



**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****Fifty-fourth session**

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**New proposals for amendments to the Model Regulations
on the Transport of Dangerous Goods****Transport of polymerizing substances as waste****Transmitted by the expert from Germany*****Introduction**

1. An essential prerequisite for the transport of polymerizing substances is a sufficient stabilization by means of chemical stabilization or temperature control or a combination of both. This presupposes that the self-accelerating polymerisation temperature (SAPT) is determined in relation to the packages, as a SAPT below 50°C (packagings) or 45°C (tanks) requires the application of temperature control provisions. Based on the SAPT, the control and emergency temperatures have to be determined for this purpose and have to be indicated in the transport document, see 5.4.1.5.5. When chemical stabilization is employed, it must be ensured that the level of chemical stabilization is sufficient to prevent the substance from dangerous polymerization also at a bulk mean temperature of 50°C or 45°C, respectively. In this case, different factors are to be taken into account, for example the duration of transport or the effectiveness and properties of the stabilizer. This information is in particular available at the manufacturer of such substances, which means at the beginning of the transport chain, and the person that hands over the packagings or tanks for transport is responsible for complying with the obligations of special provision 386.

2. A large amount of polymerizing substances is also transported within the scope of the transfer of wastes. Here, the information required for complying with the provisions is often not available. Usually, the substances to be transported are not new products to be placed on the market, but substances to be disposed of because their properties have changed, because

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the substance has been stored for too long or because a partial polymerization has already taken place. The evaluation of these wastes results in the following difficulties:

- (a) the wastes come from waste producers that do not have information on the substance (any more) (e.g. from closed down businesses, site clearings, insolvency estates);
- (b) changes in the chemical composition cannot be ascertained;
- (c) the effectiveness of a potential stabilizer cannot be ascertained, except that there are no measurable reactions or physical changes;
- (d) emergency and control temperatures are unknown;
- (e) safety data sheets are not available; and/or
- (f) the wastes are stored in containers that are no longer permissible.

3. However, without further information, it cannot be assumed that there is sufficient chemical stabilization. In addition, without knowledge of the SAPT and the control and emergency temperatures derived from it, it is not possible to comply with the temperature control provisions described in 7.1.5.

4. Therefore, discussions have been held with the waste disposal sector on approaches for ensuring that also for the transport of wastes a dangerous polymerization cannot take place during transport to the disposal facility. Possible measures are:

- (a) the addition of inhibitors;
- (b) loading is only permitted if an examination has shown that there is no significant deviation between the outside temperature of the package and the ambient temperature;
- (c) the packages have to be protected from direct sunlight during transport;
- (d) the packages have to be protected from the impact of other sources of heat (e.g. additional loads that are being transported above ambient temperature) during transport;
- (e) transport has to be carried out at transport conditions (ambient temperature) below 45°C;
- (f) vehicles and containers have to be adequately ventilated; and/or
- (g) transport has to be effected within 24 hours.

5. There must always be consideration of the individual case, including actually available information on the substance, type and size of the containment as well as the circumstances under which the transport operation is effected.

Proposal

6. To ensure that the transport of polymerizing substances as waste complies with the provisions, an adequate legal basis for specific procedures to be observed in the case of such transport operations should be created. In most cases, the requirements in accordance with sentence 1 to 3 of special provision 386 in conjunction with 7.1.5 and 5.4.1.5.5 cannot be complied with.

7. Amend special provision 386 to read as follows (new text is underlined):

“386 (a) When substances are stabilized by temperature control, the provisions of 7.1.5 apply. When chemical stabilization is employed, the person offering the packaging, IBC or tank for transport shall ensure that the level of stabilization is sufficient to prevent the substance in the packaging, IBC or tank from dangerous polymerization at a bulk mean temperature of 50 °C, or, in the case of a portable tank, 45 °C. Where chemical stabilization becomes ineffective at lower temperatures within the anticipated duration of transport, temperature control is required.

(b) In making this determination factors to be taken into consideration include, but are not limited to, the capacity and geometry of the packaging, IBC or tank and the effect of any insulation present, the temperature of the substance when offered for transport, the duration of the journey and the ambient temperature conditions typically encountered in the journey (considering also the season of year), the effectiveness and other properties of the stabilizer employed, applicable operational controls imposed by regulation (e.g. requirements to protect from sources of heat, including other cargo transported at a temperature above ambient) and any other relevant factors.

(c) Substances transported for disposal or recycling are not subject to the provisions in (a), 7.1.5 and 5.4.1.5.5 provided appropriate measures are taken to ensure there is no dangerous polymerization during transport. In making the determination of the appropriate measures the factors described in (b) shall be taken into consideration.”
