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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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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:

¹ This specification is under the jurisdiction of ASTM Committee D-1 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.

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 0.924
25/25°C	0.918 to 0.921
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 using 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.

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

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

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