

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

17 November 2014

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

Forty-sixth session

Geneva, 1–9 December 2014

Item 2 (b) of the provisional agenda

**Recommendations made by the Sub-Committee on
its forty-third, forty-fourth and forty-fifth sessions
and pending issues: listing, classification and
packing**

**Sub-Committee of Experts on the Globally Harmonized
System of Classification and Labelling of Chemicals**

Twenty-eighth session

Geneva, 10–12 (a.m.) December 2014

Item 2 (b) (ii) of the provisional agenda

**Classification criteria and related hazard
communication: work of the Sub-Committee of Experts
on the Transport of Dangerous Goods (TDG): other
relevant issues**

**Classification under UN 2211 and UN 3314
(Revision of ST/SG/AC.10/C.3/2014/77)**

Transmitted by the European Chemical Industry Council (CEFIC)

Introduction

1. In proposals ST/SG/AC.10/C.3/2014/77 and ST/SG/AC.10/C.4/2014/14 a test method for determining the evolution of flammable vapours is proposed for UN 2211 and UN 3314. It appeared that the test method, as proposed, cannot be used for all materials, in their commercial form, covered under UN 3314.
2. Therefore CEFIC proposes to delete UN 3314 from the proposal and to focus on materials under UN2211, i.e. Expandable Polymeric Beads for which the test method has been developed and designed.

Amended proposal

Proposal 1

3. CEFIC proposes the following test method to be included in a new section 38.4 of the “Manual of Tests and Criteria” 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 of Class 9 evolving flammable vapours (see UN No. 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 No. 2211 ~~or UN No 3314~~, need not to be classified under this UN number.

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 No. 2211 ~~or UN No 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 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.

38.4.4.4 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 than or equal to 20% of the Lower Explosive Limit (LEL) of the flammable vapour in all of the three samples.

Proposal 2

4. ~~CEFIC proposes to add the following sentence to special provision 207, which is already assigned to UN Nos. 2211 and 3314:~~

~~“When it can be demonstrated that no flammable vapour, resulting in a flammable atmosphere, is evolved according to test U1: Test method for substances liable to evolve flammable vapours, of the Manual of Tests and Criteria, polymeric beads, expandable or plastics moulding compounds need not be classified under this UN number. This test should only be performed when de-classification of a substance is~~

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

4. CEFIC proposes to replace special provision 207 from UN 2211 by a new special provision SP XX, which should read:

New SP XX:

Polymeric beads may be made from polystyrene, poly (methyl methacrylate) or other polymeric material. When it can be demonstrated that no flammable vapour, resulting in a flammable atmosphere, is evolved according to test U1: Test method for substances liable to evolve flammable vapours, of the Manual of Tests and Criteria, polymeric beads, expandable need not be classified under this UN number. This test should only be performed when de-classification of a substance is considered.
