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Standard Specification for Reclaimed Trichloroethylene[1]

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1. Scope

1.1 This specification covers the grades of trichloroethylene[2] 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[3]

D 2108 Test Method for Color of Halogenated Organic Solvents and Their Admixtures (Platinum-Cobalt Scale)[4]

D 2109 Test Methods for Nonvolatile Matter in Halogenated Organic Solvents and Their Admixtures[4]

D 2111 Test Methods for Specific Gravity of Halogenated Organic Solvents and Their Admixtures[4]

D 2942 Test Method for Total Acid Acceptance of Halogenated Organic Solvents (Nonreflux Methods)[4]

D 2989 Test Method for Acidity-Alkalinity of Halogenated Organic Solvents and Their Admixtures[4]

D 3401 Test Methods for Water in Halogenated Organic Solvents and Their Admixtures[4]

D 3447 Test Method for Purity of Halogenated Organic Solvents[4]

D 3741 Test Method for Appearance of Admixtures Containing Halogenated Organic Solvents[4]

D 5320 Test Methods for Determination of 1,1,1-Trichloroethane and Methylene Chloride Content in Stabilized Trichloroethylene and Tetrachloroethylene[4]

2.2 *Code of Federal Regulations:*[5]

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.

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

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

[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] Trichloroethylene: CAS No. 79-01-6.

[3] *Annual Book of ASTM Standards*, Vol 06.03.

[4] *Annual Book of ASTM Standards*, Vol 15.05.

[5] Available from the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402.