



Standard Specification for Ethylene Glycol¹

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1. Scope *

1.1 This specification covers ethylene glycol for use in the preparation of surface coatings.

1.2 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 E 29.

1.3 For specific hazard information and guidance, consult the supplier’s Material Safety Data Sheet.

2. Referenced Documents

2.1 ASTM Standards:

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter²

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications³

E 202 Test Methods for Analysis of Ethylene Glycols and Propylene Glycols⁴

E 300 Practice for Sampling Industrial Chemicals⁵

2.2 U.S. Federal Specification:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of ⁶

3. Properties

3.1 Ethylene glycol shall conform to the following requirements:

Apparent specific gravity	
20/20°C	1.1151 to 1.1156 or
25/25°C	1.1129 to 1.1134
Color, Pt-Co units, max	15
Distillation range, 760 mm Hg	
Initial boiling point, °C, min	193
Dry point, °C, max	204
Water, wt %, max	0.2
Acidity as acetic acid, wt %, max	0.005
Diethylene glycol, wt %, max	1.0
Iron, ppm, max	1.0

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 Test Methods E 202.

5.2 The specific gravity can also be determined in accordance with Test Method D 4052.

6. Packaging and Package Marking

6.1 Package size shall be agreed upon by 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.

7. Keywords

7.1 ethylene glycol

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² *Annual Book of ASTM Standards*, Vol 05.02.

³ *Annual Book of ASTM Standards*, Vol 14.02.

⁴ *Annual Book of ASTM Standards*, Vol 15.05.

⁵ Discontinued; see *2001 Annual Book of ASTM Standards*, Vol 15.05.

⁶ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098

*A Summary of Changes section appears at the end of this standard.

SUMMARY OF CHANGES

Committee D01.35 has identified the location of selected changes to this standard since the last issue (D 2693 - 93 (1997)) that may impact the use of this standard.

- (1) Added reference to Practice E 29 in Scope section.
- (2) Added Practice E 29 to list of Referenced Documents.
- (3) Changed specs limits for apparent specific gravity in section 3.1.

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