



Standard Specification for 2-Methoxyethanol¹

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

1. Scope

1.1 This specification covers 2-methoxyethanol.

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 Sheet for materials listed in this specification.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

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

¹ 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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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.

- 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 Standard:*
- PPP-C-2020 Specification for Packaging of Chemicals, Liquid, Dry, and Paste³

3. Properties

3.1 2-Methoxyethanol shall conform to the following requirements:

Apparent specific gravity:	
20/20°C	0.963 to 0.967
	or
25/25°C	0.960 to 0.964
Color, Pt-Co scale, max (Note 1)	15
Distillation range:	
Initial boiling point, °C, min	123
Dry point, °C, max	126
Water, weight, % max	0.2
Acidity (free acid as acetic acid), weight, % max	0.01, equivalent to 0.093 mg of KOH per gram of material

NOTE 1—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-methoxyethanol was part of the sample set included in the interlaboratory study.

4. Sampling

4.1 The material shall be sampled in accordance with Practice E300.

5. Test Methods

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

³ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, <http://www.dodssp.daps.mil>.

5.1.1 *Apparent Specific Gravity*—Determine the apparent specific gravity by any method that is accurate to the third decimal place, the temperature of both specimen and water being 20 or 25°C. See Specific Gravity section of Guide **D268** or Test Method **D4052**.

5.1.2 *Color*—Test Method **D1209**.

5.1.3 *Distillation Range*—Test Method **D1078**, using a temperature measuring device having a range of 98 to 152°C and a resolution of 0.1°C.

5.1.4 *Water*—Test Method **D1364**.

5.1.5 *Acidity*—Test Method **D1613**.

6. Packaging and Package Marking

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

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

7. Keywords

7.1 ethylene glycol monomethyl ether; 2-methoxyethanol

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