



Standard Specification for Propylene Glycol Monomethyl Ether¹

This standard is issued under the fixed designation D 4837; 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. Scope*

1.1 This specification covers propylene glycol monomethyl ether (PM).

NOTE 1—Propylene glycol monomethyl ether (PM) is a mixture of two isomers: 1-methoxy-2-propanol and 2-methoxy-1-propanol.

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 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 the supplier’s Material Safety Data Sheet for materials listed in this standard.

2. Referenced Documents

2.1 ASTM Standards:²

- D 268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Material
- D 1078 Test Method for Distillation Range of Volatile Organic Liquids
- D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)
- D 1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)
- D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products
- D 4052 Test Method for Density and Relative Density of

Liquids by Digital Density Meter

D 4773 Test Method for Purity of Propylene Glycol Monomethyl Ether, Dipropylene Glycol Monomethyl Ether, and Propylene Glycol Monomethyl Ether Acetate

D 5386 Test Method for Color of Liquids Using Tristimulus Colorimetry

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E 300 Practice for Sampling Industrial Chemicals

2.2 U.S. Federal Specification:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of³

3. Properties

3.1 Propylene glycol monomethyl ether (PM) shall conform to the following requirements:

Purity, min, weight %	99.0
Apparent specific gravity: 20/20°C	0.922 to 0.925 or 0.918 to 0.921
25/25°C	0.918 to 0.921
Color, platinum cobalt scale, max (Note 2)	10
Water, max, weight %	0.25
Distillation Range:	
Initial boiling point, °C min	117
Dry point, °C max	125
Acidity (free acid acetic acid), max, weight %	0.01 ^A

^A Equivalent to 0.1 mg of potassium hydroxide (KOH) per gram of specimen.

NOTE 2—Instrumental Pt-Co color determined by Test Method D 5386 has been shown to have no statistically significant difference from Pt-Co color determined by Test Method D 1209. However, it is not known whether propylene glycol monomethyl ether was part of the sample set included in the interlaboratory study.

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 test methods:

³ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, <http://www.dodssp.daps.mil>.

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.

Current edition approved June 1, 2007. Published July 2007. Originally approved in 1988. Last previous edition approved in 2002 as D 4837 – 02.

² 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.

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