



Standard Specification for Fuel Ethanol (Ed70-Ed85) for Automotive Spark-Ignition Engines¹

This standard is issued under the fixed designation D5798; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope*

1.1 This specification covers a fuel blend, nominally 70 to 85 volume % denatured fuel ethanol and 30 to 15 additional volume % hydrocarbons for use in ground vehicles with automotive spark-ignition engines. **Appendix X1** discusses the significance of the properties specified.

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

2. Referenced Documents

2.1 ASTM Standards:²

- 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)
- 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
- D1688** Test Methods for Copper in Water
- 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
- 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
- D4806** Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel
- 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
- D4953** Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method)
- 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 Engine Fuel, and Engine Oil by Ultraviolet Fluorescence
- D5501** Test Method for Determination of Ethanol Content of Denatured Fuel Ethanol by Gas Chromatography
- D5854** Practice for Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products
- D6423** Test Method for Determination of pH of Ethanol, Denatured Fuel Ethanol, and Fuel Ethanol (Ed75-Ed85)
- D7319** Test Method for Determination of Total and Potential Sulfate and Inorganic Chloride in Fuel Ethanol by Direct Injection Suppressed Ion Chromatography
- D7328** Test Method for Determination of Total and Potential Inorganic Sulfate and Total Inorganic Chloride in Fuel Ethanol by Ion Chromatography Using Aqueous Sample Injection

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.A0.01 on Gasoline and Gasoline-Oxygenate Blends.

Current edition approved Dec. 1, 2010. Published January 2011. Originally approved in 1996. Last previous edition approved in 2010 as D5798-10. DOI: 10.1520/D5798-10A.

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.