This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: D3306 – 19

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

This standard is issued under the fixed designation D3306; 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 ethylene glycol or propylene glycol base engine coolants used in automobiles or other light duty service cooling systems. When concentrates are used at 40 to 70 % concentration by volume in water, or when prediluted glycol base engine coolants 50 volume % or higher engine coolant concentrate 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	Ethylene glycol base concentrate
II	Propylene glycol base concentrate
V	Ethylene glycol base concentrate containing glycerin
III	Ethylene glycol predilute 50 volume % or higher engine coolant concentrate
IV	Propylene glycol predilute 50 volume % or higher engine coolant concentrate
VI	Ethylene glycol base predilute containing glycerin 50 volume % or higher engine coolant concentrate

NOTE 1—This specification is based on the knowledge of the performance of engine coolants prepared from new or virgin ingredients. This specification shall also apply to engine coolants prepared using glycol generated from recycled or reprocessed used coolant or reprocessed industrial-source glycol, provided that said glycol meets the requirements of Specification E1177. Separate specifications (D6471 and D6472) exist for engine coolants prepared from recycled or reprocessed used coolant or reprocessed industrial-source glycol that does not meet the requirements established in Specification E1177. This specification shall also apply to glycol based engine coolants prepared using fully refined glycerin provided that said glycerin meets the requirements for Specification D7640.

1.3 The values stated in SI units are to be regarded as standard. The values given in parentheses after SI units are provided for information only and are not considered standard.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

NOTE 2—This specification applies to glycol base engine coolant for automobiles and light duty service. Specifications D4985 and D6210 exist for heavy duty engine service.

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

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

[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.

*A Summary of Changes section appears at the end of this standard

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