Designation: D 235 – 99

Standard Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent)[1]

This standard is issued under the fixed designation D 235; 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 Department of Defense.

1. Scope *

1.1 This specification covers four types of hydrocarbon solvents, normally petroleum distillates, used primarily in the coatings and dry-cleaning industries. "Mineral spirits" is the most common name for these solvents. They are also called "Stoddard Solvents" when used for dry cleaning.

1.2 For specific hazard information and guidance, see the supplier's Material Safety Data Sheet for materials listed in this specification.

1.3 The following hazard caveat pertains only to the test method portion, 6.1.10, of this specification. *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:*

D 56 Test Method for Flash Point by Tag Closed Tester[2]

D 86 Test Method for Distillation of Petroleum Products at Atmospheric Pressure[2]

D 130 Test Method for Detection of Copper Corrosion from Petroleum Products by the Copper Strip Tarnish Test[2]

D 156 Test Method for Saybolt Color of Petroleum Products (Saybolt Chromometer Method)[2]

D 268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Materials[3]

D 1133 Test Method for Kauri-Butanol Value of Hydrocarbon Solvents[3]

D 1159 Test Method for Bromine Number of Petroleum Distillates and Commercial Aliphatic Olefins by Electrometric Titration[2]

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)[3]

D 1296 Test Method for Odor of Volatile Solvents and Diluents[3]

D 2710 Test Method for Bromine Index of Petroleum Hydrocarbons by Electrometric Titration[4]

D 3227 Test Method for Mercaptan Sulfur in Gasoline, Kerosine, Aviation Turbine, and Distillate Fuels (Potentiometric Method)[4]

D 3257 Test Method for Aromatics in Mineral Spirits by Gas Chromatography[3]

D 3278 Test Method for Flash Point of Liquids by Small Scale Closed-Cup Apparatus[5]

E 300 Practice for Sampling Industrial Chemicals[6]

2.2 *U.S. Federal Specification:*

PPP-C-2020 Chemical, Liquid, Dry, and Paste: Packaging of[7]

3. Classification

3.1 Mineral spirits shall be of the following types as specified:

3.1.1 *Type I*—Full Range.

3.1.2 *Type II*—High Flash Point.

3.1.3 *Type III*—Odorless.

3.1.4 *Type IV*—Low Dry Point.

3.2 Mineral spirits types may be further differentiated based on aromatics content as follows:

3.2.1 *Class A*—8 to 22 vol % aromatics.

3.2.2 *Class B*—2 to 8 max vol % aromatics.

3.2.3 *Class C*—less than 2 vol % aromatics.

4. Properties

4.1 The physical and chemical properties of the different types and classes of mineral spirits shall conform to the requirements specified in Table 1.

5. Sampling

5.1 The material shall be sampled in accordance with Practice E 300.

[1] This specification is under the jurisdiction of ASTM Committee D-1 on Paints and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.35 on Solvents, Plasticizers, and Chemical Intermediates.

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

[3] *Annual Book of ASTM Standards*, Vol 06.04.

[4] *Annual Book of ASTM Standards*, Vol 05.02.

[5] *Annual Book of ASTM Standards*, Vol 06.01.

[6] *Annual Book of ASTM Standards*, Vol 15.05.

[7] Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094.

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