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Standard Specification for Glycerin Base Engine Coolant for Automobile and Light-Duty Service[1]

This standard is issued under the fixed designation D7714; 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.

ε[1] NOTE—Caution statement in X1.5 was changed to a Warning and Table X1.1 was editorially corrected in May 2016.

1. Scope

1.1 This specification covers the requirements for glycerin base engine coolants used in automobiles or other light duty service cooling systems. When concentrates are used at 50 to 60 % concentration by volume in water, or when prediluted glycerin base engine coolants (50 volume % minimum) are used without further dilution, they will function effectively to provide protection against freezing, boiling, and corrosion.

1.2 The coolants governed by this specification are categorized as follows:

Coolant Type	Description
I	Glycerin base concentrate
II	Glycerin predilute (50 to 60 volume %)

NOTE 1—This specification is based on the knowledge of the performance of engine coolants prepared from new or virgin ingredients that comply with Specification D7640.

1.3 The values stated in SI units are to be regarded as the standard. The values 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.* See X1.5 and X3.1.3 for specific warning statements.

NOTE 2—This specification applies to automobiles and light duty service. A glycerin based specification for heavy duty engine service is under development.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

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

D1120 Test Method for Boiling Point of Engine Coolants

D1121 Test Method for Reserve Alkalinity of Engine Coolants and Antirusts

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

D1123 Test Methods for Water in Engine Coolant Concentrate by the Karl Fischer Reagent Method

D1126 Test Method for Hardness in Water

D1177 Test Method for Freezing Point of Aqueous Engine Coolants

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

D3321 Test Method for Use of the Refractometer for Field Test Determination of the Freezing Point of Aqueous 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

D4725 Terminology for Engine Coolants and Related Fluids

D5827 Test Method for Analysis of Engine Coolant for Chloride and Other Anions by Ion Chromatography

[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] 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.

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