



Standard Specification for Prediluted Aqueous Ethylene Glycol Base Low-Silicate Engine Coolant (50 Volume Percent Minimum) for Heavy- Duty Engines Requiring an Initial Charge of Supplemental Coolant Additive (SCA)¹

This standard is issued under the fixed designation D 5345; 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 requirements for a prediluted aqueous ethylene glycol base low-silicate engine coolant (50 volume percent minimum) for cooling systems of heavy-duty engines. When used without further dilution, this product will function effectively during both summer and winter to provide protection from corrosion, freezing at least to -36.7°C (-34.0°F), and boiling at least to 108°C (226°F).

1.2 Prediluted coolant meeting this specification requires both an initial charge of a supplemental coolant additive (SCA) and regular maintenance doses of an SCA to continue the protection in certain operating heavy-duty engine cooling systems, particularly those of the wet cylinder liner-in-block design. The SCA additions are defined by and are the primary responsibility of the engine or vehicle manufacturer. If they provide no instructions, follow the SCA supplier's recommended instructions.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

- D 512 Test Methods for Chloride Ion in Water²
- D 516 Test Method for Sulfate Ion in Water²
- D 1119 Test Method for Ash Content of Engine Coolants and Antirusts³
- D 1120 Test Method for Boiling Point of Engine Coolants³
- D 1121 Test Method for Reserve Alkalinity of Engine Coolants and Antirusts³

¹ This specification is under the jurisdiction of ASTM Committee D-15 on Engine Coolants and is the direct responsibility of Subcommittee D15.13 on Prediluted Engine Coolant.

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² Annual Book of ASTM Standards, Vol 11.01.

³ Annual Book of ASTM Standards, Vol 15.05.

D 1122 Test Method for Density or Relative Density of Engine Coolants Concentrates and Engine Coolants by the Hydrometer³

D 1126 Test Method for Hardness in Water²

D 1177 Test Method for Freezing Point of Aqueous Engine Coolants³

D 1193 Specification for Reagent Water²

D 1287 Test Method for pH of Engine Coolants and Antirusts³

D 1293 Test Methods for pH of Water²

D 1384 Test Method for Corrosion Test for Engine Coolants in Glassware³

D 1881 Test Method for Foaming Tendencies of Engine Coolants in Glassware³

D 1882 Test Method for Effect of Cooling System Chemical Solutions on Organic Finishes for Automotive Vehicles³

D 1888 Test Methods for Particulate and Dissolved Matter in Water⁴

D 2570 Test Method for Simulated Service Corrosion Testing of Engine Coolants³

D 2809 Test Method for Cavitation Corrosion and Erosion-Corrosion Characteristics of Aluminum Pumps with Engine Coolants³

D 3306 Specification for Ethylene Glycol Base Engine Coolant for Automobile and Light Duty Service³

D 3321 Test Method for Use of the Refractometer for Field Test Determination of the Freezing Point of Aqueous Engine Coolants³

D 4327 Test Method for Anions in Water by Chemically Suppressed Ion Chromatography²

D 4656 Specification for a Prediluted Aqueous Ethylene Glycol Based Engine Coolant (50 Volume % Minimum) for Automobiles and Light-Duty Service³

D 4985 Specification for Low Silicate Ethylene Glycol Base Engine Coolant for Heavy Duty Engines Requiring a Pre-Charge of Supplemental Coolant Additive (SCA)³

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

⁴ Discontinued—See 1990 Annual Book of ASTM Standards, Vol 11.01.