



BS 4849 : 1972

UDC 547.412.91

Specification for

1,1,2-Trichlorotrifluoroethane

(R 113)

Gr 5

British Standards Institution

Documents



Document Supply Unit

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The following BSI references relate to the work on this standard:
Committee references CIC/4 and CIC/4/6 Draft for comment 70/29414

CO-OPERATING ORGANIZATIONS

The Chemicals Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

British Steel Industry
*Chemical Industries Association
Department of Health and Social Security
*Department of Trade and Industry
*Department of Trade and Industry -
Laboratory of the Government Chemist
Fertilizer Manufacturers' Association
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Institution of Gas Engineers
Ministry of Agriculture, Fisheries
and Food
National Sulphuric Acid Association
Royal Institute of Public Health
and Hygiene
Soap and Detergent Industry Association

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FOREWORD

This standard forms one of a series of British Standards for solvents and allied products, the preparation of which was authorized by the Chemicals Industry Standards Committee.

It is based on a draft provided by the Ministry of Defence.

NOTE 1. The material specified is classified as a Group 1 refrigerant (of low toxicity) according to BS 4434, 'Requirements for refrigeration safety'.

NOTE 2. Attention is drawn to certification facilities offered by BSI; see the inside back cover of this standard.

BRITISH STANDARD SPECIFICATION FOR
1, 1, 2 - TRICHLOROTRIFLUOROETHANE (R113)

1. SCOPE

This British Standard specifies requirements for 1,1,2-trichlorotrifluoroethane of commercial quality for use as a refrigerant or as a cleaning solvent for special purposes. The designation of this material, according to BS 4580, is R113.

NOTE. The titles of the British Standards referred to in this standard are given on the inside back cover.

2. DESCRIPTION

2.1 The material shall be clear, colourless and have no more than a faint ethereal odour.

2.2 It is stable, non-irritant, non-flammable and non-explosive, and consists essentially of 1,1,2-trichlorotrifluoroethane, $\text{CCl}_2\text{F.CClF}_2$. In the absence of water, the material does not attack the metals normally used in refrigeration plants.

3. COLOUR

The colour of the material shall not exceed 20 Hazen units when measured by the method described in Appendix A.

4. DENSITY AT 20 °C

The density of the material at 20 °C shall be not less than 1.568 g/ml and not greater than 1.578 g/ml when determined by the method described in BS 4522.

5. DISTILLATION YIELD

The material, when distilled by the method described in Appendix B, shall yield at 101.3 kN/m²* pressure not more than 5 % by volume below 47.4 °C and not less than 95 % by volume below 48.0 °C.

6. RESIDUE ON EVAPORATION

When tested by the method described in Appendix C, the material shall not leave a residue in excess of 10 mg/kg.

7. WATER CONTENT

The material shall not contain more than 15 mg of water per kilogram, when determined by the method described in Appendix D.

* 1 kN/m² = 10 mbar = 7.5 mmHg.