



**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****Fiftieth session**

Geneva, 28 November-6 December 2016

Item 2 (c) of the provisional agenda

**Recommendations made by the Sub-Committee
on its forty-seventh, forty-eighth
and forty-ninth sessions and pending issues:
listing, classification and packing****Proper shipping name for a polymerizing substance that does
meet other criteria for inclusion in Classes 1-8****Transmitted by the expert from Austria¹****Introduction**

1. The definition of a polymerizing 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;

¹ 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).

- (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.

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. For a specific substance with the following properties

SAPT: < 50 °C, Polymerisation energy: > 800 J/g, Flashpoint: < 0 °C,
Melting point: < -30 °C, Oral LD50 (rat): < 100 mg/kg,
self-classification might be now (current ADR refers to the eighteenth revised edition of the Recommendations on the Transport of Dangerous Goods): UN3239, SELF-REACTIVE LIQUID TYPE F, TEMPERATURE CONTROLLED

- 3. Using the nineteenth revised edition this substance has, due to 2.4.2.5.1 (c) to be classified as a flammable, toxic substance, stabilized (But it is unclear if the last sentence: “A mixture meeting the criteria of a polymerizing substance shall be classified as a polymerizing substance of Division 4.1.” means that a flammable substance has to be classified a polymerizing substance if it is a mixture).

Table 2.0.3.3 will bring the substance into Class 3.

2.3.5 (and not the table with the Dangerous Goods List!) will lead to special provision 386.

Special provision 386 will lead to the requirement of including a control temperature and an emergency temperature somewhere in the transport document (5.4.1.5.4), but the key words “TEMPERATURE CONTROLLED” in the proper shipping name that are required in all other cases will be lost.

Proposal

Amend 3.1.2.6 to read as follows (additional text underlined>:

3.1.2.6 Except for self-reactive substances and organic peroxides and unless it is already included in capital letters in the name indicated in the Dangerous Goods List, the word STABILIZED shall be added as part of the proper shipping name of a substance which, without stabilization, would be forbidden from transport in accordance with 1.1.2 due to it being liable to dangerously react under conditions normally encountered in transport (e.g.: “TOXIC LIQUID, ORGANIC, N.O.S., STABILIZED”).

When temperature control is used to stabilize such substances to prevent the development of any dangerous excess pressure or the evolution of excessive heat, or when chemical stabilization is used in combination with temperature control, then:

- (a) For liquids and solids where the SAPT (measured without or with inhibitor, when chemical stabilization is applied) is less than or equal to that prescribed in 2.4.2.5.2, special provision 386 of Chapter 3.3 and the provisions of 7.1.6 apply;

(b) Unless it is already included in capital letters in the name indicated in the Dangerous Goods List, the words TEMPERATURE CONTROLLED shall be added as part of the proper shipping name

(c) For gases: the conditions of transport shall be approved by the competent authority.
