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An American National Standard

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Standard Test Method for Particulate Contaminant in Aviation Fuel by Line Sampling[1]

This standard is issued under the fixed designation D2276; 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 determination of particulate contaminant in aviation turbine fuel using a field monitor.

1.2 There are two test methods described. The basic test method is used to evaluate the level of contamination gravimetrically. The second test method, presented in Appendix X1, describes a color rating technique that is used for rapid qualitative assessment of changes in contamination level without the time delay required for the gravimetric determinations by stringent laboratory procedures.

1.3 There are two Annexes and two Appendixes in this test method.

1.3.1 Annex A1 provides some precautionary information regarding the use of the required reagents.

1.3.2 Annex A2 describes a standard practice for obtaining a sample of the particulates present in a flowing stream of aviation turbine fuel.

1.3.3 Appendix X1 describes a test method for rating the particulate level in an aviation turbine fuel on the basis of the color of a filter membrane after sampling the fuel in the field.

1.3.4 Appendix X2 provides some safety precautions to avoid static discharge resulting from the accumulation of electrical charges in the fuel and on the equipment while following the procedures.

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

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]

D1193 Specification for Reagent Water

D1535 Practice for Specifying Color by the Munsell System

D1655 Specification for Aviation Turbine Fuels

D2244 Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates

D4865 Guide for Generation and Dissipation of Static Electricity in Petroleum Fuel Systems

D5452 Test Method for Particulate Contamination in Aviation Fuels by Laboratory Filtration

D6615 Specification for Jet B Wide-Cut Aviation Turbine Fuel

3. Terminology

3.1 *Definitions:*

3.1.1 *membrane color, n*—a visual rating of particulate on a filter membrane against ASTM Color Standards.

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

3.1.2.1 *Discussion*—RR:D02-1012[3] contains information on membrane filters that meet the requirements therein.

3.1.3 *monitor, n*—something that reminds or warns.

3.1.3.1 *Discussion*—A plastic holder for a membrane filter held in a field sampling apparatus.

3.1.4 *particulate, adj*—of or relating to minute separate particles.

3.1.4.1 *Discussion*—Solids generally composed of oxides, silicates, and fuel insoluble salts.

3.2 *Definitions of Terms Specific to This Standard:*

[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.J0.05 on Fuel Cleanliness.

This test method has been approved by the sponsoring committees and accepted by the Cooperating Societies in accordance with established procedures.

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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] Supporting data (and a list of suppliers who have provided data indicating their membranes, field monitors, and field monitor castings) have been filed at ASTM International Headquarters and may be obtained by requesting Research Report RR:D02-1012.

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