Designation: D 5797 – 96 (Reapproved 2001)

An American National Standard

Standard Specification for Fuel Methanol (M70-M85) for Automotive Spark-Ignition Engines[1]

This standard is issued under the fixed designation D 5797; 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 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. Values given in parentheses are provided 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]

2. Referenced Documents

2.1 *ASTM Standards:*

D 86 Test Method for Distillation of Petroleum Products[3]

D 130 Test Method for Detection of Copper Corrosion from Petroleum Products by the Copper Strip Tarnish Test[3]

D 381 Test Method for Existent Gum in Fuels by Jet Evaporation[3]

D 512 Test Methods for Chloride Ion in Water[4]

D 525 Test Method for Oxidation Stability of Gasoline (Induction Period Method)[3]

D 872 Test Method for Sulfonation Index of Road Tars[5]

D 1193 Specification for Reagent Water[4]

D 1266 Test Method for Sulfur in Petroleum Products (Lamp Method)[3]

D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products[6]

D 2622 Test Method for Sulfur in Petroleum Products by X-ray Spectrometry Method[3]

D 2988 Test Method for Water-Soluble Halide Ion in Halogenated Organic Solvents and Their Admixtures[7]

D 3120 Test Method for Trace Quantities of Sulfur in Light Liquid Petroleum Hydrocarbons by Oxidative Microcoulometry[3]

D 3231 Test Method for Phosphorus in Gasoline[8]

D 4057 Practice for Manual Sampling of Petroleum and Petroleum Products[8]

D 4177 Practice for Automatic Sampling of Petroleum and Petroleum Products[8]

D 4307 Practice for Preparation of Liquid Blends for Use as Analytical Standards[8]

D 4626 Practice for Calculation of Gas Chromatographic Response Factors[8]

D 4814 Specification for Automotive Spark-Ignition Engine Fuel[8]

D 4815 Test Method for Determination of MTBE, ETBE, TAME, DIPE, *tertiary*-Amyl Alcohol and C_1 to C_4 Alcohols in Gasoline by Gas Chromatography[8]

D 4929 Test Methods for Determination of Organic Chloride Content in Crude Oil[8]

D 4953 Test Method for Vapor Pressure of Gasoline and Gasoline-Oxygenate Blends (Dry Method)[8]

D 5059 Test Method for Lead in Gasoline by X-ray Spectroscopy[8]

D 5190 Test Method for Vapor Pressure of Petroleum Products (Automatic Method)[8]

D 5191 Test Method for Vapor Pressure of Petroleum Products (Mini Method)[8]

D 5453 Test Method for Determination of Total Sulfur in Light Hydrocarbons, Motor Fuels and Oils by Ultraviolet Fluorescence[9]

E 203 Test Method for Water Using Karl Fischer Reagent[7]

[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.A on Gasoline and Oxygenated Fuels.

Current edition approved April 10, 1996. Published June 1996. Originally published as D 5797 – 95. Last previous edition D 5797 – 95.

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

[3] *Annual Book of ASTM Standards*, Vol 05.01.

[4] *Annual Book of ASTM Standards*, Vol 11.01.

[5] *Annual Book of ASTM Standards*, Vol 04.03.

[6] *Annual Book of ASTM Standards*, Vol 06.04.

[7] *Annual Book of ASTM Standards*, Vol 15.05.

[8] *Annual Book of ASTM Standards*, Vol 05.02.

[9] *Annual Book of ASTM Standards*, Vol 05.03.

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