

Heavy Duty Mixed Fleet ELC Antifreeze/Coolant

Heavy Duty Mixed Fleet ELC Antifreeze/Coolant is based on a proprietary Hybrid Organic Acid Technology (HOAT). It has been specifically designed for complete mixed fleet use and can be used in all makes and models of foreign and domestic passenger vehicles, light duty and heavy duty diesel applications. This low silicate, organic additive, ethylene glycol based, extended service product is free of phosphates, borates, nitrites and amines. It will provide extended protection against rust, corrosion and pitting caused by cavitation for all coolant system metals, including aluminum. It also provides protection against wet sleeve liner cavitation and is compatible with the flux found in controlled atmosphere brazed (CAB) radiators. In addition to normal product development testing, this product has been evaluated for chemical and performance compatibility with a wide range of different engine coolant technologies (including Asian, European and North American) using ASTM D1384, D2809 and D4340.

It offers excellent protection against temperature extremes, preventing freeze-up and boil over when used in accordance with OEM and product manufacturer's guidelines regarding product dilution. This product does not impart any significant colour change if mixed with another engine coolant. The superior performance and stability of this product's premium extended life corrosion inhibitors allows them to go on working well beyond the lifetime of traditional products. When Heavy Duty Mixed Fleet ELC Antifreeze/Coolant is added as an initial fill and properly maintained in accordance with engine manufacturer's maintenance recommendation, it will provide up to 250,000 km (150,000 miles) or 5 years of service life protection in automotive application and up to 960,000 km (600,000 miles) or 6 years of service life protection in heavy duty diesel use.

Heavy Duty Mixed Fleet ELC Antifreeze/Coolant offers the following advantages:

- Complete Mixed fleet use; heavy duty diesel, light truck and automotive
- Borate, nitrite, amine and phosphate free
- Fully compatible with IAT, HOAT and OAT coolant technologies
- Protects coolant system metals such as brass, copper, solder, steel, cast iron and aluminum
- Protects against wet sleeve liner cavitation
- Enhanced water pump performance
- Compatible with CAB radiators
- Extended service life

Heavy Duty Mixed Fleet ELC Antifreeze/Coolant meets the performance requirements of the following engine coolant specifications:

ASTM D3306, D4985, D6210-10, D7583	BS 6580	GM 1825M, 1899M
AS.NZ 2108.1:1997 "Type A"	DDC 93K217	JIS K2234

It is recommended for use in:

Caterpillar	Freightliner 48-22880	Kenworth
Chrysler MS7170, MS9769	GM 6277M	MACK
Cummins 14603	GM Heavy Truck	PACCAR / DAF
Ford ESE-M97B44A, WSS-M97B44D, WSS-M97B51-A1	International Truck & Engine CEMS B-1	VW TL 774G

Coolant concentrate must be diluted with water prior to use. Heavy Duty Mixed Fleet ELC 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. For added value and convenience, this product is available in a ready to use format, pre-diluted to 50% volume using deionized water.



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Typical Product Properties

Characteristic	Performance	Test Method
pH ^a	8.0 – 9.0	ASTM D1287
Specific gravity ^b	1.120 – 1.140	ASTM D1122
Freeze point ^a (°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
Colour	Pale Yellow	
Glycol Content (wt.%)	93 min.	
Inhibitors and Water Content (wt.%)	7 max.	
Silicon, from silicate (ppm)	250 max.	ASTM D6130
Boron (ppm)	< 10	
Phosphorous (ppm)	< 10	

^a 50% volume aqueous solution

^b Measured at 15.6°C/60°F

Typical Coolant Performance Testing Results

ASTM D 1384 GLASSWARE CORROSION			ASTM D 2570 SIMULATED SERVICE	
Metal Type	Test Results ¹	Max. Spec.	Test Results ¹	Max. Spec.
Copper	1	10	2	20
Solder	1	30	2	60
Brass	1	10	1	20
Steel	0	10	1	20
Cast Iron	-1	10	2	20
Aluminum	2	30	0	60

¹ Weight loss, except plus signs which indicate weight gain, per coupon in milligrams. Values are for coolant made from virgin ethylene glycol.

	Test Results ¹	Specification
ASTM D4340 Heat Rejecting Aluminum Corrosion (mg/cm²/week)	0.1	1.0 maximum
ASTM D2809 Aluminum Water Pump Cavitation- Erosion Corrosion Rating		
100 hours	9	8 minimum
300 hours	9	
500 hours	9	
ASTM D7583 Deere Liner Cavitation Test	101	200

¹ Weight loss per coupon in milligrams (average for 2 tests). Values are for coolant made from virgin ethylene glycol.

NOTICE: This product is shipped in compliance with applicable laws and regulations regarding classification, packaging, shipping and handling. The performance and physical property data described for this product are typical results not sale specifications, except where maximum or minimum is indicated. Refer to Material Safety Data Sheets for further information.

Because use conditions and applicable laws may differ from one location to another and may change with time, the customer is responsible for determining whether product and the information in this document are appropriate for their use and for ensuring that their workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Recochem's warranty is limited to the claims of product meeting stated performance specifications. It is the responsibility of the end-user to determine product suitability as recommended in the owner's manual and to follow engine manufacturer's instructions.

