



Standard Practice for Evaluation of Antimicrobials in Liquid Fuels Boiling Below 390°C¹

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1. Scope

1.1 This practice is designed to evaluate antimicrobial agents for the prevention of microbially influenced deterioration of liquid fuels (as defined by Specification D396, D910, D975, D1655, D2069, D2880, D3699, D4814, D6227, D6751, and D7467), system deterioration, or both.

1.2 Knowledge of microbiological techniques is required for these procedures.

1.3 It is the responsibility of the investigator to determine whether Good Laboratory Practice (GLP) is required and to follow them where appropriate (40 CFR, 160), or as revised.

1.4 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

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

- D396 Specification for Fuel Oils
- D910 Specification for Leaded Aviation Gasolines
- D975 Specification for Diesel Fuel Oils
- D1655 Specification for Aviation Turbine Fuels
- D2069 Specification for Marine Fuels (Withdrawn 2003)³
- D2880 Specification for Gas Turbine Fuel Oils
- D3699 Specification for Kerosine

¹ This practice is under the jurisdiction of ASTM Committee E35 on Pesticides, Antimicrobials, and Alternative Control Agents and is the direct responsibility of Subcommittee E35.15 on Antimicrobial Agents.

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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.

³ The last approved version of this historical standard is referenced on www.astm.org.

- D4814 Specification for Automotive Spark-Ignition Engine Fuel
- D5465 Practice for Determining Microbial Colony Counts from Waters Analyzed by Plating Methods
- D6227 Specification for Unleaded Aviation Gasoline Containing a Non-hydrocarbon Component
- D6293 Test Method for Oxygenates and Paraffin, Olefin, Naphthene, Aromatic(O-PONA) Hydrocarbon Types in Low-Olefin Spark Ignition Engine Fuels by Gas Chromatography (Withdrawn 2009)³
- D6469 Guide for Microbial Contamination in Fuels and Fuel Systems
- D6729 Test Method for Determination of Individual Components in Spark Ignition Engine Fuels by 100 Metre Capillary High Resolution Gas Chromatography
- D6733 Test Method for Determination of Individual Components in Spark Ignition Engine Fuels by 50-Metre Capillary High Resolution Gas Chromatography
- D6751 Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels
- D6974 Practice for Enumeration of Viable Bacteria and Fungi in Liquid Fuels—Filtration and Culture Procedures
- D7463 Test Method for Adenosine Triphosphate (ATP) Content of Microorganisms in Fuel, Fuel/Water Mixtures, and Fuel Associated Water
- D7464 Practice for Manual Sampling of Liquid Fuels, Associated Materials and Fuel System Components for Microbiological Testing
- D7467 Specification for Diesel Fuel Oil, Biodiesel Blend (B6 to B20)
- D7687 Test Method for Measurement of Cellular Adenosine Triphosphate in Fuel, Fuel/Water Mixtures, and Fuel-Associated Water with Sample Concentration by Filtration
- D7978 Test Method for Determination of the Viable Aerobic Microbial Content of Fuels and Associated Water—Thixotropic Gel Culture Method
- E1259 Practice for Evaluation of Antimicrobials in Liquid Fuels Boiling Below 390°C
- E1326 Guide for Evaluating Non-culture Microbiological Tests