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: D5452 – 23

Designation: 423/10

Standard Test Method for Particulate Contamination in Aviation Fuels by Laboratory Filtration[1,2]

This standard is issued under the fixed designation D5452; 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.

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

1. Scope*

1.1 This test method covers the gravimetric determination by filtration of particulate contaminant in a sample of aviation turbine fuel delivered to a laboratory.

1.1.1 The sample is filtered through a test membrane and a control membrane using vacuum. The mass change difference identifies the contaminant level per unit volume.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *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.* For specific hazard statements, see 4.2, 7.3, 7.5, 11.2, and X1.7.2. Before using this standard, refer to supplier's safety labels, material safety data sheets, and technical literature.

1.4 *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]

D56 Test Method for Flash Point by Tag Closed Cup Tester
D93 Test Methods for Flash Point by Pensky-Martens Closed Cup Tester
D1193 Specification for Reagent Water
D1535 Practice for Specifying Color by the Munsell System
D2244 Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
D2276 Test Method for Particulate Contaminant in Aviation Fuel by Line Sampling
D3828 Test Methods for Flash Point by Small Scale Closed Cup Tester
D4306 Practice for Aviation Fuel Sample Containers for Tests Affected by Trace Contamination
D4865 Guide for Generation and Dissipation of Static Electricity in Petroleum Fuel Systems
D6615 Specification for Jet B Wide-Cut Aviation Turbine Fuel
D8194 Practice for Evaluation of Suitability of 37 mm Filter Monitors and 47 mm Filters Used to Determine Particulate Contaminant in Aviation Turbine Fuels

3. Terminology

3.1 *Definitions:*

3.1.1 *bond, v*—to connect two parts of a system electrically by means of a bonding wire to eliminate voltage differences.

3.1.2 *ground, vt*—to connect electrically with ground (earth).

3.1.3 *membrane filter, n*—a porous article of closely controlled pore size through which a liquid is passed to separate matter in suspension.

[1] This test method is under the jurisdiction of ASTM International Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of ASTM Subcommittee D02.J0.05 on Fuel Cleanliness. The technically equivalent standard as referenced is under the jurisdiction of the Energy Institute Subcommittee SC-B-11.

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This test method has been separated from D2276 and has been modified primarily to establish improved safety measures.

[2] This test method has been developed through the cooperative effort between ASTM and the Energy Institute, London. ASTM and IP standards were approved by ASTM and EI technical committees as being technically equivalent but that does not imply both standards are identical.

[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.

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

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