



ResTech Universal HDXL

HOAT Heavy-Duty

Extended Life Antifreeze/Coolant Concentrate

Precharged, Extended Life, Hybrid Organic Acid Technology (HOAT), Low-Silicate Antifreeze Concentrate - Formulated to be Compatible with All Types of Antifreeze

This antifreeze/coolant concentrate is a universal/global, hybrid organic acid technology (HOAT), extended life, low-silicate, non-phosphate product suitable for automotive/light duty and heavy-duty diesel applications. Since this is a HOAT extended life antifreeze/coolant it combines organic acid salts with conventional inorganic salts and azoles; this makes it compatible with all types of both extended life and conventional technology antifreeze/coolants.

This antifreeze is precharged, meaning that it contains a minimum of 2400 ppm nitrites. Its additives effectively control wet sleeve cylinder liner pitting/corrosion in heavy-duty diesel engines. The primary corrosion inhibition system consists of a combination of salts of carboxylic and phosphono-carboxylic acids. These inhibitors deplete very slowly relative to conventional inorganic salt compounds, providing the extended service life of this antifreeze. It utilizes a low-silicate level (less than 250 ppm as silicon) and is free of phosphates and amines.

In addition, this antifreeze/coolant contains an advanced inhibitor system that provides a wide range of inhibitors, which protect all cooling system metals. Together with the glycol base, these inhibitors combined with other additives, give year-round protection against freeze-ups, boil-overs and engine cooling system corrosion. This antifreeze/coolant also includes ingredients to disperse minor oil leakage, prevent fouling, control hot surface scaling and it will not damage auto finishes or rubber parts.

In automobiles, light trucks, SUV's, vans and other light duty applications, this product will provide a service life in excess of 5 years or 150,000 miles. In heavy-duty diesel applications (in which a formal monitoring and maintenance program is in place) it can provide a service life of 600,000 miles with the addition of our heavy-duty supplemental coolant additive at 300,000 miles.

Industry Standards

This extended-life antifreeze/coolant meets the following industry specifications:

- ASTM D3306
(automotive/light-duty)
- ASTM D4985
(heavy-duty diesel/low silicate)
- ASTM D6210/11
(fully formulated and precharged)
- TMC of ATA RP 329/338*

** 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*

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PHYSICAL PROPERTIES – ResTech Universal HDXL		
Antifreeze Glycols	mass %	95.0 min.
Corrosion Inhibitors	mass %	2.2 min.
Water	mass %	2.8 max.
Flash Point	°F	250°F
Weight per gallon at 60° F-16° C	lbs.	9.35-9.45 min.
Silicates	mass %	< 250 ppm

% Antifreeze	Freezing Point		Boiling Point*	
	°F	°C	°F	°C
40%	-9 max	-22 max	220 min	104 min
50%	-34 max	-36 max	226 min	107 min
70%	-84 max	-64 max	240 min	115 min

*Boiling point shown at atmospheric pressure. Add 40°F for 15 psi radiator cap.

Characteristic	Specification	Company Typical	ASTM Method
Chloride	25 ppm, max.	2	D3634
Specific gravity, 60/60°F	1.110-1.145	1.120	D1122
Nitrite	2400 ppm min.	2700	D5827
Boiling Point, undiluted	325°F/162°C min.	330	D1120
Boiling Point, 50% V/V	226°F/107°C min.	229	D1120
Freezing Point, 50% V/V	-34°F/-36°C min.	-34	D1177
Effect on engine or vehicle finish	No effect	Pass	--
Ash content, mass %	2.5 max.	2.0	D1119
pH, 50% V/V	9.5-10.8	10.5	D1287
Reserve alkalinity*	None specified	6 min.	D1121
Water mass %	None specified	2.8 max.	D1123
Color	Distinctive	Yellow, orange or red	--
Effect on nonmetals	No adverse effect	Pass	--
Storage stability	None specified	> 1 year	--
Foaming	150 ml vol., max. 5 sec. break, max.	Pass	D1881

*Reserve alkalinity (RA) is a value agreed between the customer and supplier. The RA listed above is the typical for the additive package being used.

NOTE: 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.