



Standard Specification for 2-Ethoxyethanol^{1,2}

This standard is issued under the fixed designation D 331; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers 2-ethoxyethanol.

1.2 For hazard information and guidance, see the supplier's Material Safety Data Sheets.

2. Referenced Documents

2.1 *ASTM Standards*:

D 268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Materials³

D 1078 Test Method for Distillation Range of Volatile Organic Liquids³

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)³

D 1353 Test Method for Nonvolatile Matter in Volatile Solvents for Use in Paint, Varnish, Lacquer, and Related Products³

D 1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)³

D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer and Related Products³

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter⁴

E 1 Specification for ASTM Thermometers⁵

E 300 Practice for Sampling Industrial Chemicals⁶

2.2 *U. S. Federal Specification*:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of⁷

3. Properties

3.1 2-Ethoxyethanol shall conform to the following requirements:

Apparent specific gravity:	
20/20°C	0.929 to 0.932
25/25°C	0.926 to 0.929
Color, Pt-Co scale, max	15
Distillation range, 760 mm Hg, °C as:	
Initial boiling point, min	134.0
Dry point, max	136.0
Nonvolatile matter, max, mg/100 mL	5
Water, max, weight %	0.1 ^A
Acidity (free acid as acetic acid), max, weight %	0.01 ^B

^A This quantitative water limit ensures that the material is miscible without turbidity with 19 volumes of 99 % heptane at 20°C.

^B Equivalent to 0.1 mg of KOH per gram of material.

4. Sampling

4.1 The material shall be sampled in accordance with Practice E 300.

5. Test Methods

5.1 The properties enumerated in this specification shall be determined in accordance with the following ASTM methods:

5.1.1 *Apparent Specific Gravity*—Determine the apparent specific gravity by any convenient method that is accurate to the third decimal place, the temperature of both specimen and water being 20°C or 25°C. See Methods D 268 or Test Method D 4052.

5.1.2 *Color*—Test Method D 1209.

5.1.3 *Distillation Range*—Test Method D 1078 using an ASTM Solvents Distillation Thermometer 102C having a range from 123 to 177°C and conforming to the requirements of Specification E 1.

5.1.4 *Nonvolatile Matter*—Test Method D 1353.

5.1.5 *Water*—Test Method D 1364.

5.1.6 *Acidity*—Test Method D 1613.

6. Packaging and Package Marking

6.1 Package size to be agreed upon between the purchaser and the supplier.

6.2 Packaging shall conform to applicable carrier rules and regulations, or when specified, shall conform to Fed. Spec. PPP-C-2020.

¹ This specification is under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.35 on Solvents, Plasticizers, and Chemical Intermediates.

Current edition approved Feb. 15, 1995. Published April 1995. Originally published as D 331 – 32 T. Last previous edition D 331 – 90.

² This compound is also known under the name ethylene glycol monoethyl ether.

³ *Annual Book of ASTM Standards*, Vol 06.04.

⁴ *Annual Book of ASTM Standards*, Vol 05.02.

⁵ *Annual Book of ASTM Standards*, Vol 14.03.

⁶ *Annual Book of ASTM Standards*, Vol 15.05.

⁷ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

7. Keywords

7.1 ethylene glycol monoethyl ether; 2-ethoxyethanol

The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org).