



Standard Specification for Kerosine¹

This standard is issued under the fixed designation D 3699; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

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

1. Scope

1.1 This specification covers two grades of kerosine suitable for use in critical kerosine burner applications:

1.1.1 *No. 1-K*—A special low-sulfur grade kerosine suitable for use in nonflue-connected kerosine burner appliances and for use in wick-fed illuminating lamps.

1.1.2 *No. 2-K*—A regular grade kerosine suitable for use in flue-connected burner appliances and for use in wick-fed illuminating lamps.

1.2 This specification is intended for use in purchasing, as a reference for industry and governmental standardization, and as a source of technical information.

1.3 This specification, unless otherwise provided by agreement between the purchaser and the supplier, prescribes the required properties of kerosine at the time and place of custody transfer.

1.4 Nothing in this specification shall preclude observance of federal, state, or local regulations which can be more restrictive.

1.5 All values are stated in SI units and are regarded as the standard.

NOTE 1—The generation and dissipation of static electricity can create problems in the handling of kerosines. For more information on the subject, see Guide D 4865.

2. Referenced Documents

2.1 ASTM Standards:

- D 56 Test Method for Flash Point by Tag Closed Tester²
- D 86 Test Method for Distillation of Petroleum Products²
- D 130 Test Method for Detection of Copper Corrosion from Petroleum Products by the Copper Strip Tarnish Test²
- D 156 Test Method for Saybolt Color of Petroleum Products (Saybolt Chromometer Method)²
- D 187 Test Method for Burning Quality of Kerosine²
- D 445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)²

¹ This specification is under the jurisdiction of ASTM Committee D-2 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02. E on Burner, Diesel, Non-aviation Gas Turbine, and Marine Fuels.

Current edition approved Apr. 10, 1998. Published September 1998. Originally published as D 3699 – 78. Last previous edition D 3699 – 96a.

² *Annual Book of ASTM Standards*, Vol 05.01.

D 1266 Test Method for Sulfur in Petroleum Products (Lamp Method)²

D 2386 Test Method for Freezing Point of Aviation Fuels²

D 2622 Test Method for Sulfur in Petroleum Products by X-Ray Spectrometry³

D 3227 Test Method for Mercaptan Sulfur in Gasoline, Kerosine, Aviation Turbine, and Distillate Fuels (Potentialometric Method)³

D 3828 Test Methods for Flash Point by Small Scale Closed Tester³

D 4294 Test Method for Sulfur in Petroleum Products by Energy Dispersive X-Ray Fluorescence Spectrometry³

D 4865 Guide for Generation and Dissipation of Static Electricity in Petroleum Fuel Systems⁴

D 4952 Test Method for Qualitative Analysis for Active Sulfur Species in Fuels and Solvents (Doctor Test)⁴

D 5901 Test Method for Freezing Point of Aviation Fuels (Automatic Optical Method)⁴

D 5972 Test Method for Freezing Point of Aviation Fuels (Automatic Phase Transition Method)⁴

2.2 IP Standard:

IP 10 Burning Test—24 Hour⁵

3. General Requirements

3.1 Kerosine shall be a refined petroleum distillate consisting of a homogeneous mixture of hydrocarbons essentially free of water, inorganic acidic or basic compounds, and excessive amounts of particulate contaminants. Additive usage can be established by mutual agreement of the supplier and the purchaser.

4. Detailed Requirements

4.1 The kerosine shall conform to the detailed requirements prescribed in Table 1.

4.2 The kerosine shall conform to the following requirements when tested for burning quality as specified:

4.2.1 *Time of Burning*—A minimum of 16 h continuous burning after the first weighing shall be required.

4.2.2 *Rate of Burning*—After the first weighing, the rate of burning shall be 18 to 26 g/h with the Institute of Petroleum

³ *Annual Book of ASTM Standards*, Vol 05.02.

⁴ *Annual Book of ASTM Standards*, Vol 05.03.

⁵ Standard Methods for Analysis and Testing of Petroleum and Related Products, Institute of Petroleum, 61 New Cavendish St., London, W7M 8AR, Vol 1.