



DELO[®] EXTENDED LIFE COOLANT/ANTIFREEZE PG

PRODUCT DESCRIPTION

Delo[®] Extended Life Coolant/Antifreeze PG are single phase, propylene glycol type products based on Chevron's patented aliphatic carboxylate inhibitor system with nitrite and molybdate added and are available as a concentrate or a 50/50 pre-dilute.

CUSTOMER BENEFITS

Delo Extended Life Coolants/Antifreeze PG deliver value through:

- **Improved economics** — Eliminates 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 of fully formulated coolants.
 - **Long Service Life** — 750,000 miles on-road use (8 years or 12,000 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.
 - **Improved cooling system operation** — The silicate free formula improves heat transfer compared to silicate containing formulations. Silicate deposits can reduce heat transfer and increase downtime due to over-heating.
 - **Improved Hardware Life** — Improved water pump life due to reduced water pump seal wear resulting from 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 recommend a PG based extended life, silicate and phosphate free coolant containing nitrites. Can be used in engines using variable fuel types and variable emission control protocols.¹ Check with your OEM for specific product application requirements.
 - **Compatibility** — Compatible with other coolant formulations and supplemental coolant additives. Mixing of ethylene glycol and propylene glycol based coolant/antifreeze products is not recommended. 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** — Readily biodegradable in its unused form.
 - **Less Toxic** — Uses a propylene glycol base that is less acutely toxic than ethylene glycol.
 - **Stability** — Storage stable for a minimum of 8 years as purchased.

FEATURES

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

Delo Extended Life Coolants/Antifreeze PG are recommended for use in a wide variety of cooling system applications including on-road, off-road and stationary engine applications.

¹ Some OEMs recommend the use of nitrite free coolants. Some OEMs also do not recommend the use of PG based coolants. Check with your OEM for specific recommendations.

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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Delo® Extended Life Coolants/Antifreeze PG are also recommended for use in mix fleet applications where heavy duty and light duty trucks are present. Please check your OEM's coolant recommendations.

Delo Extended Life Coolants/Antifreeze PG do not require the addition of supplemental coolant additives to obtain a service life of 750,000 miles/8 years/12,000 hours with correct top-up practices.

Delo Extended Life Coolants/Antifreeze PG meet the CAT EC-1 specification.

APPLICATIONS

Recommended applications for Delo Extended Life Coolant/Antifreeze PG:

- Heavy duty engines regardless of fuel type or environmental controls being used where the OEM recommends an extended life, PG based, silicate and phosphate free coolant that contains nitrites²
- 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
- Environments where freeze protection and a low acute toxicity base fluid is needed
- Meets or Exceeds: **CAT** EC-1, **ASTM** D6210

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

Boiling Protection, °C/°F (using a 15 lb pressure cap) 50% 1:1 (1 part antifreeze/1 part water)	126.7/260
Freezing Protection, °C/°F 30% 3:7 (3 parts antifreeze/7 parts water) 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)	-13.9/+7 -21.6/-7 -32.7/-27 -56.7/-70

Notes

- Product concentrates should be agitated before use or dilution.
- Prediluted 50/50 products should be used as purchased.
- For maximum protection against freezing in extremely cold areas, a 60 percent solution of Delo Extended Life PG 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

Product Number 275110
MSDS Number 23711
Delo Extended Life Coolant/Antifreeze PG Concentrate

Product Number 275109
MSDS Number 23715
Delo Extended Life Prediluted 50/50 Coolant/Antifreeze PG

Product Number 227018
MSDS Number 10644
Delo Extender

² Some OEMs recommend the use of nitrite free coolants. Some OEMs also do not recommend the use of PG based coolants. Check with your OEM for specific recommendations.

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TYPICAL TEST DATA

Delo® Extended Life PG Concentrate

	ASTM 3306 requirements	Method used	
Propylene glycol	Base		91.5% w/w glycol
Other glycols	5% w/w max.		0.5% max.
Inhibitor content			5% w/w
Water content	5% w/w max	ASTM D1123	4% w/w max
Ash content	5% w/w max	ASTM D1119	1.4% w/w
Nitrite content			1100
Color			Pink
Specific gravity, 15°C	1.030 to 1.065	ASTM D1122	
Specific gravity, 20°C		ASTM D1122	1.042
Equilibrium boiling point	>152°C	ASTM D1120	165°C
Reserve alkalinity	report	ASTM D1121	6.3
Refractive index			1.431

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

Delo Extended Life Prediluted 50/50 Coolant/Antifreeze PG

	ASTM 3306 requirements	Method used	
pH	7.5 to 11.0	ASTM D1287	8.5
Foaming properties at 25°C break time		ASTM D1881	50 ml 5 sec.
Foaming properties at 88°C break time	150 ml max.	ASTM D1881	50 ml 5 sec. typ.
Initial crystallization	<-32°C	ASTM D1177	<-32.6°C
Freezing protection			-33°C

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

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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, liters	Delo Extender Quantity, liters
22-30	0.5
30-49	1
49-83	1.5
83-114	2
114-155	3
155-197	4
197-243	5

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

TYPICAL TEST DATA

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 PG are silicate-free and therefore can be stored for at least 8 years, provided the integrity of the container is maintained. Products 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.