



DELO[®] EXTENDED LIFE COOLANT/ANTIFREEZE

PRODUCT DESCRIPTION

Delo[®] Extended Life Coolant/Antifreeze products are single phase, ethylene glycol based products available in various dilutions that are based on patented aliphatic carboxylate corrosion inhibitor technology specifically formulated for heavy duty cooling system applications that require nitrite.

CUSTOMER BENEFITS

Delo Extended Life Coolant/Antifreeze products deliver value through:

- **Managing costs** — Helps eliminate the cost of using SCAs (supplemental coolant additives), regular testing and the manpower required to perform these tasks effectively eliminating those costs when compared to conventional or fully formulated coolants.
- **Long Service Life** — 750,000 miles on-road use (8 years or 15,000 hours off-highway use) or 1,000,000 miles/20,000 hours/8 years with a Delo Extender addition at 500,000 miles/10,000 hours/4 years.
- **Optimal cooling system operation** — The silicate free formula improves heat transfer when compared to silicate containing formulations. Silicates deposits can reduce heat transfer and increase downtime due to over-heating.
- **Maximum Hardware Life** — Maximum water pump life due to minimal water pump seal wear resulting from the silicate free formulation.
- **Excellent Protection** — Effective, long term corrosion protection, even at elevated temperatures, of commonly found cooling system metals. Effective at protecting aluminum in high temperature applications.
- **Variable Applications** — Recommended for use in on-road, off-road and stationary engine applications that call for an extended life, silicate and phosphate free formulation that contains nitrite and molybdate. Can be used in engines using

variable fuel types and variable emission control protocols. Check with your OEM for specific product application requirements.

- **Compatibility** — Compatible with other coolant formulations and supplemental coolant additives. Chevron recommends that this product not be diluted by more than 25% with other coolant formulations. Dilution by more than 25% will reduce extended life properties.
- **Biodegradability** — Biodegradable in its unused form.
- **Stability** — Storage stable for a minimum of 8 years as purchased.

FEATURES

Delo Extended Life Coolant/Antifreeze products are heavy duty engine coolants that use a patented organic corrosion inhibitor technology called aliphatic carboxylates. Delo ELC is free of nitrates, borates, silicates, phosphates and amines. These products contain nitrites and molybdates for additional cylinder liner protection.

Delo Extended Life Coolant/Antifreeze products are recommended for use in a wide variety of cooling system applications including on-road, off-road and stationary engine applications. These products are also recommended in mix fleet applications where heavy duty and light duty trucks are present. Please check your OEMs coolant recommendations.

Delo Extended Life Coolant/Antifreeze products do not require the addition of supplemental coolant additives to obtain their service life of 750,000 miles/8 years/15,000 hours with correct top-up practices.

Delo Extended Life Coolant/Antifreeze products have been fully tested under the CAT EC-1 specification and have been found to meet all the chemical and performance requirements of this specification.

Product(s) manufactured in the USA and Colombia.

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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COOL-40

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APPLICATIONS

Recommended applications for Delo® Extended Life Coolant/Antifreeze products:

- Heavy duty engines regardless of fuel type or environmental controls being used where the OEM recommends a silicate free, extended life coolant that contains nitrites¹
- Mixed fleets where both light duty and heavy duty trucks are present
- Stationary engine applications regardless of fuel type being used
- Marine cooling systems where freeze protection is needed and a nitrite containing coolant is recommended

Meet or exceed requirements of:

- **ASTM** D6210
- **ASTM** D3306
- **TMC** RP 329, 302A, 351 (color)
- Phosphate-free requirement of European OEMs
- Silicate-free requirement of Japanese OEMs
- **Caterpillar** EC-1
- **Navistar** B1 Type 3
- **DDC** Series 60 and 15 as per DDC-SVC-BRO-0002
- **Mack**
- **MTU**
- **Peterbilt/Kenworth**
- **Freightliner**

Suitable for use in:

Heavy duty cooling systems that require a nitrite containing, silicate and phosphate free, extended life coolant. Check your OEMs requirements.

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

¹ Some OEMs recommend the use of nitrite free coolants. Check with your OEM.

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PRODUCT DILUTION AND BOIL OVER RECOMMENDATIONS FOR DELO EXTENDED LIFE COOLANT CONCENTRATE

Boiling Protection, °C/°F (using a 15 lb pressure cap) 50% 1:1 (1 part antifreeze/1 part water)	129.4/265
Freezing Protection, °C/°F 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)	-24.4/-12 -36.7/-34 -52.2/-62

Notes

- Product concentrates should be agitated before use or dilution.
- Delo Extended Life Prediluted 50/50 Coolant/Antifreeze should be used as purchased. No dilution is recommended.
- For maximum protection against freezing in extremely cold areas, a 60 percent solution of Delo Extended Life 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 227808
MSDS Number USA 10652
MSDS Number Colombia 33059
Delo Extended Life Coolant/Antifreeze Concentrate

Product Number 227811
MSDS Number USA 10673
MSDS Number Colombia 33053
Delo Prediluted 50/50 Extended Life Coolant/Antifreeze

Product Number 275111
MSDS Number USA 23721
Delo Prediluted 60/40 Extended Life Coolant/Antifreeze

Product Number 227018
MSDS Number USA 10644
Delo Extender

TYPICAL TEST DATA

Delo® Extended Life Coolant/Antifreeze Concentrate

Appearance	Red
Specific gravity 15/15°C	1.130
Freezing point, °C ^a ASTM D1177	-37
pH ^b , ASTM D 1287	8.3
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.

Delo Extended Life Coolant/Antifreeze ASTM D1384 Glassware Corrosion Test

Delo Extended Life Coolant/Antifreeze ASTM D1384 Glassware Corrosion Test		
	ASTM Limit	Weight loss, mg per coupon ^a
Copper	10 max	2
Solder	30 max	0
Brass	10 max	-1
Steel	10 max	-1
Iron	10 max	-1
Aluminum	30 max	3

- a Negative indicates net gain.

pH AND RA COMPARISON OF DELO EXTENDED LIFE COOLANT/ANTIFREEZE VERSUS TRADITIONAL COOLANTS IS SHOWN BELOW:

	Delo Extended Life Coolant/Antifreeze	Traditional Antifreeze/Coolant
Typical pH	8.3	10.5
Typical RA ^a (mL)	6.0	12.0

- a RA is defined as the amount in milliliters (mL), of 0.1 normal hydrochloric acid required to reduce the pH of 10 ml of antifreeze to 5.5.

DELO EXTENDER ADDS VALUE THROUGH:

- **Product Specific Formulation** — Specifically formulated to work with Delo ELC. Delo Extender should be added at 500,000 miles, 10,000 hours or 4 years in order to obtain a service interval of 1,000,000 miles, 20,000 hours or 8 years.

Delo Extender has been specifically formulated to double the life of Delo Extended Life Prediluted 50/50 Coolant Antifreeze. It should only be added at 500,000 miles/10,000 hours/4 years.

Quantity of Delo Extender needed at 500,000 miles of on-road use (4 years or 10,000 hours of off-highway use)		
Cooling System Capacity		Add Required Quantity of Delo Extender
Gallons	Liters	Quantity
5-8	22-30	1/2 Quart Bottle
8-13	30-49	1 Quart Bottle
13-22	49-83	1-1/2 Quart Bottles
22-30	83-114	2 Quart Bottles
30-41	114-155	3 Quart Bottles
41-52	155-197	4 Quart Bottles
52-64	197-243	5 Quart Bottles

Delo Extender should only be used with Delo Extended Life Coolants.

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.

TYPICAL TEST DATA

For Delo® Extender

Appearance	Red
Specific gravity	1.06
Silicate, %	None

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 Extended Life Coolant/Antifreeze is silicate-free and therefore can be stored for at least 8 years, provided the integrity of the container is maintained. Product should be agitated before use.

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.

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