



WORLD OIL

ANTIFREEZE

MULTI-PURPOSE ADVANCED FORMULA

World Oil Antifreeze – Multi-Purpose Advanced Formula delivers proven performance and premium value for every kind of vehicle in your fleet. Designed for the most demanding environments using proprietary corrosion inhibitor technology, World Oil is the gold standard in re-refined antifreeze. In addition to providing proven cost savings, it delivers superior protection for engine, radiator, and water pumps for up to 5 years or 150,000 miles.

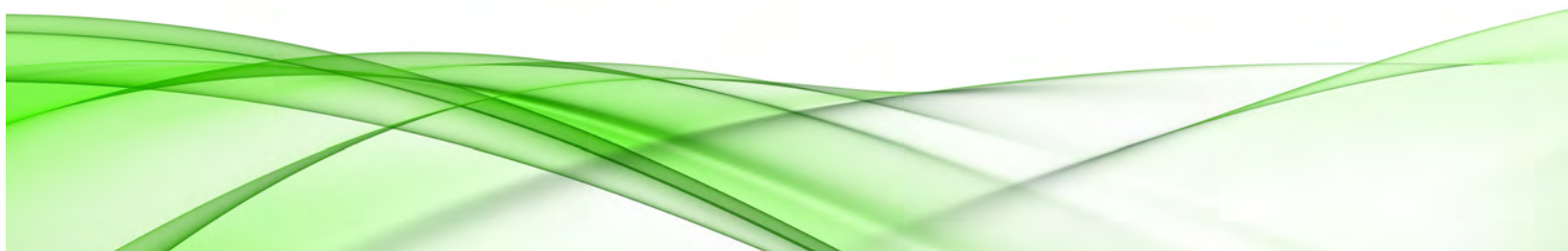
By choosing a high quality, sustainably produced product, not only are you protecting the service life of the engine, you're also preserving profitability, and protecting our natural resources. With World Oil Antifreeze, you can minimize wear and tear, control costs, and reduce your carbon footprint, all while enhancing cooling system longevity.

USAGE CONSIDERATIONS:

This product will perform as designed when used with virgin ethylene glycol meeting ASTM E1177-06. Never use 100% coolant in concentrated form. Consider a 50% mixed with equal volume high quality, soft, de-ionized or distilled water. If coolant pH is below 6.5, a complete drain and fill is recommended.

Benefits for Your Fleet:

- Flexibility to use one antifreeze in your foreign and domestic passenger vehicles, and heavy-duty engine applications
- Does not impart any significant color change if mixed with another engine coolant
- Extended protection against rust, corrosion and pitting
- Prevents freeze-up and boil-over when used according to OEM and product dilution guidelines
- Protects brass, copper, solder, steel, cast iron and aluminum
- Optimum protection against water pump corrosion and erosion-corrosion
- Compatible with current ethylene glycol-based engine coolants, IAT, HOAT, and OAT technologies
- Compatible with controlled atmosphere brazed (CAB) aluminum radiators
- Protects against wet sleeve liner cavitation without nitrite and molybdate
- Borate, nitrite, amine and phosphate free



MULTI-PURPOSE ADVANCED FORMULA

Meets the performance requirements of the following specifications:

OEM/Agency	Specifications
ASTM	D-3306 / D-6210 / D-4985 / D7583 (Pit Count 101)
BS	6580
DDC	93K217
GM	GM 1825M, GM 1899M
JIS	K2234

Coolant concentrate must be diluted with water prior to use. World Oil Multi-Purpose Antifreeze/Coolant should not be used in concentrated form. A 50% dilution is generally recommended for the best balance of protection against freezing, corrosion and summer boil over. For increased freeze protection in extremely cold areas, a 60% volume concentration can be used. Concentrations of greater than 70% by volume are not recommended. High quality soft, de-ionized or distilled water should always be used to dilute coolant concentrate.

Recommended for use in:

OEM/Agency	Specifications
BS	6580
Chrysler	MS7170 & MS9769
Cummins	14603
DDC	93K217, 7SE 298
Ford	ESE-M97B44-A, WSSM97B44-D, & M97B51-A1
Freightliner	44822880
GM	6277M
GM	Heavy Truck
John Deere	JDM H24
International	GEMS-B-1
VW	TL774G
Caterpillar, Kenworth, Mack, PACCAR/DAF, Volvo Honda/Acura, Hyundai/Kia, General Motors, Mazda, Mercedes-Benz, Mitsubishi, Nissan/Infiniti, Subaru, Toyota/Scion/Lexus	

Performance Testing

ASTM D3306	ASTM D3306 (ASTM D1384, D2570, D2809, D4340)
Test	Test Results ¹
D1384	PASS
D4340	PASS
D2570	PASS
D7583	Pit Count 101, 200 Max.

ASTM D2809 Aluminum Water Pump Cavitation - Erosion Corrosion Rating	Test Results	Spec.
100 hours	9	8 min.
300 hours	9	
500 hours	9	

¹Weight loss per coupon in milligrams (average for 3 tests)

²Aluminum Radiator tests

Characteristic	Performance	Test Method
pH ^a	8.0 - 9.0	ASTM D1287
Specific gravity ^b	1.110 - 1.140	ASTM D1122
Freeze point (°C/°F)	-37/ -34	ASTM D1177
Foam volume (mL)	150 max.	ASTM D1881
Foam break time (second)	5 max.	ASTM D1881
Chloride (ppm)	25 max.	ASTM D3634
Color	Yellow	
Glycol Content (wt.%)	93 min.	
Inhibitors and Water Content (wt.%)	7 max.	
Silicon, from silicate (ppm)	250 max.	
Boron (ppm)	< 10	
Phosphorous	< 10	

World Oil Corporation is dedicated to preserving our environment. All laws and regulations should be observed for proper disposal. Contact the EPA or local municipality for proper disposal procedures in your area. For vehicles under warranty, please refer to your owners manual specifications. Distributed by: