

ASTM Volume 15.05, August 2016

Engine Coolants and Related Fluids; Halogenated Organic Solvents and Fire Extinguishing Agents; Industrial and Specialty Chemicals

Table of Contents

D891-09 Standard Test Methods for Specific Gravity, Apparent, of Liquid Industrial Chemicals

D1119-05(2015) Standard Test Method for Percent Ash Content of Engine Coolants

D1120-16 Standard Test Method for Boiling Point of Engine Coolants

D1121-11 Standard Test Method for Reserve Alkalinity of Engine Coolants and Antirusts

D1122-16 Standard Test Method for Density or Relative Density of Engine Coolant Concentrates and Engine Coolants By The Hydrometer

D1123-99(2015) Standard Test Methods for Water in Engine Coolant Concentrate by the Karl Fischer Reagent Method

D1176-14 Standard Practice for Sampling and Preparing Aqueous Solutions of Engine Coolants or Antirusts for Testing Purposes

D1177-16 Standard Test Method for Freezing Point of Aqueous Engine Coolants

D1287-11 Standard Test Method for pH of Engine Coolants and Antirusts

D1384-05(2012) Standard Test Method for Corrosion Test for Engine Coolants in Glassware

D1881-97(2009) Standard Test Method for Foaming Tendencies of Engine Coolants in Glassware

D1882-96(2012) Standard Test Method for Effect of Cooling System Chemical Solutions on Organic Finishes for Automotive Vehicles

D1901-10(2015) Standard Test Method for Relative Evaporation Time of Halogenated Organic Solvents and Their Admixtures

D2106-07(2012) Standard Test Methods for Determination of Amine Acid Acceptance (Alkalinity) of Halogenated Organic Solvents

D2108-10(2015) Standard Test Method for Color of Halogenated Organic Solvents and Their Admixtures (Platinum-Cobalt Scale)

D2109-01(2016) Standard Test Methods for Nonvolatile Matter in Halogenated Organic Solvents and Their Admixtures

D2110-00(2012) Standard Test Method for pH of Water Extractions of Halogenated Organic Solvents and Their Admixtures

D2111-10(2015) Standard Test Methods for Specific Gravity and Density of Halogenated Organic Solvents and Their Admixtures

D2251-10(2015) Standard Test Method for Metal Corrosion by Halogenated Organic Solvents and Their Admixtures

D2570-16 Standard Test Method for Simulated Service Corrosion Testing of Engine Coolants

D2758-94(2009) Standard Test Method for Engine Coolants by Engine Dynamometer

D2809-09 Standard Test Method for Cavitation Corrosion and Erosion-Corrosion Characteristics of Aluminum Pumps With Engine Coolants

D2847-15 Standard Practice for Testing Engine Coolants in Car and Light Truck Service

D2942-02(2013) Standard Test Method for Total Acid Acceptance of Halogenated Organic Solvents (Nonreflux Methods)

D2943-02(2012) Standard Test Method for Aluminum Scratch of 1,1,1-Trichloroethane to Determine Stability

D2988-96(2015) Standard Test Methods for Water-Soluble Halide Ion in Halogenated Organic Solvents and Their Admixtures

D2989-01(2016) Standard Test Method for Acidity-Alkalinity of Halogenated Organic Solvents and Their Admixtures

D3147-06(2013) Standard Test Method for Testing Stop-Leak Additives for Engine Coolants

D3306-14 Standard Specification for Glycol Base Engine Coolant for Automobile and Light-Duty Service

D3316-06(2016) Standard Test Method for Stability of Perchloroethylene with Copper

D3321-13 Standard Test Method for Use of the Refractometer for Field Test Determination of the Freezing Point of Aqueous Engine Coolants

D3401-97(2012) Standard Test Methods for Water in Halogenated Organic Solvents and Their Admixtures

D3443-00(2015) Standard Test Method for Chloride in Trichlorotrifluoroethane

D3444-00(2015) Standard Test Method for Total Acid Number of Trichlorotrifluoroethane

D3448-10(2015)e1 Standard Test Method for Specific Aqueous Conductance of Trichlorotrifluoroethane

D3585-08(2013) Standard Specification for ASTM Reference Fluid for Coolant Tests

D3634-99(2015) Standard Test Method for Trace Chloride Ion in Engine Coolants

D3698-04(2015) Standard Practice for Solvent Vapor Degreasing Operations

D3741-00(2015)e1 Standard Test Methods for Appearance of Admixtures Containing Halogenated Organic Solvents

D4079-00(2016) Standard Specification for Vapor-Degreasing Grade Methylene Chloride

D4080-15 Standard Specification for Trichloroethylene, Technical and Vapor-Degreasing Grade

D4081-00(2011) Standard Specification for Drycleaning-Grade Perchloroethylene

D4126-02(2012) Standard Specification for Vapor-Degreasing Grade and General Solvent Grade 1,1,1-Trichloroethane

D4276-02(2012) Standard Practice for Confined Area Entry

D4340-10 Standard Test Method for Corrosion of Cast Aluminum Alloys in Engine Coolants Under Heat-Rejecting Conditions

D4376-15 Standard Specification for Vapor-Degreasing Grade Perchloroethylene

D4494-95(2015) Standard Test Method for Detecting Residual Odor of Drycleaning Grade Perchloroethylene

D4579-00(2012) Standard Practice for Handling an Acid Degreaser or Still

D4701-00(2015) Standard Specification for Technical Grade Methylene Chloride

D4725-15 Standard Terminology for Engine Coolants and Related Fluids

D4755-95(2015)e1 Standard Test Method for Free Halogens in Halogenated Organic Solvents and Their Admixtures

D4921-95(2012) Standard Test Method for Foaming Tendencies of Engine Coolants at Room Temperature

D4985-10(2015) Standard Specification for Low Silicate Ethylene Glycol Base Engine Coolant for Heavy Duty Engines Requiring a Pre-Charge of Supplemental Coolant Additive (SCA)

D4995-10(2015) Standard Specification for Electronic and Degreasing Grades of 1,1,2-Trichloro 1,2,2,-Trifluoroethane Solvent

D5248-04(2015) Standard Specification for Reclaimed 1,1,2-Trichloro 1,2,2-Trifluoroethane

D5394-02(2012) Standard Specification for Reclaimed 1,1,1-Trichloroethane

D5395-03(2013) Standard Specification for Reclaimed Methylene Chloride

D5396-04(2015) Standard Specification for Reclaimed Perchloroethylene

D5616-04(2016) Standard Specification for Reclaimed Trichloroethylene

D5631-15 Standard Practice for Handling, Transportation, and Storage of Halon 1301, Bromotrifluoromethane (CF₃Br)

D5632/D5632M-12e1 Standard Specification for Halon 1301, Bromotrifluoromethane (CF₃Br)

D5752-10 Standard Specification for Supplemental Coolant Additives (SCAs) for Use in Precharging Coolants for Heavy-Duty Engines

D5827-09(2015) Standard Test Method for Analysis of Engine Coolant for Chloride and Other Anions by Ion Chromatography

D5828-97(2011)e1 Standard Test Method for Compatibility of Supplemental Coolant Additives (SCAs) and Engine Coolant Concentrates

D5931-13 Standard Test Method for Density and Relative Density of Engine Coolant Concentrates and Aqueous Engine Coolants by Digital Density Meter

D5960-03(2013) Standard Specification for Technical Grade Ethylene Dichloride

D6064-11(2015) Standard Specification for HFC-227ea, 1,1,1,2,3,3,3-Heptafluoropropane (CF₃CHF₂CF₃)

D6065-11(2015) Standard Practice for Handling, Transportation, and

Storage of HFC-227ea 1,1,1,2,3,3,3-Heptafluoropropane (CF₃CHF₂CF₃)

D6107-97(2012) Standard Specification for Stop-Leak Additive for Engine Coolants Used in Light Duty Service

D6126/D6126M-11(2015) Standard Specification for HFC-23 (Trifluoromethane, CHF₃)

D6127-11(2015) Standard Practice for Handling, Transportation, and Storage of HFC-23 (Trifluoromethane, CHF₃)

D6129-97(2015) Standard Test Method for Silicon in Engine Coolant Concentrates by Atomic Absorption Spectroscopy

D6130-11 Standard Test Method for Determination of Silicon and Other Elements in Engine Coolant by Inductively Coupled Plasma-Atomic Emission Spectroscopy

D6208-07(2014) Standard Test Method for Repassivation Potential of Aluminum and Its Alloys by Galvanostatic Measurement

D6210-10 Standard Specification for Fully-Formulated Glycol Base Engine Coolant for Heavy-Duty Engines

D6231-11(2015) Standard Specification for HFC-125 (Pentafluoroethane, C₂HF₅)

D6268-15 Standard Practice for Handling, Transportation, and Storage of HFC-125, Pentafluoroethane (C₂HF₅)

D6361/D6361M-98(2015) Standard Guide for Selecting Cleaning Agents and Processes

D6368-06(2012) Standard Specification for Vapor-Degreasing Solvents Based on normal-Propyl Bromide and Technical Grade normal-Propyl Bromide

D6427/D6427M-10 Standard Practice for Handling, Transportation, and Storage of HFC-236fa, 1,1,1,3,3,3-Hexafluoropropane (CF₃CH₂CF₃)

D6471-10 Standard Specification for Recycled Prediluted Aqueous Glycol Base Engine Coolant (50 Volume % Minimum) for Automobile and Light-Duty Service

D6472-10 Standard Specification for Recycled Glycol Base Engine Coolant Concentrate for Automobile and Light-Duty Service

D6505-00(2012) Standard Test Method for Assay of normal-Propyl Bromide Content

D6541-11(2015) Standard Specification for HFC-236fa, 1,1,1,3,3,3-Hexafluoropropane, (CF₃CH₂CF₃)

D6660-01(2014)e1 Standard Test Method for Freezing Point of Aqueous Ethylene Glycol Base Engine Coolants by Automatic Phase Transition Method

D6806-02(2012) Standard Practice for Analysis of Halogenated Organic Solvents and Their Admixtures by Gas Chromatography

D7122-11 Standard Specification for HCFC Blend B (CF₃CCl₂H, Ar, and CF₄)

D7123-11 Standard Practice for Handling, Transportation, and Storage of HCFC Blend B (CF₃CCl₂H, Ar, and CF₄)

D7304-14 Standard Test Method for Determination of Denatonium Ion in Engine Coolant by HPLC

D7323-13 Standard Practice for Handling, Transportation, and Storage of IG-100 (Nitrogen)

D7324-13 Standard Practice for Handling, Transportation, and Storage of IG-55 Ar N₂

D7325-13 Standard Practice for Handling, Transportation, and Storage of IG-541 N₂, Ar , CO₂

D7326-12 Standard Practice for Handling, Transportation, and Storage of HFC Blend B (CH₂FCF₃, CHF₂CF₃, and CO₂)

D7327-12 Standard Specification for HFC Blend B (CH₂FCF₃, CHF₂CF₃, and CO₂)

D7388-08(2013) Standard Specification for Engine Coolant Grade 1,3-Propanediol (PDO)

D7437-08(2013) Standard Test Method for Temperature and Hard Water Stability of Engine Coolants

D7509-09(2015) Standard Specification for Fluorocarbon Feedstock Grade Chloroform

D7515-09(2014) Standard Test Method for Purity of 1,3-Propanediol (Gas Chromatographic Method)

D7517-09(2014) Standard Specification for Fully-Formulated 1,3-Propanediol (PDO) Base Engine Coolant for Heavy-Duty Engines

D7518-10(2015)e1 Standard Specification for 1,3-Propanediol (PDO) Base Engine Coolant for Automobile and Light-Duty Service

D7583-16 Standard Test Method for John Deere Coolant Cavitation Test

D7637-10(2015) Standard Test Method for Determination of Glycerin Assay by Titration (Sodium Meta Periodate)

D7638-10(2015) Standard Test Method for Determination of Fatty Acids and Esters in Glycerin

D7640-11 Standard Specification for Engine Coolant Grade Glycerin

D7673/D7673M-15 Standard Specification for Halon 1211, Bromochlorodifluoromethane (CF₂BrCl)

D7713-12 Standard Specification for Aqueous Engine Coolant Grade Glycol (53% Nominal)

D7714-11(2016)e1 Standard Specification for Glycerin Base Engine Coolant for Automobile and Light-Duty Service

D7715-12(2016)e1 Standard Specification for Fully-Formulated Glycerin Base Engine Coolant for Heavy-Duty Engines

D7716-11a Standard Test Method for Determination of Residual Methanol in Glycerin by Gas Chromatography

D7736-12 Standard Test Method for Determination of Acids and Glycol Esters in Ethylene Glycol

D7815-12 Standard Practice for Handling, Transportation, and Storage of Halon 1211, Bromochlorodifluoromethane (CF₂BrCl)

D7820-12 Standard Test Method for Engine Coolant Corrosion Protection Under Accelerated Thermal and Oxidizing Conditions Using a Rotating Pressure Vessel

D7821-12 Standard Test Method for Field Test Determination of Urea

Concentration in Diesel Exhaust Fluid (DEF)

D7840-12 Standard Test Method for Foaming Tendencies of Non-Aqueous Engine Coolants in Glassware

D7896-14 Standard Test Method for Thermal Conductivity, Thermal Diffusivity and Volumetric Heat Capacity of Engine Coolants and Related Fluids by Transient Hot Wire Liquid Thermal Conductivity Method

D7933-15 Standard Test Method for Engine Coolant Stagnation in Flux-Brazed Aluminum Heat Exchangers

D7934/D7934M-14 Standard Test Method for Corrosion of Cast Aluminum Alloys in Non-Aqueous Engine Coolants Under Heat-Rejecting Conditions

D7935/D7935M-14 Standard Test Method for Corrosion Test for Non-Aqueous Engine Coolants in Glassware

E70-07(2015) Standard Test Method for pH of Aqueous Solutions With the Glass Electrode

E200-16 Standard Practice for Preparation, Standardization, and Storage of Standard and Reagent Solutions for Chemical Analysis

E202-12 Standard Test Methods for Analysis of Ethylene Glycols and Propylene Glycols

E203-16 Standard Test Method for Water Using Volumetric Karl Fischer Titration

E222-10 Standard Test Methods for Hydroxyl Groups Using Acetic Anhydride Acetylation

E223-16 Standard Test Methods for Analysis of Sulfuric Acid

E224-16 Standard Test Methods for Analysis of Hydrochloric Acid

E256-09 Standard Test Method for Chlorine in Organic Compounds by Sodium Peroxide Bomb Ignition

E258-07(2015) Standard Test Method for Total Nitrogen in Organic Materials by Modified Kjeldahl Method

E291-09 Standard Test Methods for Chemical Analysis of Caustic Soda and Caustic Potash (Sodium Hydroxide and Potassium Hydroxide)

E298-08 Standard Test Methods for Assay of Organic Peroxides

E299-08 Standard Test Method for Trace Amounts of Peroxides In Organic Solvents

E300-03(2009) Standard Practice for Sampling Industrial Chemicals

E346-08e1 Standard Test Methods for Analysis of Methanol

E359-10 Standard Test Methods for Analysis of Soda Ash (Sodium Carbonate)

E394-15 Standard Test Method for Iron in Trace Quantities Using the 1,10-Phenanthroline Method

E410-08 Standard Test Method for Moisture and Residue in Liquid Chlorine

E411-12 Standard Test Method for Trace Quantities of Carbonyl Compounds with 2,4-Dinitrophenylhydrazine

E449-08(2013) Standard Test Methods for Analysis of Calcium Chloride

E475-16 Standard Test Method for Assay of Di-tert-Butyl Peroxide Using Gas Chromatography

E506-08 Standard Test Method for Mercury in Liquid Chlorine

E534-13 Standard Test Methods for Chemical Analysis of Sodium Chloride

E538-98(2008) Standard Test Method for Mercury in Caustic Soda (Sodium Hydroxide) and Caustic Potash (Potassium Hydroxide)

E611-08(2015)e1 Standard Test Methods for Low Concentrations of Diethylene Glycol in Ethylene Glycol by Gas Chromatography

E649-00(2011) Standard Test Method for Bromine in Chlorine

E755-08 Standard Test Method for Dicumyl Peroxide, Assay (Liquid Chromatography)

E806-08 Standard Test Method for Carbon Tetrachloride and Chloroform in Liquid Chlorine by Direct Injection (Gas Chromatographic Procedure)

E1064-16 Standard Test Method for Water in Organic Liquids by Coulometric Karl Fischer Titration

E1090-08 Standard Test Method for Dicumyl Peroxide and Dicumyl Peroxide Decomposition Products in Resins

E1119-09(2015)e1 Standard Specification for Industrial Grade Ethylene Glycol

E1120-08 Standard Specification for Liquid Chlorine

E1146-08 Standard Specification for Muriatic Acid (Technical Grade Hydrochloric Acid)

E1177-14 Standard Specification for Engine Coolant Grade Glycol

E1178-08 Standard Test Methods for Analysis of Acrylonitrile

E1228-09 Standard Test Method for Assay of Peroxy Esters-Catalyzed Iodometric Procedure

E1229-08 Standard Specification for Calcium Hypochlorite

E1456-08 Standard Specification for Caustic Potash; Solid (Potassium Hydroxide; Solid)

E1506-08 Standard Test Methods for Analysis of Acid-Grade Calcium Fluoride (Fluorspar)

E1547-09 Standard Terminology Relating to Industrial and Specialty Chemicals

E1584-11 Standard Test Method for Assay of Nitric Acid

E1615-16 Standard Test Method for Iron in Trace Quantities Using the FerroZine Method

E1616-08 Standard Test Method for Analysis of Acetic Anhydride Using Gas Chromatography

E1746-08 Standard Test Method for Sampling and Analysis of Liquid Chlorine for Gaseous Impurities

E1754-08 Standard Test Method for Determination of Low Levels of Water in Liquid Chlorine By Infrared Spectrophotometry

E1784-08 Standard Test Method for Total Peroxides in Acrylonitrile

E1786-08 Standard Test Method for Determination of Low Levels of Water in Liquid Chlorine by On-Line Infrared Spectrophotometry

E1787-16 Standard Test Method for Anions in Caustic Soda and Caustic Potash (Sodium Hydroxide and Potassium Hydroxide) by Ion Chromatography

E1788-16 Standard Test Method for Acidity in Acrylonitrile

E1899-16 Standard Test Method for Hydroxyl Groups Using Reaction with p-Toluenesulfonyl Isocyanate (TSI) and Potentiometric Titration with Tetrabutylammonium Hydroxide

E2036-15 Standard Test Method for Nitrogen Trichloride in Liquid Chlorine by High Performance Liquid Chromatography (HPLC)

E2037-15 Standard Test Method for Bromine Chloride in Liquid Chlorine by High Performance Liquid Chromatography (HPLC)

E2193-16 Standard Test Method for Ultraviolet Transmittance of Monoethylene Glycol (using Ultraviolet Spectrophotometry)

E2313-15 Standard Test Method for Aldehydes in Mono-, Di-, and Triethylene Glycol (using Spectrophotometry)

E2409-13 Standard Test Method for Glycol Impurities in Mono-, Di-, Tri- and Tetraethylene Glycol and in Mono- and Dipropylene Glycol(Gas Chromatographic Method)

E2469-16 Standard Test Method for Chloride in Mono-, Di- and Triethylene Glycol by Ion Chromatography

E2470-09(2015)e1 Standard Specification for Polyester Grade Ethylene Glycol

E2664-16 Standard Test Method for Methanol Wall Wash of Marine Vessels Handling Polyester Grade Monoethylene Glycol

E2679-09(2016)e1 Standard Test Method for Acidity in Mono-, Di-, Tri- and Tetraethylene Glycol by Non-Aqueous Potentiometric Titration

E2680-09(2015)e1 Standard Test Method for Appearance of Clear, Transparent Liquids (Visual Inspection Procedure)