



## Designation: D331 – 11 (Reapproved 2019)

# Standard Specification for 2-Ethoxyethanol<sup>1,2</sup>

This standard is issued under the fixed designation D331; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the U.S. Department of Defense.*

## 1. Scope

1.1 This specification covers 2-ethoxyethanol.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 The following applies to all specified limits in this standard: for purposes of determining conformance with this standard, an observed value or a calculated value shall be rounded off “to the nearest unit” in the last right-hand digit used in expressing the specification limit, in accordance with the rounding-off method of Practice E29.

1.4 For hazard information and guidance, see the supplier’s Material Safety Data Sheets.

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>3</sup>

**D268** Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Material

**D1078** Test Method for Distillation Range of Volatile Organic Liquids

**D1209** Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)

**D1353** Test Method for Nonvolatile Matter in Volatile Sol-

vents for Use in Paint, Varnish, Lacquer, and Related Products

**D1364** Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)

**D1613** Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products

**D4052** Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter

**D5386** Test Method for Color of Liquids Using Tristimulus Colorimetry

**E29** Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

**E300** Practice for Sampling Industrial Chemicals

2.2 *U. S. Federal Specification:*<sup>4</sup>

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

## 3. Properties

3.1 2-ethoxyethanol shall conform to the following requirements:

Apparent specific gravity:	
20/20 °C	0.929 to 0.932
or	
25/25 °C	0.926 to 0.929
Color, Pt-Co scale, max <sup>A</sup>	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 <sup>B</sup>
Acidity (free acid as acetic acid), max, weight %	0.01 <sup>C</sup>

<sup>A</sup> Instrumental Pt-Co color determined by Test Method D5386 has been shown to have no statistically significant difference from Pt-Co color determined by Test Method D1209. However, it is not known whether 2-ethoxyethanol was part of the sample set included in the interlaboratory study.

<sup>B</sup> This quantitative water limit ensures that the material is miscible without turbidity with 19 volumes of 99 % heptane at 20 °C.

<sup>4</sup> Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, <http://dodssp.daps.dla.mil>.

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

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<sup>2</sup> This compound is also known under the name ethylene glycol monoethyl ether.

<sup>3</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.