



Designation: D8011 – 17

Standard Specification for Natural Gasoline as a Blendstock in Ethanol Fuel Blends or as a Denaturant for Fuel Ethanol¹

This standard is issued under the fixed designation D8011; 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 natural gasoline to be used as a hydrocarbon blendstock in ethanol fuel blends for flexible-fuel automotive spark-ignition engines (Specification D5798). In the United States, these blends are referred to commercially as Ethanol Flex Fuel.

1.2 This specification also covers natural gasoline to be used as a denaturant in denatured fuel ethanol for blending with gasolines for use as automotive spark-ignition engine fuel (Specification D4806).

1.3 Specific regulatory requirements for the intended uses from various jurisdictions are given in appendixes for information.

1.4 This specification is not intended to provide a market specification nor a regulatory reference for natural gasoline for any use other than as a hydrocarbon blendstock in ethanol fuel blends or as a denaturant in denatured fuel ethanol.

1.5 The values stated in SI units are to be regarded as standard.

1.5.1 *Exception*—Values given in parentheses are provided for information only.

2. Referenced Documents

2.1 ASTM Standards:²

- D86 Test Method for Distillation of Petroleum Products and Liquid Fuels at Atmospheric Pressure
- D287 Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)
- D381 Test Method for Gum Content in Fuels by Jet Evaporation
- D1266 Test Method for Sulfur in Petroleum Products (Lamp Method)

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

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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.

- 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
- D4052 Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter
- D4057 Practice for Manual Sampling of Petroleum and Petroleum Products
- D4175 Terminology Relating to Petroleum Products, Liquid Fuels, and Lubricants
- D4176 Test Method for Free Water and Particulate Contamination in Distillate Fuels (Visual Inspection Procedures)
- 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
- D4953 Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry 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
- D5482 Test Method for Vapor Pressure of Petroleum Products (Mini Method—Atmospheric)
- D5580 Test Method for Determination of Benzene, Toluene, Ethylbenzene, *p/m*-Xylene, *o*-Xylene, C₉ and Heavier Aromatics, and Total Aromatics in Finished Gasoline by Gas Chromatography
- D5798 Specification for Ethanol Fuel Blends for Flexible-Fuel Automotive Spark-Ignition Engines
- D5842 Practice for Sampling and Handling of Fuels for Volatility Measurement
- D5854 Practice for Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products

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