

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

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Item 2 (i) of the provisional agenda

Explosives and related matters:

Review of Chapter 2.1 of the GHS

Exclusion from Class 1 fire test according to the note in 2.1.3.6.4

Transmitted by the expert from Germany

Introduction

1 With respect to the exclusion from hazard class 1, a fire test as described in ISO 12097-3 Road vehicles – Airbag components – Part 3: Testing of inflator assemblies (2002) is required in accordance with 2.1.3.6.4 (b) of the Model Regulations.

2 Standard ISO 14451-2:2013 was developed in the context of standardisation for the conformity assessment procedure in Europe (design type testing) related to other pyrotechnic articles or pyrotechnic articles for vehicles. ISO 14451 is based on ISO 12097 and contains improvements. In parts -5, -6, -7 and -9 of ISO standard 14451, the criteria for fire tests of airbag gas generators, airbag modules, seat-belt pretensioners and actuators are defined. The fire test itself is described in standard ISO 14451-2:2013.

3 In practice, airbag gas generators do not meet the criteria for exclusion from hazard class 1. Candidates for exclusion are, inter alia, actuators (pyrotechnic articles that contain an ignitor and possibly pyrotechnic substances) that are designed to fulfil a safety function through mechanical motion, for example pyrotechnic separation elements, circuit breakers or pistons.

4 In accordance with ISO 14451-5, the heating rate for the fire test of airbag gas generators is 50 K/min. For other pyrotechnic articles (seat-belt pretensioners, air bag modules, actuators etc.), the heating rate is 80 K/min, as specified in ISO 12097-3. Standard ISO 14451-2 with the test methods contains the details of the fire test and reflects the state of the art and of testing practice. The fire test stand is described in greater detail than in standard 12097-3. Standard ISO 12097-3 was specifically developed in 2002 for airbag gas generators and, therefore, is less relevant to the test purposes of 2.1.3.6.4.

Proposal

5. It is proposed to replace the reference to ISO 12097-3 with a reference to ISO 14451-2 and set the heating rate to a value of 80 K/min.

Amend the Note in 2.1.3.6.4 (b) to read as follows:

NOTE: Where the integrity of the article may be affected in the event of an external fire, these criteria shall be examined by a fire test such as described in ISO 14451-2. The heating rate shall be 80 K/min.