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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

#### Sixty-first session

Geneva, 28 November–6 December 2022

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

**Recommendations made by the Sub-Committee  
at its fifty-eighth, fifty-ninth and sixtieth sessions  
and pending issues: explosives and related matters:  
miscellaneous**

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

#### Forty-third session

Geneva, 7–9 December 2022

Item 3 (a) of the provisional agenda

Work on the Globally Harmonized System of Classification  
and Labelling of Chemicals: **Work of the Sub-Committee of  
Experts on the Transport of Dangerous Goods on matters  
of interest to the Sub-Committee**

## Manual of Tests and Criteria, section 1 (paragraph 1.2.1.4.3) and section 20 (paragraph 20.2.5) on self-heating test N.4 for organic peroxides and polymerizing substances

### Submitted by the European Chemical Industry Council (Cefic)\*

1. In section 1, paragraph 1.2.1.4.3 and section 20, paragraph 20.2.5 of the Manual of Tests and Criteria, it is stated that self-reactive substances, type A to type G, should not be tested in the self-heating test N.4, as the test results will give a false positive result (i.e. temperature increase due to thermal decomposition rather than oxidative self-heating).
2. As organic peroxides have the same properties in this respect as self-reactive substances, they will also give a false positive result in the self-heating test N.4.
3. Therefore, Cefic proposed to the Sub-Committee of Experts on the Transport of Dangerous Goods (TDG) and the Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), in informal documents INF.5 (TDG, sixtieth session) and INF.6 (GHS, forty-second session) to add organic peroxides in 1.2.1.4.3 and 20.2.5 for which no self-heating test N.4 should be conducted.
4. This information paper was discussed in the explosives working group, see informal document INF.44 (TDG, sixtieth session), section 6. It was noted that also for polymerizing substances the N.4 test will show false-positive results.

*“The United States of America raised the point that moving the note from 1.2.1.4.3 to 1.2.2 might be more appropriate. As polymerizing substances is currently not a GHS hazard class, section 1.2.2 seems not applicable. However, the GHS hazard class “self-heating substances” exists and for this reason the “false positive” test result in test N.4 for substances having polymerizing properties has to be addressed for both TDG and GHS.*

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\* A/75/6 (Sect.20), para. 20.51

*It is suggested not to move the proposed note of 1.2.1 to 1.2.2 but to wait for the outcome of the GHS informal working group on “Combinations of physical hazards” where more physical hazards endpoints and the need to conduct testing is discussed. The topic of polymerizing substances will be brought to their attention.”*

## **Proposal**

5. Amend the first sentence of paragraph 1.2.1.4.3 in section 1 of the Manual of Tests and Criteria, to read as follows:

“Self-reactive substances, type A to type G, or Organic Peroxides, type A to type G, or polymerizing substances should not be tested in the self-heating test N.4, as the test results will give a false positive result (i.e. temperature increase due to thermal decomposition or polymerization rather than oxidative self-heating).”

6. Amend paragraph 20.2.5 in section 20 of of the Manual of Tests and Criteria to read as follows:

“Any substance which shows the properties of a self-reactive substance (Type A to Type G) or an organic peroxide (Type A to Type G) or a polymerizing substance should not be tested in the self-heating test N.4, as the test results will give a false positive result (i.e. temperature increase due to thermal decomposition or polymerization rather than oxidative self-heating).”

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