



Standard Specification for Supplemental Coolant Additives (SCAs) for Use in Precharging Coolants for Heavy-Duty Engines^{1,2}

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1. Scope*

1.1 This specification covers the general, physical, chemical, and performance requirements for Supplemental Coolant Additives (SCAs) at a precharged level in the cooling systems of heavy-duty engines.

NOTE 1—After precharging, SCAs are customarily used periodically to service cooling systems at $\frac{1}{4}$ to $\frac{1}{3}$ the precharged dosage to compensate for additives lost through dilution and depletion.

1.2 The SCA products meeting this specification are intended for use with water, with recommended dilutions of coolant concentrates, with prediluted engine coolants, or to upgrade the performance of light-duty engine coolants to meet the heavy-duty requirements of Specification D6210. Engine coolant products shall be of the low-silicate type and, if ethylene glycol based, shall meet Specification D4985. Propylene glycol base low-silicate type coolant products may also be used, if these materials meet the chemical and performance requirements of Specification D4985.

1.3 The SCA concentrate, before dissolution, may be in either liquid, solid, or slurry form. The form is as agreed upon between the manufacturer and the user.

1.4 The values stated in SI units are to be regarded as standard. The inch-pound units in parentheses are approximate equivalents provided for information only.

1.5 *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.*

¹ This specification is under the jurisdiction of ASTM Committee D15 on Engine Coolants and Related Fluids and is the direct responsibility of Subcommittee D15.07 on Specifications.

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² Supporting data have been filed at ASTM International Headquarters and may be obtained by requesting Research Report: RR:D15-1024.

2. Referenced Documents

2.1 ASTM Standards:³

- D512 Test Methods for Chloride Ion in Water
- D516 Test Method for Sulfate Ion in Water
- D1119 Test Method for Percent Ash Content of Engine Coolants
- D1121 Test Method for Reserve Alkalinity of Engine Coolants and Antirusts
- D1126 Test Method for Hardness in Water
- D1193 Specification for Reagent Water
- D1287 Test Method for pH of Engine Coolants and Antirusts
- D1293 Test Methods for pH of Water
- D1384 Test Method for Corrosion Test for Engine Coolants in Glassware
- D1881 Test Method for Foaming Tendencies of Engine Coolants in Glassware
- D1882 Test Method for Effect of Cooling System Chemical Solutions on Organic Finishes for Automotive Vehicles
- D2570 Test Method for Simulated Service Corrosion Testing of Engine Coolants
- D2809 Test Method for Cavitation Corrosion and Erosion-Corrosion Characteristics of Aluminum Pumps With Engine Coolants
- D3634 Test Method for Trace Chloride Ion in Engine Coolants
- D4327 Test Method for Anions in Water by Suppressed Ion Chromatography
- D4340 Test Method for Corrosion of Cast Aluminum Alloys in Engine Coolants Under Heat-Rejecting Conditions
- D4985 Specification for Low Silicate Ethylene Glycol Base Engine Coolant for Heavy Duty Engines Requiring a Pre-Charge of Supplemental Coolant Additive (SCA)
- D5827 Test Method for Analysis of Engine Coolant for Chloride and Other Anions by Ion Chromatography

³ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.