

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

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Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods

Geneva, 17-27 September 2013

Item 2 of the provisional agenda

Tanks

Use of the entries UN 1965 and UN 1978 for LPG transported in tanks

Transmitted by the Government of Norway

Summary

Executive summary: Norway would like to have the view of the Joint Meeting concerning minimum test pressure for tanks intended for transportation of LPG Propane.

Action to be taken: Discussion.

Background

1. The special provision 657 was added to UN No. 1011, 1969 and 1978 in ADR, RID and ADN from 1 January 2013. Special provision 657 reads following: "This entry shall be used for the technically pure substance only; for mixtures of LPG components, see UN No. 1965 or see UN No. 1075 in conjunction with NOTE 2 in 2.2.2.3.
2. The reason for this amendment was to clarify which UN numbers are to be used for LPG as mixtures of the components (so-called commercial LPG or sometimes also commercial propane) and which are to be dedicated to technically pure butane, iso-butane and propane, as these substances are also transported as technically pure substances e.g for technical or scientific use.
3. As a consequence LPG Propane (typically propane 95-99%) is mainly transported in tanks as UN 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S, although some carrier still use UN 1978 PROPANE. The minimum test pressures for tanks are given in the table of gases and gas mixtures in 4.3.3.2.5. UN 1965 is a N.O.S position with 9 "commercial mixtures". Required minimum test pressure is given in the table for all 9 mixtures. UN 1965 Mixture C, relevant classification for LPG propane, has a minimum test pressure on 27 bar for tanks without thermal insulation (25 bar for tanks with thermal insulation).
4. Currently in Norway, most tanks used for the transportation of propane derived from the refining of petroleum and which is used for heating purposes, has test pressure between 23 and 25 bar (e.g P23BN). 23 bar is, according to table 4.3.3.2.5, sufficient minimum test pressure for UN 1978 and for UN 1965 mixture A, A01, A02, A1, B1, B2 and B, but not

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for mixture C. For other mixture minimum test pressure shall be according to 4.3.3.2.2 or 4.3.3.2.3.

5. Norway would like to discuss with other delegates which classification is used for LPG propane in tanks and what the minimum test pressures are for these tanks.
