

This document is not an ASTM standard and is intended only to provide the user of an ASTM standard an indication of what changes have been made to the previous version. Because it may not be technically possible to adequately depict all changes accurately, ASTM recommends that users consult prior editions as appropriate. In all cases only the current version of the standard as published by ASTM is to be considered the official document.



Designation: D 2693 – 93 (Reapproved 1997)



Designation: D 2693 – 02

Standard Specification for Ethylene Glycol¹

This standard is issued under the fixed designation D 2693; 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 This specification is under the jurisdiction of ASTM Committee D-1 D01 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 ~~Oct. 15, 1993~~; July 10, 2002. Published ~~December 1993~~; September 2002. Originally published as D 2693 – 68. Last previous edition D 2693 – 893 (1997).

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 202 Test Methods 29 Practice for Analysis of Ethylene Glycols and Propylene Glycols Using Significant Digits in Test Data to Determine Conformance with Specifications³~~

~~E 300 Practice 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
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.

² Annual Book of ASTM Standards, Vol 05.02.

³ Annual Book of ASTM Standards, Vol 15.05: 14.02.

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

⁵ Annual Book of ASTM Standards, Vol 15.05.

⁶ 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

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

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.

ASTM International 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 International 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 International, 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).