



DELO[®] XLC ANTIFREEZE/COOLANT

PRODUCT DESCRIPTION

Delo[®] XLC Antifreeze/Coolant is a non-nitrited extended life OAT (Organic Additive Technology) formulation for heavy or light duty vehicles and other equipment. Delo XLC is formulated with an aliphatic carboxylate corrosion inhibitor system available as a concentrate and a premix 50/50.

CUSTOMER BENEFITS

Delo XLC Antifreeze/Coolant products deliver value through:

- **Long Service Life** — Service life of 1,000,000 miles / 1,600,000 km / 15,000 hours, or 8 years, or 1,200,000 miles / 1,900,000 km / 20,000 hours or 8 years of diesel engine coolant system protection when properly maintained with a Delo FleetFix[®] CMX addition at 600,000 miles / 960,000 km / 10,000 hours or 4 years.
- **Excellent Protection** — Excellent protection against pitting, corrosion and erosion even on hard to protect metals like aluminum.
- **Minimized Maintenance and Related Costs** — Recommend Delo Coolant Maintenance Kit for routine coolant testing to help detect and eliminate cooling system issues.
- **Heat Transfer** — Excellent heat transfer compared to silicate containing coolants.
- **Hardware Life** — Maximum water pump life due to no silicate formula.
- **Various Applications** — Excellent protection for mixed fleets where the OEM specifies a nitrite free coolant. Can be used in heavy duty engines using reduced emission protocols including or combining EGR, DPF, SCR and after-cooler technologies. This product is recommended for mixed fleet applications.¹

¹ Some OEM's require the use of nitrite in heavy duty engine applications.

- **Wide Temperature Applications** — Protection against winter freeze-up and summer boil-over.
- **Biodegradability** — Biodegradable in its unused form.
- **Compatibility** — Compatible with conventional antifreeze. Dilution with conventional antifreeze will reduce extended life benefits. Chevron recommends that this product not be diluted by more than 25% with other coolant formulations.
- **Stability** — Can be stored for 8 years in sealed containers without any effect on the product quality or performance.

FEATURES

Delo XLC Antifreeze/Coolant is a heavy-duty, ethylene glycol based engine coolant which incorporates patented organic corrosion inhibitor technology called aliphatic carboxylates. The Delo XLC formula is free of nitrite, nitrate, borate, phosphate, silicate, and amines, and provides maximum protection of the six basic metal alloys found in most heat transfer systems. Delo XLC products do not contain phosphates or silicates which are known to contribute to hard water scale issues. Delo XLC promotes maximum water pump seal life by eliminating inorganic corrosion inhibitors. Delo XLC has a recommended service life of 1,000,000 miles / 1,600,000 km / 15,000 hours or 8 years. This product will not require the addition of supplementary coolant additives (SCA's) to achieve its recommended service life. Routine visual inspections, coolant top-off and annual laboratory testing are recommended to ensure maximum service life.

Note: These products are not to be used to protect the inside of potable water systems against freezing.

APPLICATIONS

Recommended applications for Delo XLC Antifreeze/Coolant:

Product(s) manufactured in the USA.

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

A **Chevron** company product

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- Heavy duty engines regardless of fuel type or environmental controls being used where the OEM recommends a nitrite free, silicate free coolant.
- Mixed fleets where automobiles, light duty trucks and heavy duty trucks are being serviced and the OEM recommends a nitrite free, silicate free product.¹
- Recreational vehicles where a nitrite free, silicate free product is recommended.
- On-road, Off-road and Marine cooling system applications.

Delo® XLC Antifreeze/Coolant is approved for:

- **Cummins** CES 14439
- **Detroit Diesel** DFS93K217ELC
- **Deutz** DQC CB-14
- **Komatsu** KES 07.892
- **MAN** 324 Type SNF
- **MB-Approval** 325.3 (Concentrate)
- **MB-Approval** 326.3 (Premixed 50/50)

Delo XLC Antifreeze/Coolant meets the specifications of:

- **ASTM** D3306
- **ASTM** D6210
- **DAF** 74002
- **MTU** MTL 5048
- **TMC** RP 364

Delo XLC Antifreeze/Coolant is recommended for use in:

- **GE - Jenbacher** Stationary Natural Gas Engines
- **Hino** Truck Diesel Engines
- **Isuzu** Truck Diesel Engines
- **Kobelco** Construction Equipment Diesel Engines
- **MTU** 2000/4000 Diesel Engines
- **Navistar™** MAXXFORCE Engines
- **Scania** Truck Diesel Engines
- **Volvo** Construction Equipment (VCE) Diesel Engines
- **Volvo and Mack** Truck Diesel Engines
- **Wärtsilä** Stationary Diesel Engines
- **Vestas** Wind Turbine Power Electronics External Coolant System
- European HD OEMs that require both Phosphate-free and Nitrite-free formulations

- Japanese HD OEMs that require Silicate-free formulations

It is recommended that this product not be diluted with other coolant formulations by more than 25% in order to maintain performance claims.

PRODUCT DILUTION AND BOIL OVER PROTECTION RECOMMENDATIONS FOR DELO XLC ANTIFREEZE/COOLANT - CONCENTRATE

Boiling Protection, °F/°C (using a 15 lb pressure cap) 50% 1:1 (1 part antifreeze/1 part water)	265/129
Freezing Protection, °F/°C 40% 2:3 (2 parts antifreeze/3 parts water) 50% 1:1 (1 part antifreeze/1 part water) 60% 3:2 (3 parts antifreeze/2 parts water)	-12/-24 -34/-37 -62/-52

Notes

- Product concentrates should be agitated before use or dilution.
- Delo XLC Antifreeze/Coolant - Premixed 50/50 should be used as purchased. No dilution is recommended.
- For maximum protection against freezing in extremely cold areas, a 60 percent solution of Delo XLC Antifreeze/Coolant - Concentrate (3 parts antifreeze/2 parts water) can be used. Concentrations greater than 67 percent are not recommended.
- Always dispose of used coolant in accordance with local, state and federal guidelines.

PRODUCT REFERENCE

Note: Bitterant is a flavor aversive that may help reduce the accidental ingestion of this product. These products contain bitterant.

Product Number 227076
SDS Number 38086
Delo XLC Antifreeze/Coolant - Concentrate

Product Number 227077
SDS Number 38123
Delo XLC Antifreeze/Coolant - Premixed 50/50

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

**DELO® XLC ANTIFREEZE/COOLANT
ASTM D1384 GLASSWARE CORROSION TESTS**

Delo XLC Antifreeze/Coolant ASTM D1384 Glassware Corrosion Test 33% Glycol Solution		
	ASTM Limit	Weight loss, mg per coupon ^a
Copper	10 max	0
Solder	15 max	2
Brass	10 max	0
Steel	10 max	0
Iron	10 max	-1
Aluminum	20 max	2

a Negative indicates net gain.

Delo XLC Antifreeze/Coolant ASTM D1384 Glassware Corrosion Test 70% Glycol Solution		
	ASTM Limit	Weight loss, mg per coupon ^a
Copper	10 max	3
Solder	15 max	1
Brass	10 max	3
Steel	10 max	1
Iron	10 max	1
Aluminum	20 max	-2

a Negative indicates net gain.

**DELO XLC ANTIFREEZE/COOLANT
ASTM D4340 HOT SURFACE ALUMINUM TEST**

Delo XLC Antifreeze/Coolant ASTM D4340 Hot Surface Aluminum Test		
	ASTM Limit	Weight loss, mg per coupon
Aluminum	1 max	.1

**DELO XLC ANTIFREEZE/COOLANT
ASTM D2809 WATER PUMP CAVITATION TEST**

Delo XLC Antifreeze/Coolant ASTM D2809 Water Pump Cavitation Test		
	ASTM Limit	Performance Rating
	8 min	10

**DELO XLC ANTIFREEZE/COOLANT
ASTM D7583 JD CAVITATION TEST**

Delo XLC Antifreeze/Coolant ASTM D7583 JD Cavitation Test		
	ASTM Limit	Number of Pits
	200 max	131

**DELO XLC ANTIFREEZE/COOLANT
CUMMINS CAVITATION TEST**

Delo XLC Antifreeze/Coolant Cummins Proprietary Test		
	Requirement	Performance
	Pass	Pass

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DELO FLEETFIX CMX ADDS VALUE THROUGH:

- **Product Specific Formulation** — Specifically formulated to work with Delo XLC. Delo FleetFix CMX should be added at 600,000 miles / 960,000 km /, 10,000 hours or 4 years in order to obtain 1,200,000 miles / 1,900,000 km / 20,000 hours or 8 years of diesel engine coolant system protection.

Quantity of Delo FleetFix CMX needed at 600,000 miles / 960,000 km of on-road use (4 years or 10,000 hours of off-highway use)		
Cooling System Capacity		Delo FleetFix CME Quantity
Gallons	Liters	Quarts
1-5	4-19	0.5 quart
6-8	23-30	1 quart
9-12	34-45	1.5 quarts

Delo FleetFix CMX should only be used with Delo XLC Antifreeze/Coolants.

TYPICAL TEST DATA

DELO® XLC ANTIFREEZE/COOLANT - CONCENTRATE

Appearance	Pink
Specific gravity 15/15°C	1.130
Freezing point, °C ^a , ASTM D1177	-37
pH ^b , ASTM D1287	8.5
Reserve alkalinity ^c , ASTM D1121	6.0
Silicate, % ^d	None

a 50 vol % aqueous solution.

b 1:2 dilution with water.

c As received.

d As anhydrous alkali metasilicate.

Minor variations in product typical test data are to be expected in normal manufacturing.

HANDLING PRACTICES

The primary limiting factor in the shelf life of a coolant is silicate instability. Since silicate will eventually polymerize to silicate gel, silicate containing coolants have a shelf life of about 18 months. Delo XLC Antifreeze/Coolant is silicate-free and can be stored for 8 years, provided the container remains sealed. Product should be agitated before use.

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