



Standard Specification for Methanol (Methyl Alcohol)¹

This standard is issued under the fixed designation D1152; 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 methanol (99.85 % grade).

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, see the supplier’s Material Safety Data Sheet for materials listed in this specification.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)

D1296 Test Method for Odor of Volatile Solvents and Diluents

D1353 Test Method for Nonvolatile Matter in Volatile Solvents for Use in Paint, Varnish, Lacquer, and Related Products

D5386 Test Method for Color of Liquids Using Tristimulus Colorimetry

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

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 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.

E300 Practice for Sampling Industrial Chemicals

E346 Test Methods for Analysis of Methanol

2.2 *U.S. Fed. Specification:*

PPP-C-2020 Federal Specification Packaging of Chemicals, Liquid, Dry, and Paste³

3. Properties

3.1 Methanol (99.85 % grade) shall conform to the following requirements:

Apparent specific gravity:	
20/20°C	0.7920 to 0.7930
or	
25/25°C	0.7883 to 0.7893
Color, Pt-Co, max (see Note 2)	10
Distillation range, °C, max	1.0 (to include 64.6 ± 0.1)
Nonvolatile matter, mg/100 mL, max	5
Odor (see Note 1)	nonresidual
Water, weight %, max	0.10
Acidity (free acid as acetic acid), weight %, max	0.003, equivalent to 0.028 mg KOH per gram of material
Acetone, weight %, max	0.003
Sulfuric acid wash test (carbonizable impurities)	50
Color, Pt-Co, max	
Permanganate time, min	50

NOTE 1—Optional: Test for odor only when agreed upon as necessary between the purchaser and the supplier.

NOTE 2—Instrumental Pt-Co color determined by Test Method D5386 have been shown to have no statistically significant difference from Pt-Co color determined by Test Method D1209. However, it is not known whether methanol was part of the sample set included in the interlaboratory study.

4. Sampling

4.1 Sample the material in accordance with Practice E300.

5. Test Methods

5.1 The properties enumerated in this specification shall be determined in accordance with Test Methods E346 and the following methods:

5.1.1 *Nonvolatile Matter*—Test Method D1353.

5.1.2 *Odor*—Test Method D1296.

5.1.3 *Color*—Test Method D1209 (see Note 2).

³ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098.

*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 between the purchaser and the supplier.

6.2 Packaging shall conform to applicable carrier rules and regulations or when specified shall conform to U.S. Fed. Spec. PPP-C-2020.

7. Keywords

7.1 methanol; methyl alcohol

SUMMARY OF CHANGES

Committee D01.35 has identified the location of selected changes to this standard since the last issue (D1152 – 97 (2001)) that may impact the use of this standard.

- (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 2** to **3.1**.
- (5) Added Test Method **D1209** and Test Method **D5386** to list of Referenced Documents.
- (6) Referenced new **Note 2** in **5.1.3**
- (7) Removed hydrocarbon specs in **3.1**.

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