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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 Transport  
of Dangerous Goods****Forty-ninth session**

Geneva, 27 June – 6 July 2016

Item 3 of the provisional agenda

**Listing, classification and packing****Classification of a polymerising substance, flammable, toxic,  
stabilised, temperature controlled****Transmitted by the expert from Austria<sup>1</sup>****Introduction**

1. The definition of a polymerising substance is:

## 2.4.2.5.1 Definitions and properties

Polymerizing substances are substances which, without stabilization, are liable to undergo a strongly exothermic reaction resulting in the formation of larger molecules or resulting in the formation of polymers under conditions normally encountered in transport. Such substances are considered to be polymerizing substances of Division 4.1 when:

(a) Their self-accelerating polymerization temperature (SAPT) is 75 °C or less under the conditions (with or without chemical stabilization as offered for transport) and in the packaging, IBC or portable tank in which the substance or mixture is to be transported;

(b) They exhibit a heat of reaction of more than 300 J/g; and

**(c) They do not meet any other criteria for inclusion in Classes 1-8.**

A mixture meeting the criteria of a polymerizing substance shall be classified as a polymerizing substance of Division 4.1.

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<sup>1</sup> In accordance with the programme of work of the Sub-Committee for 2015–2016 approved by the Committee at its seventh session (see ST/SG/AC.10/C.3/92, paragraph 95 and ST/SG/AC.10/42, para. 15).

2.4.2.5.2 Polymerizing substances are subject to temperature control in transport if their self-accelerating polymerization temperature (SAPT) is:

(a) When offered for transport in a packaging or IBC, 50 °C or less in the packaging or IBC in which the substance is to be transported; or

(b) When offered for transport in a portable tank, 45 °C or less in the portable tank in which the substance is to be transported.

2. Properties of a specific substance:

SAPT: < 50 °C

Polymerisation energie: > 800 J/g

Flashpoint: < 0 °C

Meltingpoint: < -30 °C

Oral LD50 (rat) < 100 mg/kg

Self classification might be now: UN3239, SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED

3. This substance has, due to 2.4.2.5.1 (c) to be classified as a flammable, toxic substance, stabilized and the temperature control will get lost.

## Proposal

6. Further discussions will be necessary to look at all possible consequences, but we should consider to delete

“(c) They do not meet any other criteria for inclusion in Classes 1-8.”

for substances under temperature control. The wording “Classes 1-8” seems to be a relict from the original proposal as Class 9 anyway. The definition as subsidiary risk for other classes will require some other modifications e.g. in the precedence of hazards table.

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