



Designation: D 5616 – 00

## Standard Specification for Reclaimed Trichloroethylene<sup>1</sup>

This standard is issued under the fixed designation D 5616; 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 approval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This specification covers the grades of trichloroethylene<sup>2</sup> typically needed in various industries for noncritical applications such as in metal cleaning formulations. It may be used as a reference document by purchasers or persons establishing in-house trichloroethylene recovery programs.

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- D 1064 Test Method for Water in Organic Liquids by Coulometric Karl Fischer Titration<sup>3</sup>
  - D 2108 Test Method for Color of Halogenated Organic Solvents and Their Admixtures (Platinum-Cobalt Scale)<sup>4</sup>
  - D 2109 Test Methods for Nonvolatile Matter in Halogenated Organic Solvents and Their Admixtures<sup>4</sup>
  - D 2111 Test Methods for Specific Gravity of Halogenated Organic Solvents and Their Admixtures<sup>4</sup>
  - D 2942 Test Method for Total Acid Acceptance of Halogenated Organic Solvents (Nonreflux Methods)<sup>4</sup>
  - D 2989 Test Method for Acidity-Alkalinity of Halogenated Organic Solvents and Their Admixtures<sup>4</sup>
  - D 3401 Test Methods for Water in Halogenated Organic Solvents and Their Admixtures<sup>4</sup>
  - D 3447 Test Method for Purity of Halogenated Organic Solvents<sup>4</sup>
  - D 3741 Test Method for Appearance of Admixtures Containing Halogenated Organic Solvents<sup>4</sup>
  - D 5320 Test Methods for Determination of 1,1,1-Trichloroethane and Methylene Chloride Content in Stabilized Trichloroethylene and Tetrachloroethylene<sup>4</sup>
- #### 2.2 Code of Federal Regulations:<sup>5</sup>
- 29 CFR 1910.1200 Department of Labor, OSHA Regulations, Hazard Communication
  - 49 CFR Parts 100 to 199 Department of Transportation

<sup>1</sup> 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 Jan. 10, 2000. Published April 2000. Originally published as D 5616 – 94. Last previous edition D 5616 – 94.

<sup>2</sup> Trichloroethylene: CAS No. 79-01-6.

<sup>3</sup> Annual Book of ASTM Standards, Vol 06.03.

<sup>4</sup> Annual Book of ASTM Standards, Vol 15.05.

<sup>5</sup> Available from the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402.

TABLE 1 Properties, Type I

Property	Specification	Test Method
Specific gravity, 25/25	1.45 to 1.46	D 2111
Nonvolatile residue, ppm, max	50	D 2109
Water, ppm, max	100	D 3401 or D 1064
Assay, wt %	99.5	D 3447
1,1,1 trichloroethane content, wt %, max	0.02	D 5320
Color, Pt-Co, max	20	D 2108
Appearance	clear and free from suspended matter	D 3741
Acid acceptance, as NaOH, wt %, min	0.16	D 2942
Acidity, as HCl, ppm, max	1.0	D 2989

### Hazardous Materials Regulations

### 3. Classification

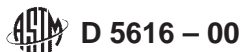
3.1 *Type I*—Generally recognized for use in precision applications.

TABLE 2 Properties, Type II

Property	Specification	Test Method
Specific gravity, 25/25	1.44 to 1.47	D 2111
Nonvolatile residue, ppm, max	50	D 2109
Water, ppm, max	100	D 3401 or D 1064
Assay, wt %	99.0	D 3447
1,1,1 trichloroethane content, wt %, max	0.05	D 5320
Color, Pt-Co, max	20	D 2108
Appearance	clear and free from suspended matter	D 3741
Acid acceptance, as NaOH, wt %, min	0.16	D 2942
Acidity, as HCl, ppm, max	1.0	D 2989

TABLE 3 Properties, Type III

Property	Specification	Test Method
Specific gravity, 25/25	1.43 to 1.48	D 2111
Nonvolatile residue, ppm, max	50	D 2109
Water, ppm, max	150	D 3401 or D 1064
Assay, wt %	97.0	D 3447
1,1,1 trichloroethane content, wt %, max	0.5	D 5320
Color, Pt-Co, max	35	D 2108
Appearance	clear and free from suspended matter	D 3741
Acid acceptance, as NaOH, wt %, min	0.20	D 2942
Acidity, as HCl, ppm, max	1.0	D 2989



**D 5616 – 00**

3.2 *Type II*—Use for less-demanding precision applications.

3.3 *Type III*—May not be suitable for all applications.

#### **4. Properties**

4.1 Type I reclaimed trichloroethylene shall meet the requirements of Table 1.

4.2 Type II reclaimed trichloroethylene shall meet the requirements of Table 2.

4.3 Type III reclaimed trichloroethylene shall meet the requirements of Table 3.

#### **5. Packaging**

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 1919.1200.

#### **6. Keywords**

6.1 halogenated solvent; reclaimed; TCE; tri; trichloroethylene—Types I, II, and III

*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).*