



Standard Specification for Drycleaning-Grade Perchloroethylene¹

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1. Scope

1.1 This specification covers drycleaning-grade perchloroethylene suitable for use in the drycleaning industry.

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

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

NOTE 1—Guide [D3844](#) provides additional important information on proper labeling.

2. Referenced Documents

2.1 *ASTM Standards:*²

[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)

[D3401](#) Test Methods for Water in Halogenated Organic Solvents and Their Admixtures

[D3741](#) Test Methods for Appearance of Admixtures Containing Halogenated Organic Solvents

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 [D26.06](#) on Drycleaning.

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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.

[D3844](#) Guide for Labeling Chlorinated Hydrocarbon Solvent Containers (Withdrawn 2013)³

[D6806](#) Practice for Analysis of Halogenated Organic Solvents and Their Admixtures by Gas Chromatography

2.2 *Code of Federal Regulations:*⁴

[29 CFR 1910.1200](#) Department of Labor, OSHA Regulations on Hazard Communications

[49 CFR 100 to 199](#) Department of Transportation Hazardous Materials Regulations

3. Properties

3.1 Drycleaning-grade perchloroethylene shall conform to the requirements prescribed in [Table 1](#).

3.2 Maximum acid acceptance specification of 0.03 weight % as NaOH distinguishes drycleaning-grade perchloroethylene from vapor-degreasing-grade perchloroethylene which is formulated specifically for that application.

4. Packaging and Package Marking

4.1 Package and label industrial or commercial quantities in accordance with DOT regulations [49 CFR 100 to 199](#), and in accordance with state and local regulations, and with OSHA regulations found in [29 CFR 1910.1200](#).

4.1.1 The proper shipping name for perchloroethylene is UN 1897, tetrachloroethylene.

5. Keywords

5.1 perchloroethylene; tetrachloroethylene drycleaning solvent

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ The *Code of Federal Regulations* is available from U.S. Government Publishing Office, 732 N. Capitol St., NW, Washington, DC 20401-0001, <http://www.gpo.gov>.

TABLE 1 Properties

Property	Specification	Test Method
Appearance	clear and free from suspended matter and undissolved water	D3741
Water, weight, %, max	0.0050	D3401
Specific gravity, 25/25°C	1.615 to 1.625	D2111
Nonvolatile residue, weight, %, max	0.0050	D2109
Acid Acceptance (as NaOH), weight, %, max	0.03	D2942
Assay, weight, %, min	99.90	D6806

APPENDIX

(Nonmandatory Information)

X1. PURITY OF PERCHLOROETHYLENE

X1.1 The analysis of perchloroethylene samples taken from drycleaning machines having significant corrosion problems suggests that there may be a relationship between this corro-

sion and the presence of certain halogenated impurities in the solvent. A guideline of 500 ppm (max) 1,1,1 trichloroethane as a contaminant in perchloroethylene is recommended.

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