

Havoline® XLI Concentrate



Product description

Havoline® XLI Concentrate is a coolant and corrosion inhibitor concentrate, based on extended-life organic acid Carboxylate Technology.

Havoline® XLI Concentrate, when mixed at 50% by volume with water, is suitable for use in automotive cooling systems, marine engines and stationary power generation where glycol-based antifreeze is not required.

Customer benefits

- **Complete cooling system protection**
Carboxylate Technology inhibitor provides corrosion protection in aqueous solutions for engine and cooling system metals, including aluminium, iron, steel, copper and solder alloys. The corrosion inhibitor helps prevent wet liner cavitation erosion and protects aluminium heat transfer surfaces.
- **Helps extend service life**
Very low depletion rate of the organic acid inhibitor helps ensure long-term corrosion protection under all operating conditions.
- **Helps reduce maintenance costs**
Carboxylate Technology inhibitor system helps prevent wet liner cavitation erosion and provides exceptional protection to aluminium surfaces under heat transfer conditions.
- **Helps save time and money**
Very low depletion rate and complete cooling system protection of the special organic acid inhibitor removes the need for supplementary additives for cavitation erosion protection and reduces the need to regularly test inhibitor level and add extra additive to maintain the inhibitor concentration.

Applications

- Engines not requiring the use of glycol-based antifreeze or freeze protection.
- Passenger car and light duty commercial vehicles with gasoline, diesel or gas engines.
- Heavy duty diesel engines in road transport vehicles.
- Agricultural and construction equipment, marine and stationary engines.

Recommended maximum service intervals, using 50% by volume with water, are:

Passenger car & light truck commercial vehicles:	250,000 km or 5 years
Heavy-duty diesel, on-road:	600,000 km or 4 years
Heavy-duty diesel, off-road:	8,000 hours or 4 years
Stationary power generation & marine engines:	32,000 hours

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Product approvals, performance, and recommendations

Performance standards

Developed independently by Chevron to comply with the following performance standards and specifications:

- Detroit Diesel
- Mercedes Benz trucks, MB 312.0
- MAN 248
- Liebherr MD 1-36-130 (DCA)
- MTU MTL 5049
- Deutz (TR0199-99-2091) medium & large engines
- Wärtsilä, diesel/gas/dual fuel engines
- MAN B&W, 2 and 4-cycle engines
- MaK
- New Sulzer Diesel, 2-cycle engines
- Ulstein Bergen 2.13.01, diesel and gas engines
- Yanmar

Consult OEM representatives for independent verification, updates and recommendations.

Service Considerations

For optimum year-round protection, a solution of 50% by volume Havoline® XLI Concentrate in water is recommended.

While Havoline® XLI Concentrate is compatible with hard water, it is recommended that water of the following quality is used to minimize scale deposits:

Chloride Ion content, max mg/kg	40
Sulfate content, max, mg/kg	100
Total Hardness (CaCO ₃ & MgCO ₃) max, mg/kg	170
pH at 25°C	5.5 to 9.0
Total Solids, max, mg/kg	340

Traditional phosphate and borate containing coolants exhibit higher pH and reserve alkalinity than the new organic acid based Carboxylate Technology. However, this difference bears no relationship to corrosion control potential. In comparison with conventional coolants, the different inhibitor mechanism of Havoline® XLI Concentrate means reserve alkalinity is of no relevance, and it is able to afford corrosion protection to aluminium and other system metals at much lower pH levels.

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Typical Test Data

HAVOLINE® XLI CONCENTRATE	RESULTS
Product Code	510545
Mixing rate, % volume with water	50
Nitrate, amine, phosphate, borate content	Nil
Silicate content, as NA_2SiO_3 , m%	Nil
pH, 50% dilution	8.3

ENVIRONMENT, HEALTH, and SAFETY. Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions, and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit the Product Information Center.

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