

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

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Sub-Committee of Experts on the Transport of Dangerous Goods

Fiftieth session

Geneva, 27 November–6 December 2016

Item 2(a) of the provisional agenda

Recommendations made by the Sub-Committee on its forty-seventh, forty-eighth and forty-ninth sessions and pending issues: review of draft amendments already adopted during the biennium

Comments on UN/SCETDG/49/INF.54 Clarification relating to the test method for readily combustible solids (UN Test N.1)

Transmitted by the expert from Germany

Introduction

1. This paper is a follow-up to the discussions on the working paper ST/SG/AC.10/C.3/2016/5 and the informal papers UN/SCETDG/48/INF.42 and UN/SCETDG/49/INF.54 on the test method for readily combustible solids (UN-Test N.1).
2. The discussions were focused on the question whether the “whole length of the sample” in 33.2.1.4.4.1 (last sentence) refers to:
 - (a) The 250 mm length specified for the mould; or
 - (b) The 100 mm length (“timing zone”) over which the rate of burning is measured.
3. In informal document INF.54 (49th session) it was concluded that the 100 mm timing zone would be the correct length, in particular for the reason that in this case the criteria for the screening test and the main test are identical with a limit of 10 mm /min for metals. Substances burning with a higher burning rate should be classified as flammable solids. The sub-committee decided to adopt the amendments proposed for 33.2.1.4.4.1, 33.2.1.4.4.2 and 33.2.1.4.4.3 of the Manual of Tests and Criteria in square brackets.
4. Germany supported the amendments at the last session. However, after further discussions between experts it seems that a further review is necessary. If the criteria for screening and main test are identical, the function of the screening test is questionable. .
5. Comparing the two different criteria for metals and non-metals the following can be stated:

	Non-Metals	Metals	
Preliminary testing	200 mm length		
	< 2min proceed testing br > 100 mm/min proceed testing	< 20 min proceed testing br > 10 mm/min proceed testing	
Full test	100 mm length	100 mm length	250 mm length
PG III	< 45 s br > 133.3 mm/min and wetted zone stops propagation for 4 min	< 10 min br > 10 mm/min	< 10 min br > 25 mm/min
PG II	wetted zone passed in 4 min	< 5 min br > 20 mm/min	< 5 min br > 50 mm/min

Table 1. Test method criteria for non-metals and metals for both measuring length

The criteria for non-metals are not questionable, but for metals further clarification is necessary.

An example illustrates the problem:

Non-metals

- Example: non-metals with a br of 100-133.3 mm/min in the preliminary testing will not be division 4.1 after the full test.
- For non-metals a PG III substance needs a higher br in the full test (>133.3 mm/min).
- The criteria for preliminary testing are not identical with the full test.

For metals: 100 mm length criteria

- Criteria for preliminary test and full test are equal for classification of PG III.
- Preliminary testing could also be used for classification!

For metals 250 mm length criteria

- Metals with a br of 10 to 25 mm/min in the preliminary testing will not be division 4.1.
- A PG III metal needs a higher br than in the preliminary testing which is more consistent to non-metals criteria!

Proposal

6. The expert of Germany is of the opinion that further work is needed on this topic and invites interested delegations to report their experience with this method/criteria.

7. It is proposed to place this topic onto the work plan for discussion during the next biennium. Furthermore, the preliminary adopted amendments to 33.2.1.4.4.1, 33.2.1.4.4.2 and 333.2.1.4.4.3 of the Manual of Tests and Criteria (see ST/SG/AC.10/C.3/2016/55 – Consolidated list of adopted texts) should be deleted from list of draft amendments to the sixth revised edition of the Manual of Tests und Criteria.