This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: D7524 – 20

IP 568/08

Standard Test Method for Determination of Static Dissipater Additives (SDA) in Aviation Turbine Fuel and Middle Distillate Fuels—High Performance Liquid Chromatograph (HPLC) Method[1]

This standard is issued under the fixed designation D7524; 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 test method covers the determination of static dissipater additive (SDA) content of aviation turbine fuel and middle distillate fuels.

1.2 The precision of this test method has been established for aviation turbine fuel over the concentration range of 1 mg/L to 12 mg/L. Higher concentrations can be determined by dilution, but the precision of the test method will not apply.

NOTE 1—The SDA used to develop this test method was STADIS 450[2] for aviation fuels and STADIS 450 and 425[2] for middle distillates.

1.3 The test method includes a procedure to concentrate the sulfonic acid component in the SDA prior to analysis.

1.4 The test method only applies to SDAs that contain alkyl substituted sulfonic acid.

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

1.6 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[3]

D4057 Practice for Manual Sampling of Petroleum and Petroleum Products

D4177 Practice for Automatic Sampling of Petroleum and Petroleum Products

2.2 *ISO Standards:*[4]

EN ISO 3696 Water for Analytical Laboratory Use—Specifications and Test Methods

2.3 *Energy Institute Standards:*[5]

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3. Terminology

3.1 *Definitions:*

3.1.1 *middle distillate fuels, n*—generic refinery/supplier term that usually denotes a fuel primarily intended for use in compression ignition/diesel engine applications, and also in non-aviation gas turbine engines and other non-automotive applications such as a burner fuel.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *aviation turbine fuel, n*—fuel used for powering jet and turbo-prop engine aircraft.

3.2.2 *conductivity improver additive, n*—material added to a fuel in very small amounts to increase its electrical conductivity and thereby reduce relaxation time.

3.2.2.1 *Discussion*—Conductivity improver additives are also known as static dissipater additives (SDAs) or antistatic additives.

[1] This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.04.0C on Liquid Chromatography.

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[2] Stadis 450 and 425 are registered trademarks marketed by Innospec, Inc., Innospec Manufacturing Park, Oil Sites Road, Ellesmere Port, Cheshire Ch65 4EY, UK.

[3] 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.

[4] Available from International Organization for Standardization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH-1211, Geneva 20, Switzerland, http://www.iso.ch.

[5] Available from Energy Institute, 61 New Cavendish St., London, WIG 7AR, U.K., http://www.energyinst.org.uk.

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

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