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Designation: **D 5616 – 004**

## 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 reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

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<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.

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## 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:~~<sup>3</sup>

- D 1064 Test Method for Water in Organic Liquids by Coulometric Karl Fischer Titration
- D 2108 Test Method for Color of Halogenated Organic Solvents and Their Admixtures (Platinum-Cobalt Scale)
- D 2109 Test Methods for Nonvolatile Matter in Halogenated Organic Solvents and Their Admixtures
- D 2111 Test Methods for Specific Gravity of Halogenated Organic Solvents and Their Admixtures
- D 2942 Test Method for Total Acid Acceptance of Halogenated Organic Solvents (Nonreflux Methods)
- D 2989 Test Method for Acidity-Alkalinity of Halogenated Organic Solvents and Their Admixtures
- D 3401 Test Methods for Water in Halogenated Organic Solvents and Their Admixtures
- ~~D 3447 Test Method for Purity Appearance of Admixtures Containing Halogenated Organic Solvents~~
- ~~D 3741 Test Method for Appearance Analysis of Admixtures Containing Halogenated Organic Solvents~~
- ~~D 5320 Test Methods for Determination of 1,1,1-Trichloroethane and Methylene Chloride Content in Stabilized Trichloroethylene and Tetrachloroethylene<sup>4</sup> Their Admixtures by Gas Chromatography~~

### 2.2 ~~Code of Federal Regulations:~~<sup>4</sup>

- 29 CFR 1910.1200 Department of Labor, OSHA Regulations, Hazard Communication
- 49 CFR Parts 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*—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~~.1.
- 4.3 Type III reclaimed trichloroethylene shall meet the requirements of Table ~~3~~.1.

## 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.

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

<sup>3</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards*, Vol 06.03, volume information, refer to the standard's Document Summary page on the ASTM website.

*Annual Book*

<sup>4</sup> Available from the Superintendent of ASTM Standards, Vol 15.05; Documents, U. S. Government Printing Office, Washington, DC 20402.

**TABLE 1 Properties, Type I**

Property	Specification			Test Method
	Type I	Type II	Type III	
Specific gravity, 25/25	1.45 to 1.46	1.44 to 1.47	1.43 to 1.48	D 2111
Nonvolatile residue, ppm, max	50	50	50	D 2109
Water, ppm, max	100	100	150	D 3401 or D 1064
Assay, wt %	99.5	99.0	97.0	<del>D 3447</del>
Assay, wt %	99.5	99.0	97.0	D 6806
1,1,1 trichloroethane content, wt %, max	0.02	0.05	0.5	<del>D 5320</del>
1,1,1 trichloroethane content, wt %, max	0.02	0.05	0.5	D 6806
Color, Pt-Co, max	20	20	35	D 2108
Appearance	clear and free from suspended matter	clear and free from suspended matter	clear and free from suspended matter	D 3741
Acid acceptance, as NaOH, wt %, min	0.16	0.16	0.20	D 2942
Acidity, as HCl, ppm, max	1.0	1.0	1.0	D 2989

## 6. Keywords

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

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