Designation: D4126 – 02 (Reapproved 2012)

Standard Specification for Vapor-Degreasing Grade and General Solvent Grade 1,1,1-Trichloroethane[1]

This standard is issued under the fixed designation D4126; 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 vapor-degreasing grade and general solvent grade 1,1,1-trichloroethane. High purity grades of 1,1,1-trichloroethane are available but should not be evaluated by this specification.

1.2 *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.*

NOTE 1—Practices D3844 and D4276, STP 403A[2] and MNL2[3] provide additional important information on vapor degreasing and solvent properties.

2. Referenced Documents

2.1 *ASTM Standards:*[4]

D1078 Test Method for Distillation Range of Volatile Organic Liquids

D2108 Test Method for Color of Halogenated Organic Solvents and Their Admixtures (Platinum-Cobalt Scale)

D2109 Test Methods for Nonvolatile Matter in Halogenated Organic Solvents and Their Admixtures

D2111 Test Methods for Specific Gravity and Density of Halogenated Organic Solvents and Their Admixtures

D2942 Test Method for Total Acid Acceptance of Halogenated Organic Solvents (Nonreflux Methods)

D2943 Test Method for Aluminum Scratch of 1,1,1-Trichloroethane to Determine Stability

D2988 Test Methods for Water-Soluble Halide Ion in Halogenated Organic Solvents and Their Admixtures

D2989 Test Method for Acidity-Alkalinity of Halogenated Organic Solvents and Their Admixtures

D3401 Test Methods for Water in Halogenated Organic Solvents and Their Admixtures

D3741 Test Methods for Appearance of Admixtures Containing Halogenated Organic Solvents

D3844 Guide for Labeling Chlorinated Hydrocarbon Solvent Containers

D4276 Practice for Confined Area Entry

D6806 Practice for Analysis of Halogenated Organic Solvents and Their Admixtures by Gas Chromatography

2.2 *Other Documents:*

29 CFR 1910.1200 Department of Labor, OSHA Regulations, Hazard Communication[5]

40 CFR 82 Environmental Protection Agency, Protection of Stratospheric Ozone[5]

49 CFR 100 to 199 Department of Transportation Hazardous Materials Regulations[5]

3. Properties

3.1 Vapor degreasing grade and general solvent grade 1,1,1-trichloroethane shall conform to the requirements prescribed in Table 1.

4. Packaging

4.1 Package and label industrial or commercial quantities in accordance with DOT regulations in 49 CFR 100 to 199, in accordance with state and local regulations, in accordance with OSHA regulations found in 29 CFR 1910.1200, and in accordance with EPA regulations found in 40 CFR 82 Subpart E.

5. Keywords

5.1 1,1,1-trichloroethane; methyl chloroform; vapor-degreasing solvent

[1] This specification is under the jurisdiction of ASTM Committee D26 on Halogenated Organic Solvents and Fire Extinguishing Agents and is the direct responsibility of Subcommittee D26.02 on Vapor Degreasing.

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[2] *Cold Cleaning with Halogenated Solvents, STP 403A, ASTM.*

[3] *Manual on Vapor Degreasing, MNL2, third edition, ASTM.*

[4] 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.

[5] The Code of Federal Regulations may be obtained from the U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, http://www.access.gpo.gov.

TABLE 1 Properties

Property	Specification	Test Method
Specific gravity, 25/25°C	1.300 to 1.327	D2111
Distillation range (760 mm Hg)		D1078
Initial boiling point, °C, min	70.0	
Dry point, °C, max	88.0	
Acidity (as HCl), weight, %, max	0.0010	D2989
Alkalinity (as NaOH), weight, %, max	0.020	D2989
Water, weight, %, max	0.0100	D3401
Appearance	clear and free from suspended matter	D3741
Color, Pt-Co, max	20	D2108
Halide (as Cl^-), weight, %, max	0.0005	D2988
Nonvolatile residue, weight, %, max	0.0050	D2109
Acid acceptance (as NaOH), weight, %, min	0.160	D2942
Aluminum scratch	Passes test	D2943
1,1,1-trichloroethane content, weight, %, min	90	D6806