



Standard Specification for Fuel Methanol (M70-M85) for Automotive Spark-Ignition Engines¹

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1. Scope

1.1 This specification covers a fuel blend, nominally 70 to 85 volume % methanol and 30 to 14 volume % hydrocarbons for use in ground vehicles with automotive spark-ignition engines. **Appendix X1** discusses the significance of the properties specified. **Appendix X2** presents the current status in the development of a luminosity test procedure for M70-M85.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 The following precautionary caveat pertains only to the test method portions—**Annex A1**, **Annex A2**, **Annex A3**, and **Appendix X2** of this specification. *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:^{2,3}

- D86** Test Method for Distillation of Petroleum Products at Atmospheric Pressure
- D130** Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test
- D381** Test Method for Gum Content in Fuels by Jet Evaporation
- D512** Test Methods for Chloride Ion in Water
- D525** Test Method for Oxidation Stability of Gasoline (Induction Period Method)

¹ This specification is under the jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricants and is under the direct responsibility of Subcommittee D02.A0.02 on Oxygenated Fuels and Components.

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² Reference to the following documents is to be the latest issue unless otherwise specified.

³ 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.

- D872** Method of Test for Sulfonation Index of Road Tars⁴
- D1193** Specification for Reagent Water
- D1266** Test Method for Sulfur in Petroleum Products (Lamp Method)
- D1613** Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products
- D2622** Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-ray Fluorescence Spectrometry
- D3120** Test Method for Trace Quantities of Sulfur in Light Liquid Petroleum Hydrocarbons by Oxidative Microcoulometry
- D3231** Test Method for Phosphorus in Gasoline
- D4057** Practice for Manual Sampling of Petroleum and Petroleum Products
- D4177** Practice for Automatic Sampling of Petroleum and Petroleum Products
- D4306** Practice for Aviation Fuel Sample Containers for Tests Affected by Trace Contamination
- D4307** Practice for Preparation of Liquid Blends for Use as Analytical Standards
- D4626** Practice for Calculation of Gas Chromatographic Response Factors
- D4814** Specification for Automotive Spark-Ignition Engine Fuel
- D4815** Test Method for Determination of MTBE, ETBE, TAME, DIPE, tertiary-Amyl Alcohol and C₁ to C₄ Alcohols in Gasoline by Gas Chromatography
- D4929** Test Methods for Determination of Organic Chloride Content in Crude Oil
- D4953** Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method)
- D5059** Test Methods for Lead in Gasoline by X-Ray Spectroscopy
- D5190** Test Method for Vapor Pressure of Petroleum Products (Automatic Method)
- D5191** Test Method for Vapor Pressure of Petroleum Products (Mini Method)
- D5453** Test Method for Determination of Total Sulfur in Light Hydrocarbons, Spark Ignition Engine Fuel, Diesel

⁴ Withdrawn.