



Standard Specification for Hexylene Glycol¹

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1. Scope*

1.1 This specification covers hexylene glycol² for use in paint, varnish, lacquer, and related products.

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 E29.

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

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

2. Referenced Documents

2.1 ASTM Standards:³

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)

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

D1722 Test Method for Water Miscibility of Water-Soluble Solvents

D4052 Test Method for Density, Relative Density, and API

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 This compound is also known as 2-methyl pentanediol-2,4.

³ 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.

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:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of ⁴

3. Properties

3.1 Hexylene glycol shall conform to the following requirements:

Apparent specific gravity, 20/20°C	0.921 to 0.925
	or
25/25°C	0.918 to 0.922
Color, Pt-Co units, max (Note 1)	15
Distillation range	3.0°C to include 197.1°C
Acidity (free acid as acetic acid) wt %, max	0.005
Water, wt %, max	0.1
Water miscibility	passes test

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 if hexylene glycol 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:

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°C or 25°C. (See Guide D268 and Test Method D4052).

5.1.2 *Color*—Test Method D1209 (see Note 1).

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

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

5.1.3 *Distillation Range*—Test Method **D1078** using a temperature measuring device having a range of 173 to 227°C and a resolution of 0.1°C.

5.1.4 *Acidity*—Test Method **D1613**.

5.1.5 *Water*—Test Method **D1364**.

5.1.6 *Water Miscibility*—Test Method **D1722**.

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 hexylene glycol

SUMMARY OF CHANGES

Committee D01.35 has identified the location of selected changes to this standard since the last issue (D2636 - 01) that may impact the use of this standard. (Approved June 1, 2007.)

(1) Added reference to Practice **E29** in Scope section.

(2) Added Practice **E29** to list of Referenced Documents.

(3) Changed specs limits for apparent specific gravity in **3.1**.

(4) Added new **Note 1** to **3.1**.

(5) Added Test Method **D5386** to list of Referenced Documents.

(6) Referenced new **Note 1** in **5.1.2**.

(7) Revised **5.1.3**.

(8) Deleted Specification E1 in **2.1**.

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