



Standard Specification for Reclaimed Perchloroethylene^{1,2}

This standard is issued under the fixed designation D5396; 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.

1. Scope

1.1 This specification covers the grade of perchloroethylene typically needed in various industries for noncritical applications, such as in metal cleaning formulations. It is not recommended for dry cleaning applications (see Specification D4081). It may be used as a reference document by purchasers or by persons establishing in-house perchloroethylene recovery programs.

2. Referenced Documents

2.1 ASTM Standards:³

- 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)
- 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
- D4081 Specification for Drycleaning-Grade Perchloroethylene

- D6806 Practice for Analysis of Halogenated Organic Solvents and Their Admixtures by Gas Chromatography
- E1064 Test Method for Water in Organic Liquids by Coulometric Karl Fischer Titration
- 2.2 *Government Documents:*⁴
- 29 CFR 1910.1200 Department of Labor, OSHA Regulations on Hazard Communication
- 49 CFR 100 to 199 Department of Transportation Hazardous Materials Regulations

3. Classification

- 3.1 *Type I*—Generally recognized for use in precision applications.
- 3.2 *Type II*—Use for less demanding precision applications.
- 3.3 *Type III*—General-purpose technical grade.

4. Properties

- 4.1 Reclaimed perchloroethylene, Type I, shall meet the requirements of Table 1.
- 4.2 Reclaimed perchloroethylene, Type II, shall meet the requirements of Table 1.
- 4.3 Reclaimed perchloroethylene, Type III, shall meet the requirements of Table 1.

5. Packaging and Package Marking

5.1 Industrial or commercial quantities shall be packaged and labeled in accordance with DOT regulations as found in 49 CFR 100 to 199, in accordance with state and local regulations, and in accordance with OSHA regulations found in 29 CFR 1910.1200.

6. Keywords

6.1 halogenated solvent; perchlor; perchloroethylene, Types I, II, and III; perk; reclaimed

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.

Current edition approved June 1, 2015. Published June 2015. Originally approved in 1993. Last previous edition approved in 2010 as D5396 – 04(2010). DOI: 10.1520/D5396-04R15.

² Tetrachloroethylene: CAS #127-18-4.

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.

⁴ *Code of Federal Regulations*, 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
	Type I	Type II	Type III	
Specific gravity, 25/25	1.60 to 1.62	1.60 to 1.62	1.59 to 1.62	D2111
Chloride, ppm, max	1.0	1.0	1.0	D2988
Nonvolatile residue, ppm, max	10	20	25	D2109
Water, ppm, max	25	50	100	D3401 or E1064
Assay, weight %	99.5	99.0	97.0	D6806
1,1,1-Trichloroethane content, weight %, max	0.02	0.05	0.5	D6806
Color, Pt-Co, max	10	10	25	D2108
Appearance	clear and free from suspended matter	clear and free from suspended matter	clear and free from suspended matter	D3741
Acid acceptance, as NaOH, weight %, min	0.16	0.16	0.16	D2942
Acidity, as HCl, ppm, max	1.0	1.0	1.0	D2989

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org). Permission rights to photocopy the standard may also be secured from the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, Tel: (978) 646-2600; http://www.copyright.com/