

**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

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Item 3 (a) of the agenda

**OUTSTANDING ISSUES OR PROPOSALS OF AMENDMENTS TO THE
RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS**

Transport of gases

Replacement values for filling ratios in P200

Transmitted by the expert from the United States of America

Background

1. In UN/SCETDG/25/INF.98, the expert from the United States of America agreed to continue to review and provide recommended changes to the filling ratios listed in P200 based on a study commissioned from the National Institute of Standardization and Technology (NIST). During initial development of the P200 filling ratios, the United States identified the need to confirm the accuracy of these values through a scientific study and agreed to propose revisions if that study identified lower filling ratios were necessary to provide an adequate level of safety. We propose that eight entries in the P200 Table 2 be modified based on the data provided by NIST. These values are all based on data that NIST identifies as providing a level of uncertainty at less than 3%.

Proposed Filling Ratio amendments in P-200 Tables					
UN Number	Name	Test pressure UN [bar]	Filling ratio UN	Filling ratio NIST, Proposed	% Difference
1009	Bromotrifluoromethane (R13B1)	120	1.44	1.15	20
1009	Bromotrifluoromethane (R13B1)	250	1.60	1.15	28
1020	Chloropentafluoroethane (R115)	25	1.08	1.05	3
1048	Hydrogen bromide	60	1.54	1.48	4
1973	Chlorodifluoro-Methane and Chloropenta-Fluoroethane Mixture with fixed boiling point, with approximately 49% chlorodifluoromethane (R502)	31	1.05	1.01	4
2035	1,1,1-Trifluoroethane (R143a)	35	0.75	0.73	3
2424	Octafluoropropane (R218)	25	1.09	1.04	5
3220	Pentafluoroethane (R125)	49	0.95	0.87	8

Proposal

2. Amend P200 filling ratios for the eight entries identified in this paper.