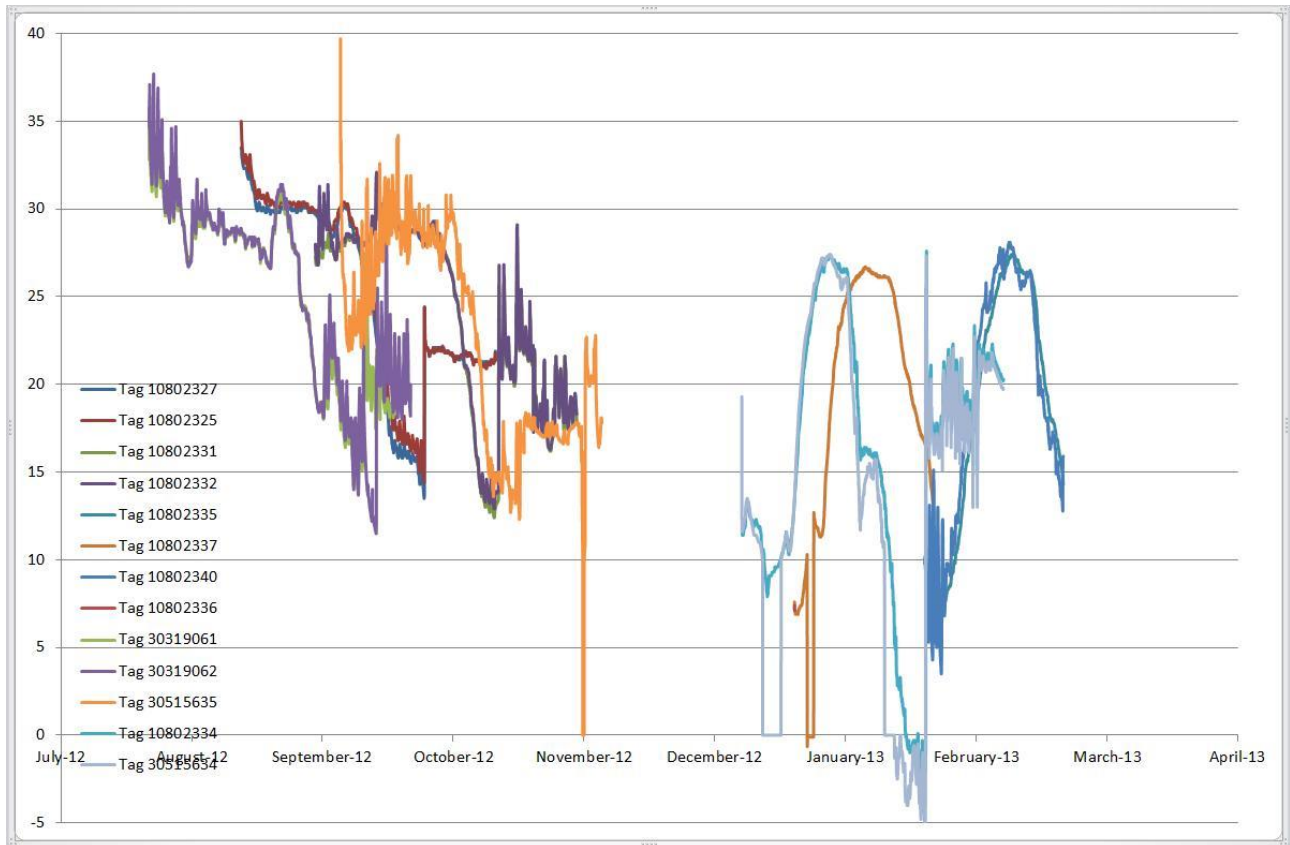
Proposal 2

10. CEFIC proposes to add the following sentence to special provision SP207, which is already assigned to UN numbers UN 2211 and UN 3314:

When it can be demonstrated that no flammable vapour, resulting in a flammable atmosphere, are evolved according to test U1: Test method for Substances liable to evolve flammable vapours, of the UN manual of Tests and Criteria, Polymeric beads, expandable or Plastics moulding compounds need not be classified under this UN number.

Appendix 1

Temperature curve of last year for Shipment from China to Europe, temperature sensor on pallet close to the doors



Appendix 2

The temperature readings during transports from Sweden to; Japan, Australia, Brazil, US and Mexico.

The sensor was placed on the top of the fiber drums, close to the ceiling of the container

Temperature in containers to different destinations

