



Product Data Sheet

THERMOGUARD® ANTIFREEZE

ThermoGuard Universal Antifreeze/Coolant ThermoGuard Extended Life Antifreeze/Coolant

The ThermoGuard line of antifreeze/coolants offer the following features and benefits:

- Range of performance products for passenger car, heavy duty and long life application requirements.
- Meets major OEM performance requirements
- Provides excellent cooling, corrosion and boil-over protection
- Fully-formulated, precharged extended life antifreezes meeting specifications for the new “Global Extended Life” category of antifreezes.
- Hybrid organic acid technology (HOAT)

ThermoGuard Antifreeze/Coolants are high quality concentrated ethylene glycol based engine antifreeze/coolants..

Subject to the specific recommendations of engine manufacturers (OEM's), ThermoGuard Antifreeze/Coolants are suitable for year round use in passenger cars, vans, SUV's, light trucks, on and off-road heavy-duty diesels, marine, stationary and agricultural applications.

ThermoGuard Antifreeze/Coolants are a hybrid organic acid technology (HOAT), containing both carboxylic acids (OAT technology) and azoles/inorganic salts (conventional technology). While OAT-only antifreezes have compatibility problems with conventional antifreeze formulations, HOAT formulations are compatible with OAT, HOAT, NOAT (nitrated organic acid technology) and conventional azole/inorganic salt type antifreeze/coolants.

ThermoGuard Antifreeze/Coolants will demonstrate outstanding aluminum corrosion control in addition to superior protection for copper, brass, solder, steel and cast iron.

ThermoGuard Antifreeze/Coolants substantial nitrate/molybdate content will also control pitting/cavitation damage to diesel engine wet sleeve cylinder liners. In long-life heavy-duty applications, ThermoGuard Antifreeze will have a service life of 1,000,000 km, with the addition of our heavy-duty supplement coolant additive at 500,000 km.

ThermoGuard Antifreeze/Coolants contain a minimum of 2400 ppm nitrite, or 1560 ppm total nitrites plus molybdates, with at least 600 ppm of each. It will have a pH of 9.5-10.5 a minimum reserve alkalinity of 6 ml and a maximum silicate of 250 ppm. It will be phosphate-free (< 15ppm) and nitrosamine/triethanolamine-free.

At every oil change the antifreeze should be checked to be sure that the pH is in the proper range and that the sample is free of significant precipitates, suspended solids, cloudiness or contamination.

Typical Properties	ThermoGuard Universal Antifreeze	ThermoGuard Heavy Duty Antifreeze
Specific Gravity @ 20°C	1.120 - 1.125	1.120 - 1.125
pH, (50% Solution in Water)	9.0 - 10.5	9.0 - 10.5
Reserve Alkalinity	6 ml min	6 ml min
Colour	Green	Orange / Red/ Purple / Yellow / Clear

Freezing and Boiling Protection		
Concentration in Water	Freezing Point (°C)	Boiling Point (°C)
40%	-24	126
50%	-39	129
60%	-52	132
70%	-64	136

	ThermoGuard Universal Antifreeze	ThermoGuard Heavy Duty Antifreeze
American Society for Testing and Materials (tests in brackets are included in the ASTM D3306 and / or D4985 specifications and Are listed for reference only)	D3306 D4985 (D1384) (D2570) (D2809) (D4340)	D3306 D4985 D6210 (D1384) (D2570) (D2809) (D4340)

ThermoGuard Extended Antifreeze

Trade, OEM & Industry specifications:

• ASTM D3306	• ASTM D4985	• ASTM D6210
<ul style="list-style-type: none"> • GM 6277M • GM 6038M • GM 1825M (Performance spec. for GM 6043M) • GM 1899M (Performance spec. for GM 6038M) • BMW • Mercedes Blatt 325.0 & 325.2 • Audi • Saab 6901 599 • Volvo 014 GS 17009 • Ford ESE M97B44-A • Ford WSE M97B44-B • Ford WSS M97B44-D • Chrysler MS9769 • MTU MTL5048, MTL 5049 • Mazda MEZ MW 121D • Suzuki 0F02 • Isuzu • VW TL774F (G12), light violet • GSA A-A-870A (Superseded by GSA A-A-52624) • MIL O-A-5480 (Superseded by GSA A-A-870A) 	<ul style="list-style-type: none"> • TMC of ATA RP302A • Ford WSN M97B18-D • Toyota • Porsche TL-774D • Mitsubishi • Honda HES D2009-75 • Hyundai • Cummins 90T8-4 • SAE J1941 • Freightliner 48-22880 • Ford New Holland WSN-M97D18D • J.I. Case JIC-501 • J.I. Case MS1710 • MTU MTL5048, MTL 5049 • Mack Truck 014 GS17004 	<ul style="list-style-type: none"> • Caterpillar EC-1 • Caterpillar ELC (with the addition of molybdate per specification) • Cummins CES14603 (as found in service bulletin 3666132-02) • Detroit Diesel 7SE298; DDC Powercool Plus and DDC Powercool Plus 6000 • TMC of ATA RP 338 • TMC of ATA RP 329 • Ford WSS-M97B51-A1 • Navistar/International B-1, Type III (CEMS B-1), with the addition of molybdate per specification • John Deere JDM H24A1