

Heavy-Duty, Fully-Formulated, Precharged Antifreeze/Coolant

Our Full-Strength, Heavy-Duty, Antifreeze is a non-silicate, non-phosphate formulation that contains the initial charge of supplemental coolant additive (SCA) and a minimum of 2400ppm Nitrite (as NO₂). It provides outstanding protection from cavitation erosion/corrosion in water pumps and wet sleeve cylinder liners, as well as excellent overall corrosion protection. In addition, this Heavy-Duty, Full Strength Antifreeze contains an advanced additive inhibitor system to provide broader range protection than most coolants. This includes ingredients to disperse minor oil leakage, prevent fouling and control hot surface scaling.

The antifreeze meets ASTM D 3306 (Automotive Prediluted Antifreeze), ASTM D 4985 (Heavy-Duty Prediluted Antifreeze) and ASTM D 6210 (Heavy-Duty Precharged, Fully-Formulated Antifreeze).

It also meets or exceeds the following industry specifications as a concentrate or pre-diluted antifreeze/coolant:

- ASTM D 3306, D 4985, and D 4340
- Cummins 90T8-4, 3666132
- GM 6043M, 1899M and 1825M
- Ford ESE M97B44A & ESE M978B18-C
- Mack Truck 014GS17004
- Case Corp. MS1710
- Navistar B1 (B6-008G0)
- John Deere H-5, 8650-S
- Freightliner 48-22880
- Chrysler MS 7170
- American Motors AM-4085
- SAE J1034, J1028, J814C and J1941
- TMC of ATA .RP-302A*

**The Maintenance Council of the American Trucking Assoc. Antifreeze also meets the non-phosphate requirements of European OEM's and non-silicate requirements of Japanese OEM's*

BOIL/FREEZE PROTECTION MAXIMUM FREEZE PROTECTION IS AT 70%

Percentage Antifreeze	Freezing Point		Boiling Point*	
	°F	°C	°F	°C
50	- 34 max.	-36 max.	226 min.	107 min.

**Boiling point shown using conventional 15 psi radiator cap.*

PHYSICAL PROPERTIES

Antifreeze Glycols	mass %	95.0 min.
Corrosion Inhibitors	mass %	2.2
Water	mass %	2.8
Flash Point	°F	250
Weight per gallon		
@ 60° F-16° C	lbs.	9.35-9.45
Silicates	mass %	Nil

Used antifreeze coolant in most states is not hazardous unless it contains more than 5 ppm of lead. We recommend that spent coolant never be disposed of by dumping into a storm sewer or onto the ground. Instead, contact your local municipality for instructions on where to and how to properly dispose of this coolant and protect our environment.

Full Strength Universal Antifreeze/Coolant Product Data Sheet

Characteristic	ASTM Specifications	Company Typicals	ASTM Method
Chloride	25 ppm, max.	<25	D3634
Nitrite	2400 ppm, min.	2700-2800	D5827
Specific gravity, 60/60°F	1.115 -1.125	1.120	D1122
Freezing point, 50% V/V	-34°F/-36°C max.	-34°F/-36°C	D1177
Boiling Point, undiluted	325°F/162°C min.	330°F/164°C	D1120
Boiling Point, 50% V/V	226°F/107°C min.	226°F/107°C	D1120
Effect on engine or vehicle finish	no effect	no effect	-
Ash content, mass %	5 max.	< 3	D1119
pH, 50% V/V	10.0-11.0	10.2-10.8	D1287
Reserve alkalinity*	None specified	10-11	D1121
Water mass %	5 max.	3.5 max.	D1123
Color	distinctive	Green, purple, fuschia or pink	-
Effect on nonmetals	no adverse effect	no adverse effect	-
Storage stability	-	> 1 year	-
Foaming	150 mi vol., max.	30-40 ml.	D1881
	5 sec. break, max.	1.5-3.0 sec.	D1881
Cavitation-erosion rating	8 min.	9	D2809

**Reserve alkalinity (RA) is a term used to indicate the amount of alkaline inhibitors present in an antifreeze formulation. It is incorrect to relate a high RA with a high-quality antifreeze. Present, state-of-the-art antifreeze formulations contain many new inhibitors which give added protection to certain metals but do not raise the RA numbers.*

Typical ASTM Corrosion Test Results

Glassware Corrosion Test (ASTM D1384)	Weigh loss (Mg/Specimen)	
	Spec.	Actual
Copper	10	1
Solder	30	3
Brass	10	1
Steel	10	0
Cast Iron	10	1
Aluminum	30	5
Simulated Service Test (ASTM D2576)		
Copper	20	5
Solder	60	18
Brass	20	3
Steel	20	4
Cast Iron	20	4
Aluminum	60	8
Hot Surface Aluminum Corrosion (ASTM D4340)	mg/cm ² /wk	
Specimen weight loss	1.0	< 0.5