



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

2. Referenced Documents

2.1 ASTM Standards:

D 268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Materials³

D 1078 Test Method for Distillation Range of Volatile Organic Liquids³

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)³

D 1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)³

D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products³

D 1722 Test Method for Water Miscibility of Water-Soluble Solvents³

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter⁴

E 1 Specification for ASTM Thermometers⁵

E 300 Practice for Sampling Industrial Chemicals⁶

2.2 U.S. Federal Specification:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of⁷

3. Properties

3.1 Hexylene glycol shall conform to the following requirements:

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

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 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 D 268 and Test Method D 4052).

5.1.2 *Color*—Test Method D 1209.

5.1.3 *Distillation Range*—Test Method D 1078 for manual distillation, use an ASTM Solvents Distillation Thermometer 104C having a range from 173 to 227°C, and conforming to the requirements in Specification E 1.

5.1.4 *Acidity*—Test Method D 1613.

5.1.5 *Water*—Test Method D 1364.

5.1.6 *Water Miscibility*—Test Method D 1722.

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 D 01.35 on Solvents, Plasticizers, and Chemical Intermediates.

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

³ *Annual Book of ASTM Standards*, Vol 06.04.

⁴ *Annual Book of ASTM Standards*, Vol 05.02.

⁵ *Annual Book of ASTM Standards*, Vol 14.03.

⁶ *Annual Book of ASTM Standards*, Vol 15.05.

⁷ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.