



# Standard Specification for Hexylene Glycol<sup>1</sup>

This standard is issued under the fixed designation D 2636; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope \*

1.1 This specification covers hexylene glycol<sup>2</sup> 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 Materials<sup>3</sup>

D 1078 Test Method for Distillation Range of Volatile Organic Liquids<sup>3</sup>

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

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

D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products<sup>3</sup>

D 1722 Test Method for Water Miscibility of Water-Soluble Solvents<sup>3</sup>

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter<sup>4</sup>

E 1 Specification for ASTM Thermometers<sup>5</sup>

E 300 Practice for Sampling Industrial Chemicals<sup>6</sup>

### 2.2 U.S. Federal Specification:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of<sup>7</sup>

## 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) wt %, max	0.005
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.

<sup>1</sup> 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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<sup>2</sup> This compound is also known as 2-methyl pentanediol-2,4.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 06.04.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 05.02.

<sup>5</sup> *Annual Book of ASTM Standards*, Vol 14.03.

<sup>6</sup> *Annual Book of ASTM Standards*, Vol 15.05.

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

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

**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 has identified the location of selected changes to this standard since the last date of issue that may impact the use of this standard.

- (1) Revision of updated footnotes.
- (2) Revision of Section 3, Properties, to change the upper limits on the apparent specific gravity from 0.924 to 0.925 at 20 °C and from 0.921 to 0.922 at 25 °C. These upper limits are more appropriate for pure material.
- (3) Revision of 5.1.3 to include wording that thermometer

104C is required if distillation is performed by the manual method. Test Method D 1078 allows manual or automated distillation but previous wording in this section implied that manual distillation is required.

- (4) Revision of 6.2 to include appropriate commas.

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