9 • Coolant Products



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Getting Started

Engine manufacturers always recommend using a fully formulated coolant. Fully formulated coolants contain the appropriate amounts of glycol, de-ionized water and coolant additives (also known as supplemental coolant additives or SCAs) mixed together as a complete coolant package. There are *standard service interval coolants* and *extended service interval coolants*. Water filters containing SCA can provide a convenient and reliable method for delivering supplemental additives and coolant extenders which replenish the additive chemistries used during the respective service interval.

Protecting Your Cooling System

Estimates project that more than 40% of heavy duty engine repair costs are related to the cooling system. It is critical that you receive maximum protection for your cooling system – with minimum maintenance hassle – to prevent downtime and lower your total operating costs. Our comprehensive line of cooling system products includes everything you need to ensure a trouble-free cooling maintenance program.

The benefits of using Fleetguard® coolant products as a regular part of your cooling system maintenance program include:

- Extended water pump life
- Maximized cavitation corrosion protection
- Extended coolant life
- Improved heat transfer
- Improved thermostat durability
- Lower cooling system maintenance costs

The Fleetguard line of coolant products includes a variety of technologies to meet our customers' diverse needs. All coolants are designed to work in conjunction with Fleetguard water filters, supplemental coolant additives, radiator cleaners and test strips.

- Customers seeking extended service interval coolants should consider our ES Compleat™ OAT (300,000 mile (500,000 km) service interval), ES Compleat (150,000 mile (260,000 km) service interval).
- Customers seeking a phosphate-free maintenance program should consider ES Compleat OAT or Fleetcool™.
- Customers seeking more environmentally friendly coolants should consider either Propylene Glycol (PG) based coolants or recycled coolant.

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Although we recommend the use of fully formulated heavy duty coolants, Supplemental Coolant Additives (SCA) can be used to upgrade light duty antifreeze for heavy duty use and can be used in water-only cooling systems like marine and railroad applications. The chemistry contained in our SCA is necessary to prevent liner pitting, corrosion and scale build-up on your cooling system components.

DCA4 chemistry is composed of a unique blend of phosphate, nitrite and molybdate, resulting in superior competitive advantages:

- More liner pitting protection
- Better aluminum and solder protection
- Less silicate gel
- Less solder bloom
- Fewer water pump leaks

DCA2 chemistry provides good engine protection in heavy duty diesel applications where glycol-based coolants are used.

Cummins Filtration® offers two types of cleaners to keep your cooling system in top condition. Both Restore™ and Restore Plus™ remove contaminants without harming metal surfaces, gaskets, hoses or plastic parts. Restore, an alkaline-based cleaner, is most effective in cleaning silicate gel, oil contamination and solder bloom. Restore Plus, an acid-based cleaner, is best at removing scale and oil and fuel fouling.

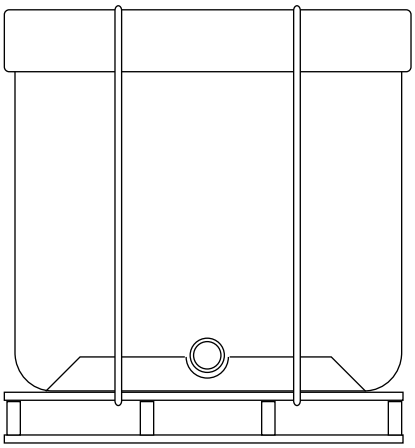
For coolant testing, we have a line of field test equipment such as test strips, a refractometer or expert laboratory analysis with on-line reporting, updated hourly.

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

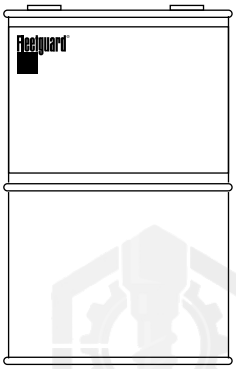
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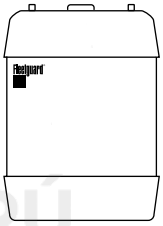
Coolants



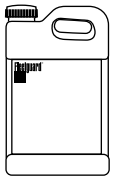
275 Gallon
(1040.99 Liter)
Tote



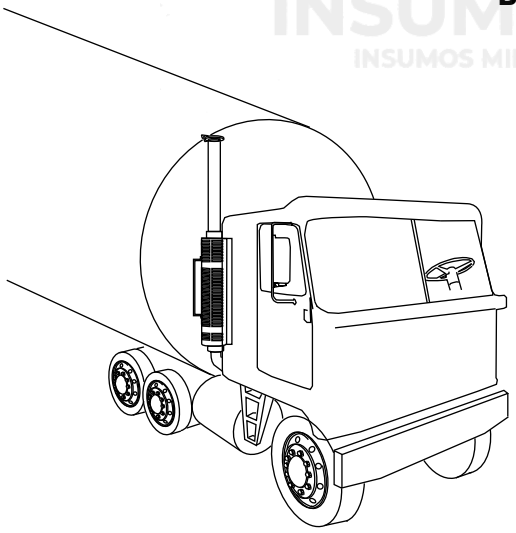
55 Gallon
(208.20 Liter)
Drum



5 Gallon
(18.93 Liter)
Pail



1 Gallon
(3.78 Liter)
Bottle



Bulk

Note: Not all container sizes are available in all countries.

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

ES Compleat™ EG Antifreeze/Coolants are Extended Life formulations that contain Ethylene Glycol (EG) base fluids and are designed specifically for Extended Service use in heavy duty diesel engines. ES Compleat is specifically designed for use with ES Slow Release coolant filters or liquid ES Extender to provide simplified coolant maintenance while extending coolant service intervals to 150,000 miles (260,000 km) or 4000 hours of operation. ES Compleat can also be used in standard service maintenance intervals with the use of Supplemental Coolant Additives (SCA) and standard coolant filters.

Composition

ES Compleat EG Concentrate mixes readily with clean tap water or demineralized water, while ES Compleat EG Premix is formulated with demineralized water and is ready to use. Both EG antifreeze products are low silicate, contain a full charge of heavy duty chemical inhibitors and are compatible with SCA chemical filters. ES Compleat EG Antifreezes are formulated with Borate/Nitrite chemistry recommended for use in heavy duty diesel engines.

Application

ES Compleat EG antifreezes are universal products highly recommended for use in all Cummins and similar types of heavy duty diesel engines, and also for use in automobile and light duty applications.

Benefits

- Compatible with all other coolants
- Lifetime coolant with service interval at 150,000 miles, 260,000 kilometers or 4000 hours
- Provides freeze protection up to -34 °F (-37 °C) at 50/50 premix and -65 °F (-54 °C) at 60/40 premix
- Fully formulated coolant – does not require SCA precharge
- Maximum corrosion protection with conventional heavy duty chemical inhibitors and organic acids
- Maximum liner pitting protection
- Eliminate hard water scale deposits
- Low TDS and silicate levels

ES Compleat EG Antifreeze Coolants are considered Lifetime Coolants, meet or exceed the performance requirements of the following specifications, and meet the low silicate limits of GM6038M antifreeze formulation requirements:

TMC RP 338 Extended Life
TMC RP 329
ASTM D-6210
ASTM D-4985
ASTM D-3306
CID-A-A-52624
GM® 1899

Cummins® CES 14603
Cummins SB 3666132
Caterpillar®
Detroit Diesel® 7SE298
John Deere® 8650-5
Thermo-King®
Case New Holland®

Navistar®
Freightliner® 48-22880
Volvo®
PACCAR®
Mack® 014G817004
EMD® M.I. 1748E
Waukesha® 4-1974D

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Specifications

Specification	Performance Standard	EG Concentrate	EG Premix 50/50	EG Premix 60/40	Liquid Extender
Color	Visual	Blue	Blue	Blue	Blue
Specific Gravity @ 60 °F (15.56 °C) @ 68 °F (20 °C)	 D1122 D1122	 1.13	 1.072 1.070	 1.084 1.082	 – 1.110
Density	–	9.43 lb/gal (1.13 kg/L)	8.944 lb/gal (1.072 kg/L)	9.044 lb/gal (1.084 kg/L)	9.261 lb/gal (1.110 kg/L)
pH (undiluted)	D1127	10.5	10.0	10.5	10.5 @ 3% bv
Reserve Alkalinity (undiluted)	D1121	5.0	3.0	3.8	–
Freeze Point (undiluted)	D1177	8 °F (-13.33 °C) min.	-35.8 °F (-37.68 °C) min.	-54 °F (-47.78 °C) min.	–
Boiling Point (undiluted)	D1120	330 °F (165.56 °C)	226 °F (107.78 °C)	231 °F (110.56 °C)	–
Water by Weight (approx.)	D1123	4.0%	48.99% max.	40.18%	–
Total Glycol by Weight	–	95.0% min.	50.19% min.	58.87%	–
Glassware Corrosion Test	D1384	Pass	Pass	Pass	–
Water Pump Cavitation Test	D2809	Pass	Pass	Pass	–
Aluminum Corrosion Test	D4340	Pass	Pass	Pass	–
Simulated Service Test	D2570	Pass	Pass	Pass	–
Ash Content by Mass	D1119	0.80%	0.40%	0.40%	–
Chloride by Weight	D2570	< 25 ppm	< 25 ppm	< 25 ppm	–

Ordering Information

Part Number	Product	Package Size	Case Qty.
CC2822	ES Compleat™ EG Concentrate	Bulk	N/A
CC2823	ES Compleat EG Concentrate	275 gal (1040.99 L)	1
CC2821	ES Compleat EG Concentrate	55 gal (208.20 L)	1
CC2847	ES Compleat EG Concentrate	5 gal (18.93 L)	1
CC2820	ES Compleat EG Concentrate	1 gal (3.78 L)	6
CC2827	ES Compleat EG Premix 50/50	Bulk	N/A
CC2834	ES Compleat EG Premix 50/50	275 gal (1040.99 L)	1
CC2826	ES Compleat EG Premix 50/50	55 gal (208.20 L)	1
CC2848	ES Compleat EG Premix 50/50	5 gal (18.93 L)	1
CC2825	ES Compleat EG Premix 50/50	1 gal (3.78 L)	6
CC2862	ES Compleat EG Premix 60/40	Bulk	N/A
CC2863	ES Compleat EG Premix 60/40	55 gal (208.20 L)	1
CC2841	ES Compleat Liquid Extender	55 gal (208.20 L)	1
CC2842	ES Compleat Liquid Extender	5 gal (18.93 L)	1
CC2840	ES Compleat Liquid Extender	1 qt (0.95 L)	6
CC2843	ES Compleat Liquid Extender	1 pt (0.47 L)	12

Part Number	Product	Package Size	Case Qty.
CC2822M	ES Compleat™ EG Concentrate	Bulk	N/A
CC2851M	ES Compleat EG Concentrate	1000 L (264.17 gal)	1
CC2821M	ES Compleat EG Concentrate	208 L (54.95 gal)	1
CC2749M	ES Compleat EG Concentrate	20 L (5.28 gal)	1
CC2747M	ES Compleat EG Concentrate	5 L (1.32 gal)	4
CC2827M	ES Compleat EG Premix 50/50	Bulk	N/A
CC2852M	ES Compleat EG Premix 50/50	1000 L (264.17 gal)	1
CC2826M	ES Compleat EG Premix 50/50	208 L (54.95 gal)	1
CC2750M	ES Compleat EG Premix 50/50	20 L (5.28 gal)	1
CC2748M	ES Compleat EG Premix 50/50	5 L (1.32 gal)	4

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

ES Compleat™ PG Antifreeze/Coolants are Extended Life formulations that contain Propylene Glycol (PG) base fluids that are environmentally safer, and are designed specifically for Extended Service use in heavy duty diesel engines. ES Compleat is specifically designed for use with ES Slow Release coolant filters or liquid ES Extender to provide simplified coolant maintenance while extending coolant service intervals to 150,000 miles (260,000 km) or 4000 hours of operation. ES Compleat can also be used in standard service maintenance intervals with the use of Supplemental Coolant Additives (SCA) and standard coolant filters.

Composition

ES Compleat PG Concentrate mixes readily with clean tap water or demineralized water, while ES Compleat PG Premix is formulated with demineralized water and is ready to use. Both PG coolant products are low silicate, contain a full charge of heavy duty chemical inhibitors, and are compatible with ES Coolant chemical filters and conventional SCAs.

Application

ES Compleat PG antifreezes are universal products highly recommended for use in all Cummins and similar types of heavy duty diesel engines, and also for use in automobile and light duty applications.

Benefits

- Compatible with all other coolants
- Lifetime coolant with service interval at 150,000 miles, 260,000 kilometers or 4000 hours
- Provides freeze protection up to -26 °F (-32 °C) at 50/50 premix and -60 °F (-51 °C) at 60/40 premix
- Fully formulated coolant – does not require SCA precharge
- Maximum corrosion protection with conventional heavy duty chemical inhibitors and organic acids
- Maximum liner pitting protection
- Eliminate hard water scale deposits
- Low TDS and silicate levels

ES Compleat PG Antifreeze Coolants meet or exceed the performance requirements of the following specifications, and meet the low silicate limits of GM6038M antifreeze formulation requirements:

TMC RP 338 Extended Life
TMC RP 330
ASTM D-6211
ASTM D-5216
CID-A-A-52624
Waukesha® 4-1974D

Cummins® CES 14603
Cummins SB 3666132
Caterpillar®
Detroit Diesel® 7SE298
John Deere® 8650-5
Case New Holland®

Navistar®
Freightliner® 48-22880
Volvo®
PACCAR®
Mack®
EMD® M.I. 1748E

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Specifications

Specification	PG Concentrate	PG Premix 50/50	PG Premix 60/40	Liquid Extender
Color	Blue	Blue	Blue	Blue
Specific Gravity @ 60 °F (15.56 °C) Specific Gravity @ 68 °F (20 °C)	1.048 1.046	1.046 1.044	1.052 1.050	– 1.110
Density	8.744 lb/gal (1.048 kg/L)	8.727 lb/gal (1.046 kg/L)	8.777 lb/gal (1.052 kg/L)	9.261 lb/gal (1.110 kg/L)
pH (undiluted)	10.6	10.5	10.5	10.5 @ 3% bv
Reserve Alkalinity (undiluted)	6.2	3.2	3.8	–
Freeze Point (undiluted)	-48 °F (-44.44 °C) min.	-27 °F (-32.78 °C) min.	-56 °F (-48.89 °C) min.	–
Boiling Point (undiluted)	305 °F (151.67 °C) min.	219 °F (103.89 °C) min.	224 °F (106.67 °C) min.	–
Water by Weight (approx.)	4.0%	47.0% max.	37.0% max.	–
Total Glycol by Weight	95.0% min.	51.0% min.	61.0% min.	–
Glassware Corrosion Test	Pass	Pass	Pass	–
Water Pump Cavitation Test	Pass	Pass	Pass	–
Aluminum Corrosion Test	Pass	Pass	Pass	–
Simulated Service Test	Pass	Pass	Pass	–
Ash Content by Mass	0.80%	0.40%	0.40%	–
Chloride by Weight	< 25 ppm	< 25 ppm	< 25 ppm	–

Ordering Information

Part Number	Product	Package Size	Case Qty.
CC2832	ES Compleat™ PG Concentrate	Bulk	N/A
CC2833	ES Compleat PG Concentrate	275 gal (1040.99 L)	1
CC2831	ES Compleat PG Concentrate	55 gal (208.20 L)	1
CC2849	ES Compleat PG Concentrate	5 gal (18.93 L)	1
CC2830	ES Compleat PG Concentrate	1 gal (3.78 L)	6
CC2837	ES Compleat PG Premix 50/50	Bulk	N/A
CC2838	ES Compleat PG Premix 50/50	275 gal (1040.99 L)	1
CC2836	ES Compleat PG Premix 50/50	55 gal (208.20 L)	1
CC2850	ES Compleat PG Premix 50/50	5 gal (18.93 L)	1
CC2835	ES Compleat PG Premix 50/50	1 gal (3.78 L)	6
CC2864	ES Compleat PG Premix 60/40	Bulk	N/A
CC2865	ES Compleat PG Premix 60/40	275 gal (1040.99 L)	1
CC2872	ES Compleat PG Premix 60/40	55 gal (208.20 L)	1
CC2841	ES Compleat Liquid Extender	55 gal (208.20 L)	1
CC2842	ES Compleat Liquid Extender	5 gal (18.93 L)	1
CC2840	ES Compleat Liquid Extender	1 qt (0.95 L)	6
CC2843	ES Compleat Liquid Extender	1 pt (0.47 L)	12

Part Number	Product	Package Size	Case Qty.
CC2832M	ES Compleat™ PG Concentrate	Bulk	N/A
CC2853M	ES Compleat PG Concentrate	1000 L (264.17 gal)	1
CC2831M	ES Compleat PG Concentrate	208 L (54.95 gal)	1
CC2753M	ES Compleat PG Concentrate	20 L (5.28 gal)	1
CC2751M	ES Compleat PG Concentrate	5 L (1.32 gal)	4
CC2837M	ES Compleat PG Premix 50/50	Bulk	N/A
CC2854M	ES Compleat PG Premix 50/50	1000 L (264.17 gal)	1
CC2836M	ES Compleat PG Premix 50/50	208 L (54.95 gal)	1
CC2754M	ES Compleat PG Premix 50/50	20 L (5.28 gal)	1
CC2752M	ES Compleat PG Premix 50/50	5 L (1.32 gal)	4

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

ES Compleat™ OAT (Organic Acid Technology) is an organic acid fully formulated extended life Ethylene Glycol (EG) antifreeze/coolant. It is our answer to the maintenance demands of heavy duty diesel cooling systems. ES Compleat OAT EG may be used with Extended Service Interval (ESI) water filters and ES Compleat OAT Extender and only requires reinhibition after three years, 300,000 miles (500,000 km), or 6,000 hours of operation. ES Compleat OAT Converter to start an ES system without needing to drain and flush.

Composition

ES Compleat OAT Extended Life Antifreeze/Coolant utilizes patented organic acid technology. It provides superior diesel engine protection against freezing, boil-over, cavitation, liner pitting, erosion, corrosion, elastomer gasket degradation, and scaling, with one replenishment of ES Compleat OAT Extender liquid.

Benefits

- Compatible with all other coolants
- Lifetime coolant with service interval at 300,000 miles, 500,000 kilometers or 6000 hours
- Provides freeze protection up to -34 °F (-37 °C) at 50/50 premix and -65 °F (-54 °C) at 60/40 premix
- Fully formulated coolant – does not require SCA precharge
- Maximum corrosion protection with organic acids
- Maximum liner pitting protection
- Improved water pump life through a Borate/Phosphate/Silicate free formula
- Best aluminum and solder protection through the use of proprietary organic inhibitors
- Compatible with other coolants and SCAs – less concern with contamination
- Lasts a lifetime – does not need to be replaced except in unusual circumstances

ES Compleat OAT EG Antifreeze Coolants meet or exceed the performance requirements of the following specifications:

ASTM D-3306	Cummins® SB 14603	John Deere® H24A1, H24C1	TMC RP 329
ASTM D-4656	Detroit Diesel® 7SE298	Komatsu®	TMC RP338
ASTM D-4985	Freightliner® 48-22880	Mack®	Volvo®
ASTM D-6210	GM® 1825M	MTU 2000 and 4000	Waukesha® 4-1974D
Case New Holland®	GM 1899	PACCAR®	
Caterpillar® EC-1	International® B-1, Type III	SAEJ1034	

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Specifications

Specification	Performance Standard	OAT Concentrate	OAT Premix 50/50	OAT Premix 60/40	OAT Extender	OAT Converter
Color	Visual	Red	Red	Red	Red	Red
Specific Gravity @ 60 °F (15.56 °C)	D1122	1.130	1.070	1.090	1.170	1.165
Density	–	9.43 lb/gal (1.13 kg/L)	8.93 lb/gal (1.07 kg/L)	9.07 lb/gal (1.09 kg/L)	9.761 lb/gal (1.17 kg/L)	9.723 lb/gal (1.17 kg/L)
pH (undiluted)	D1278	7.9	7.9	7.9	11.0	9.9
Reserve Alkalinity (undiluted)	D1121	7.0	3.5	3.5	–	–
Freeze Point (undiluted)	D1177	8 °F (-13.33 °C) min.	-34 °F (-36.67 °C) min.	-65 °F (-53.89 °C) min.	–	–
Boiling Point (undiluted)	D1120	338 °F (170.00 °C) min.	226 °F (107.78 °C) min.	230 °F (110.00 °C) min.	–	–
Water by Weight (approx.)	D1123	4.0%	47.0% max.	37.0% max.	–	–
Total Glycol by Weight	–	95.0% min.	51.0% min.	61.0% min.	–	–
SCA Units per Gallon	–	4.0	2.0	2.0	–	–
Glassware Corrosion Test	D1384	Pass	Pass	Pass	–	–
Aluminum Corrosion Test	D4340	Pass	Pass	Pass	–	–
Simulated Service Test	D2570	Pass	Pass	Pass	–	–
Aluminum Water Pump Test	D2809	Pass	Pass	Pass	–	–
Silicates	–	None	None	None	–	–
Degradation Point	D1287	7.2	7.2	7.2	–	–

Ordering Information

Part Number	Product	Package Size	Case Quantity
CC2784	ES Compleat™ OAT Concentrate	Bulk	N/A
CC2783	ES Compleat OAT Concentrate	275 gal (1040.99 L)	1
CC2782	ES Compleat OAT Concentrate	55 gal (208.20 L)	1
CC2781	ES Compleat OAT Concentrate	5 gal (18.93 L)	1
CC2780	ES Compleat OAT Concentrate	1 gal (3.78 L)	6
CC2789	ES Compleat OAT Premix 50/50	Bulk	N/A
CC2788	ES Compleat OAT Premix 50/50	275 gal (1040.99 L)	1
CC2787	ES Compleat OAT Premix 50/50	55 gal (208.20 L)	1
CC2786	ES Compleat OAT Premix 50/50	5 gal (18.93 L)	1
CC2785	ES Compleat OAT Premix 50/50	1 gal (3.78 L)	6
CC2770	ES Compleat OAT Premix 60/40	55 gal (208.20 L)	1
CC2790	ES Compleat OAT Premix 60/40	275 gal (1040.99 L)	1
CC2777	ES Compleat OAT Extender	1 pt (0.47 L)	12
CC2779	ES Compleat OAT Extender	1 qt (0.95 L)	6
CC2778	ES Compleat OAT Converter	1 gal (3.78 L)	6

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

Fleetcool™ products contain Ethylene Glycol (EG) base fluids and are designed for use in heavy duty diesel engines.

Composition

Fleetcool Concentrate mixes readily with clean tap water or demineralized water, while Fleetcool Premix is formulated with demineralized water and is ready to use. Fleetcool contains a Borate/Nitrite, low silicate, fully formulated heavy duty inhibitor package that is compatible with all SCA liquids and filters. chemistry recommended for use in heavy duty diesel engines.

Benefits

- Compatible with all other coolants
- Lifetime coolant with service interval at 30,000 miles, 50,000 kilometers or 700 hours
- Provides freeze protection up to -34 °F (-37 °C) at 50/50 premix and -65 °F (-54 °C) at 60/40 premix
- Fully formulated coolant – does not require SCA precharge
- Phosphate and silicate free formula

Fleetcool antifreeze/coolants meet or exceed the performance requirements of the following specifications, and meet the low silicate limits of GM6038M antifreeze formulation requirements:

ASTM D-3306
ASTM D-4985
ASTM D-6210
Caterpillar®
Cummins® SB 3666132
Detroit Diesel® 7SE298
EMD® M.I. 1748E
Ford New Holland® 9-86
Freightliner® 48-22880
GM® 1825
GM 1899
John Deere® 8650-5
Mack®
PACCAR®
SAE 1941
TMC RP 329
Thermo-King®
Volvo GM®
Waukesha® 4-1974D

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Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Specifications

Specification	Performance Standard	EG Concentrate	EG Premix 50/50
Color	Visual	Green	Green
Specific Gravity @ 60 °F (15.56 °C)	D1122	1.120	1.071
Density	–	9.344 lb/gal (1.12 kg/L)	8.935 lb/gal (1.07 kg/L)
pH (undiluted)	D1127	10.5	10.5
Reserve Alkalinity (undiluted)	D1121	6.0	2.8 min.
Freeze Point (undiluted)	D1177	8 °F (-13.33 °C) min.	-34 °F (-36.67 °C) min.
Boiling Point (undiluted)	D1120	325 °F (162.78 °C)	226 °F (107.78 °C) min.
Water by Weight (approx.)	D1123	3.0%	48.5% max.
Total Glycol by Weight	–	95.0% min.	51.0% min.
Glassware Corrosion Test	D1384	Pass	Pass
Water Pump Cavitation Test	D2809	Pass	Pass
Aluminum Corrosion Test	D4340	Pass	Pass
Simulated Service Test	D2570	Pass	Pass

Ordering Information

Part Number	Product	Package Size	Case Quantity
CC8965	Fleetcool™ EG Concentrate	Bulk	N/A
CC8966	Fleetcool EG Concentrate	275 gal (1040.99 L)	1
CC8967	Fleetcool EG Concentrate	55 gal (208.20 L)	1
CC8968	Fleetcool EG Concentrate	5 gal (18.93 L)	1
CC8969	Fleetcool EG Concentrate	1 gal (3.78 L)	6
CC8970	Fleetcool EG Premix 50/50	Bulk	N/A
CC8971	Fleetcool EG Premix 50/50	275 gal (1040.99 L)	1
CC8972	Fleetcool EG Premix 50/50	55 gal (208.20 L)	1
CC8973	Fleetcool EG Premix 50/50	5 gal (18.93 L)	1
CC8974	Fleetcool EG Premix 50/50	1 gal (3.78 L)	6

INDUSTRIAL PERÚ
EQUIPOS MINEROS INDUSTRIALES

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

Fleetcool™ Recycled is a premium quality Ethylene Glycol (EG) base, recycled, low silicate formulation designed for use in U.S. military and heavy duty diesel engine applications. Fleetcool Recycled is compatible with Supplemental Coolant Additives (SCA) chemical filters and protect engines from liner pitting and corrosion.

Composition

Fleetcool Recycled Premix is formulated with 50% recycled demineralized water and is ready to use. It is a low silicate, phosphate-free product that contains DCA2, a proprietary chemical inhibitor system. Fleetcool Recycled Premix is manufactured using a High Efficiency Electrodialysis (HEED®) process.

Benefits

- Compatible with all other coolants
- Lifetime coolant with service interval at 30,000 miles, 50,000 kilometers or 700 hours
- Provides freeze protection up to -34 °F (-37 °C) at 50/50 premix
- Fully formulated coolant – does not require SCA precharge
- Phosphate and silicate free formula
- Protects against liner pitting and corrosion
- Environmentally friendly
- Meets most government requirements for recycled product

Fleetcool EX antifreeze coolants meet or exceed the performance requirements of the following specifications, and meet the low silicate limits of GM6038 antifreeze formulation requirements:

ASTM D-3306
ASTM D-4985
ASTM D-6210
Case®
Caterpillar®
Cummins® 14603
Detroit Diesel® 7SE298
EMD® M.I. 1748E
Ford®
Freightliner® 48-22880
GM® 1825
GM 1899
John Deere® 8650-5
Mack®
U.S. Military: CID A-A 52624A
International Truck & Engine®
New Holland® 9-86
PACCAR®
SAE 1941
TMC RP 329
Volvo®
Waukesha® 4-1974D

INSUMIND PERÚ
INSUMOS MINEROS INDUSTRIALES

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Specifications

Specification	Performance Standard	Recycled Premix 50/50
Color	Visual	Pink
Specific Gravity @ 60 °F (15.56 °C)	D1122	1.07
Density	–	8.93 lb/gal (1.07 kg/L)
pH (undiluted)	D1127	10.5
Reserve Alkalinity (undiluted)	D1121	2.5 min.
Freeze Point (undiluted)	D1177	-34 °F (-36.67 °C) min.
Boiling Point (undiluted)	D1120	226 °F (107.78 °C) min.
Water by Weight (approx.)	D1123	47.0% max.
Total Glycol by Weight	–	50.0% min.
Glassware Corrosion Test	D1384	Pass
Water Pump Cavitation Test	D2809	Pass
Aluminum Corrosion Test	D4340	Pass
Simulated Service Test	D2570	Pass
Ash Content by Mass	D1119	2.5% max.
Chloride by Weight (ppm)	–	25% max.

Ordering Information

Part Number	Product	Package Size	Case Quantity
CC2674	Fleetcool™ Recycled Premix 50/50	Bulk	N/A
CC2675	Fleetcool Recycled Premix 50/50	55 gal (208.20 L)	1

INSUMIND PERÚ
INSUMOS MINEROS INDUSTRIALES

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

Heavy Duty Coolant EG Concentrate is an Ethylene Glycol (EG) base low silicate product for use in heavy duty diesel engines (that only require coolant to meet ASTM 4985 specifications) and light duty applications. It contains highly effective inhibitors designed to provide corrosion protection for metals such as cast iron, copper, solder, steel and aluminum.

Heavy Duty Coolant EG Premix is an Ethylene Glycol (EG) base low silicate product for use in heavy duty diesel engines (that only require coolant to meet ASTM 4985 specifications) and light duty applications. It contains highly effective inhibitors designed to provide corrosion protection for metals such as cast iron, copper, solder, steel and aluminum. It is premixed 50/50 with demineralized water, eliminating the need for dilution at the point of use.

Composition

Heavy Duty Coolant EG Concentrate mixes readily with clean tap water or demineralized water, while Heavy Duty Coolant EG Premix is formulated with demineralized water and is ready to use. Heavy Duty Coolant EG Concentrate and Heavy Duty Coolant EG Premix require the addition of Supplemental Coolant Additives (SCA), such as Fleetguard® DCA4, when used in diesel engine applications. The DCA4 inhibitor system protects diesel engines from liner pitting and from hard water scale deposits.

Benefits

- Environmentally Friendly
- Premium Quality
- Low Silicate
- Contains Proprietary Chemical Inhibitor System
- Protects Against Liner Pitting and Corrosion
- Compatible with Supplemental Coolant Additive (SCA) Chemical Filters

Heavy Duty Coolant EG antifreeze coolants meet or exceed the performance requirements of the following specifications, and meet the low silicate limits of GM6038M antifreeze formulation requirements:

ASTM D-3306	TMC RP 302B	Ford New Holland® 9-86	Thermo-King®
ASTM D-4985	Case Corp.® MS1710	Freightliner® 48-22880	Volvo GM®
ASTM D-4340	Caterpillar®	John Deere® 8650-5	Waukesha® 4-1974D
SAE 1941	Cummins® 90T8-4	Mack®	
GM 1825	Detroit Diesel® 7SE298	Navistar®	
GM 1899	EMD® M.I. 1748E	PACCAR®	

INSUMOS PERÚ
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Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Specifications

Specification	Performance Standard	EG Concentrate	EG Premix 50/50
Color	Visual	Green	Green
Specific Gravity @ 60 °F (15.56 °C)	–	1.13	1.07
Density	–	9.43 lb/gal (1.13 kg/L)	9.0 lb/gal (1.07 kg/L)
pH (undiluted)	D1278	10.5	10.5
Reserve Alkalinity (undiluted)	D1121	10.0 min.	5.0 min.
Freeze Point (undiluted)	D1177	8 °F (-13.33 °C) min.	-34 °F (-36.67 °C) min.
Boiling Point (undiluted)	D1120	345 °F (173.89 °C)	226 °F (107.78 °C)
Water by Weight (approx.)	D1123	2.0%	47.0% max.
Total Glycol by Weight	–	95.0% min.	51.0% min.
Glassware Corrosion Test	D1384	Pass	Pass
Water Pump Cavitation Test	D2809	Pass	Pass
Aluminum Corrosion Test	D4340	Pass	Pass
Ash Content by Mass	D1119	5.0 max.	2.5 max.
Chloride by Weight (ppm)	–	25 max.	25 max.
Silicates (Anhyd Alali Metasil) by Weight	D1287	0.100% max.	0.05% max.

Ordering Information

Part Number	Product	Package Size	Case Quantity
CC2557	Heavy Duty Coolant EG Concentrate	Bulk	N/A
CC2556	Heavy Duty Coolant EG Concentrate	55 gal (208.20 L)	1
CC2551	Heavy Duty Coolant EG Concentrate	1 gal (3.78 L)	6
CC2558	Heavy Duty Coolant EG Premix 50/50	Bulk	N/A
CC2877	Heavy Duty Coolant EG Premix 50/50	55 gal (208.20 L)	1
CC2938	Heavy Duty Coolant EG Premix 50/50	1 gal (3.78 L)	6

INSUMOS PERÚ
INSUMOS INDUSTRIALES

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

Heavy Duty Coolant PG Concentrate is a Propylene Glycol (PG) base low silicate product for use in heavy duty diesel engines (that only require coolant to meet ASTM 4985 specifications) and light duty applications. It contains highly effective inhibitors designed to provide corrosion protection for metals such as cast iron, copper, solder, steel and aluminum.

Heavy Duty Coolant PG Premix is a Propylene Glycol (PG) base low silicate product for use in heavy duty diesel engines (that only require coolant to meet ASTM 4985 specifications) and light duty applications. It contains highly effective inhibitors designed to provide corrosion protection for metals such as cast iron, copper, solder, steel and aluminum. It is premixed 50/50 with demineralized water, eliminating the need for dilution at the point of use.

Composition

Heavy Duty Coolant PG Concentrate mixes readily with clean tap water or demineralized water and is compatible with standard Ethylene Glycol (EG) antifreeze products. Heavy Duty Coolant PG Premix is formulated with demineralized water and is ready to use. Heavy Duty Coolant PG Concentrate and Heavy Duty Coolant PG Premix require the addition of Supplemental Coolant Additives (SCA), such as Fleetguard® DCA4, when used in diesel engine applications. The DCA4 inhibitor system protects diesel engines from liner pitting and from hard water scale deposits.

Benefits

- Environmentally Friendly
- Premium Quality
- Low Silicate
- Contains Proprietary Chemical Inhibitor System
- Protects Against Liner Pitting and Corrosion
- Compatible with Supplemental Coolant Additive (SCA) Chemical Filters

Heavy Duty Coolant PG antifreeze coolants meet or exceed the performance requirements of the following specifications, and meet the low silicate limits of GM6038 antifreeze formulation requirements:

ASTM D-5216	Caterpillar®	Navistar®
ASTM D-4985	Cummins® 90T8-4	PACCAR®
Case Corp.® MS1710	John Deere® 8650-5	Waukesha® 4-1974D

Note: This product was previously named Universal.

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Specifications

Specification	Performance Standard	PG Concentrate	PG Premix 50/50
Color	Visual	Purple	Purple
Specific Gravity @ 60 °F (15.56 °C)	D1122	1.05	1.045
Density	–	8.76 lb/gal (1.05 kg/L)	8.72 lb/gal (1.05 kg/L)
pH (undiluted)	D1127	10.5	10.5
Reserve Alkalinity (undiluted)	D1121	10.0	5.0 min.
Freeze Point (undiluted)	D1177	-70 °F (-56.67 °C) min.	-27 °F (-32.78 °C) min.
Boiling Point (undiluted)	D1120	320 °F (160.00 °C)	222 °F (105.56 °C)
Water by Weight (approx.)	D1123	3.5%	51.8% max.
Total Glycol by Weight	–	93.0% min.	46.5% min.
Glassware Corrosion Test	D1384	Pass	Pass
Water Pump Cavitation Test	D2809	Pass	Pass
Aluminum Corrosion Test	D4340	Pass	Pass
Simulated Service Test	D2570	Pass	Pass

Ordering Information

Part Number	Product	Package Size	Case Quantity
CC2712	Heavy Duty Coolant PG Concentrate	Bulk	N/A
CC2758	Heavy Duty Coolant PG Concentrate	55 gal (208.20 L)	1
CC2757	Heavy Duty Coolant PG Concentrate	1 gal (3.78 L)	6
CC2606	Heavy Duty Coolant PG Premix 50/50	1 gal (3.78 L)	6

INSUMIND PERÚ
INSUMOS MINEROS INDUSTRIALES

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

Heavy Duty Coolant Recycled is an Ethylene Glycol (EG) base low silicate product for use in heavy duty diesel engines (that only require coolant to meet ASTM 4985 specifications) and light duty applications. It contains highly effective inhibitors designed to provide corrosion protection for metals such as cast iron, copper, solder, steel and aluminum.

Composition

Heavy Duty Coolant Recycled Premix is formulated with 50% recycled demineralized water and is ready to use. It is a low silicate, phosphate-free product. Heavy Duty Coolant Recycled Premix requires the addition of Supplemental Coolant Additives (SCA), such as Fleetguard® DCA4, when used in diesel engine applications. Heavy Duty Coolant Recycled Premix is manufactured using a High Efficiency Electrodialysis (HEED®) process.

Benefits

- Environmentally Friendly
- Premium Quality
- Low Silicate
- Contains Proprietary Chemical Inhibitor System
- Protects Against Liner Pitting and Corrosion
- Compatible with Supplemental Coolant Additive (SCA) Chemical Filters

Heavy Duty Coolant Recycled antifreeze coolant meets or exceeds the performance requirements of the following specifications, and meets the low silicate limits of GM6038 antifreeze formulation requirements:

ASTM D-3306
ASTM D-4340
ASTM D-4985
Case® MS1710
Caterpillar®
Cummins® 90T8-4
Detroit Diesel® 7SE298
EMD® M.I. 1748E
Ford®
Freightliner® 48-22880
GM® 1825
GM 1899
John Deere® 8650-5
Mack®
International Truck & Engine®
New Holland® 9-86
PACCAR®
SAE 1941
Thermo-King®
TMC RP 302B
Volvo®
Waukesha® 4-1974D

INSUMIND PERÚ
INSUMOS MINEROS INDUSTRIALES

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Specifications

Specification	Performance Standard	Recycled Premix 50/50
Color	Visual	Green
Specific Gravity @ 60 °F (15.56 °C)	–	1.07
Density	–	9.0 lb/gal (1.07 kg/L)
pH (undiluted)	D1287	10.5
Reserve Alkalinity (undiluted)	D1121	5.0 min.
Freeze Point (undiluted)	D1177	-34 °F (-36.67 °C) min.
Boiling Point (undiluted)	D1120	226 °F (107.78 °C) min.
Water by Weight (approx.)	D1123	47.0% max.
Total Glycol by Weight	–	51.0% min.
Glassware Corrosion Test	D1384	Pass
Water Pump Cavitation Test	D2809	Pass
Aluminum Corrosion Test	D4340	Pass
Ash Content by Mass	D1119	2.5% max.
Chloride by Weight (ppm)	–	25% max.
Silicates (Anhyd Alali Metasil) by Weight	–	0.05% max.

Ordering Information

Part Number	Product	Package Size	Case Quantity
CC2677	Heavy Duty Coolant Recycled Premix 50/50	Bulk	N/A
CC2678	Heavy Duty Coolant Recycled Premix 50/50	55 gal (208.20 L)	1

INSUMIND PERÚ
INSUMOS MINEROS INDUSTRIALES

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

Compleat™ HTF – EG Concentrate is a premium quality, silicate-free, inhibited Ethylene Glycol (EG) based heat transfer fluid and industrial coolant. It contains DCA4, an effective heavy duty chemical inhibitor system which protects diesel engines from liner pitting, corrosion, and hard water scale deposits.

Compleat HTF – EG Premix is a premium quality, silicate-free, inhibited Ethylene Glycol based heat transfer fluid that also contains DCA4 heavy duty chemical inhibitor. It is premixed 50/50 with demineralized water to provide protection down to –34 °F (-37 °C), eliminating the need for dilution at the point of use.

Composition

Compleat HTF – EG Concentrate mixes readily with clean tap water with low mineral content or demineralized water, while Compleat HTF – EG Premix is intended for use in areas where demineralized or deionized water is not available. It is formulated with demineralized water and is ready to use.

Application

Broad operating range from -34 °F (-37 °C) to 226 °F (108 °C) at atmospheric pressure at 50/50 premix Compleat HTF antifreezes are formulated to meet the special needs of:

- Natural Gas Line Heaters
- LNG Vaporizers
- Natural Gas Well-Head Heaters
- Crude Oil Heaters
- Standby Engines/Gen-Sets
- Stored Equipment
- Heavy Duty Diesel Engines
- Automobile & Light Duty Engines
- Natural Gas Compressor Engines
- Air Compressor Engines
- Drilling Equipment
- Irrigation Equipment
- Heat Tracing Systems
- Building Heating/Cooling Systems
- Refrigeration Systems (non-food)

MIND PERÚ
INSUMOS MINEROS INDUSTRIALES

Benefits

- Products are premium Heat Transfer Fluids (HTF) and Universal Heavy Duty antifreeze
- Provide superior, non-corrosive medium for line heaters, choke heaters, and stationary engines
- Contain DCA4, a Phosphate/Nitrite/Molybdate chemical inhibitor system
- Provide superior protection against ferrous metals corrosion, scaling, liner pitting, and cavitation
- Less toxic, environmentally friendly

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Specifications

Specification	EG Concentrate	EG Premix 50/50	EG Premix 60/40	EG Premix 40/60
Composition by Volume	95.0%	50.0%	60.0%	40.0%
Color	Blue	Blue	Blue	Blue
Specific Gravity @ 60 °F (15.56 °C)	1.13	1.08	1.09	1.06
Density @ 60 °F (15.56 °C)	9.41 lb/gal (1.13 kg/L)	9.01 lb/gal (1.08 kg/L)	9.07 lb/gal (1.09 kg/L)	8.83 lb/gal (1.06 kg/L)
pH	N/A	10.5	10.5	10.5
Reserve Alkalinity (% aqueous solution by volume)	10.0	5.0	5.0	5.0
Freeze Point	8 °F (-13.33 °C)	-34 °F (-36.67 °C)	-65 °F (-53.89 °C)	-10 °F (-23.33 °C)
Boiling Point (undiluted)	345 °F (173.89 °C)	226 °F (107.78 °C)	230 °F (110.00 °C)	222 °F (105.56 °C)
Flash Point (PMCC)	265 °F (129.44 °C)	None	None	None
Fire Point (COC)	250 °F (121.11 °C)	None	None	None
Ash Content by Mass (max.)	5.0%	2.5%	2.5%	2.5%

Ordering Information

Part Number	Product	Package Size	Case Quantity
CC2561	Compleat™ HTF – EG Concentrate	Bulk	N/A
CC2567	Compleat HTF – EG Concentrate	55 gal (208.20 L)	1
CC2562	Compleat HTF – EG Premix 50/50	Bulk	N/A
CC2568	Compleat HTF – EG Premix 50/50	55 gal (208.20 L)	1
CC2565	Compleat HTF – EG Premix 60/40	Bulk	N/A
CC2571	Compleat HTF – EG Premix 60/40	55 gal (208.20 L)	1
CC2573	Compleat HTF – EG Premix 40/60	Bulk	N/A

INSUMINDUSTRIALES PERÚ

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

Compleat™ HTF – PG Concentrate is a premium quality, silicate-free, fully inhibited Propylene Glycol (PG) based heat transfer fluid and industrial coolant. It contains DCA4, an effective heavy duty chemical inhibitor system which protects diesel engines from liner pitting, corrosion, and hard water scale deposits.

Compleat HTF – PG Premix is a premium quality, silicate-free, inhibited Ethylene Glycol based heat transfer fluid that also contains DCA4 heavy duty chemical inhibitor. It is premixed 50/50 with demineralized water to provide protection down to –26 °F (-32 °C), eliminating the need for dilution at the point of use. Improved freeze protection can be achieved by increasing the glycol content to a 60/40 dilution (–56 °F (-49 °C)), or a 55/45 dilution (–40 °F (-40 °C)).

Composition

Compleat HTF – PG Concentrate mixes readily with clean tap water with low mineral content or demineralized water, while Compleat HTF – EG Premix is intended for use in areas where demineralized or deionized water is not available. It is formulated with demineralized water and is ready to use.

Application

Broad operating range from -26 °F (-32 °C) to 221 °F (105 °C) at atmospheric pressure at 50/50 premix Compleat HTF antifreezes are formulated to meet the special needs of:

- Natural Gas Line Heaters
- LNG Vaporizers
- Natural Gas Well-Head Heaters
- Crude Oil Heaters
- Standby Engines/Gen-Sets
- Stored Equipment
- Heavy Duty Diesel Engines
- Automobile & Light Duty Engines
- Natural Gas Compressor Engines
- Air Compressor Engines
- Drilling Equipment
- Irrigation Equipment
- Heat Tracing Systems
- Building Heating/Cooling Systems
- Refrigeration Systems (non-food)

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EQUIPOS MINEROS INDUSTRIALES

Benefits

- Products are premium Heat Transfer Fluids (HTF) and Universal Heavy Duty antifreeze
- Provide superior, non-corrosive medium for line heaters, choke heaters, and stationary engines
- Contain DCA4, a Phosphate/Nitrite/Molybdate chemical inhibitor system
- Provide superior protection against ferrous metals corrosion, scaling, liner pitting, and cavitation
- Less toxic, environmentally friendly

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Specifications

Specification	PG Concentrate	PG Premix 50/50	PG Premix 60/40	PG Premix 40/60
Composition by Volume	95.0%	50.0%	60.0%	40.0%
Color	Blue	Blue	Blue	Blue
Specific Gravity @ 60 °F (15.56 °C)	1.06	1.055	1.05	1.04
Density @ 60 °F (15.56 °C)	8.82 lb/gal (1.06 kg/L)	8.78 lb/gal (1.06 kg/L)	8.74 lb/gal (1.05 kg/L)	8.66 lb/gal (1.04 kg/L)
pH	N/A	10.5	10.5	10.5
Reserve Alkalinity (% aqueous solution by volume)	10.0	5.0	5.0	5.0
Freeze Point	-70 °F (-56.67 °C)	-56 °F (-48.89 °C)	-27 °F (-32.78 °C)	-6 °F (-21.11 °C)
Boiling Point (undiluted)	320 °F (160.00 °C)	225 °F (107.22 °C)	222 °F (105.56 °C)	219 °F (103.89 °C)
Flash Point (PMCC)	225 °F (107.22 °C)	None	None	None
Fire Point (COC)	220 °F (104.44 °C)	None	None	None
Ash Content by Mass (max.)	5.0%	2.5%	2.5%	2.5%

Ordering Information

Part Number	Product	Package Size	Case Quantity
CC2563	Compleat™ HTF – PG Concentrate	Bulk	N/A
CC2569	Compleat HTF – PG Concentrate	55 gal (208.20 L)	1
CC2564	Compleat HTF – PG Premix 50/50	Bulk	N/A
CC2570	Compleat HTF – PG Premix 50/50	55 gal (208.20 L)	1
CC2566	Compleat HTF – PG Premix 60/40	Bulk	N/A
CC2572	Compleat HTF – PG Premix 60/40	55 gal (208.20 L)	1
CC2577	Compleat HTF – PG Premix 40/60	Bulk	N/A

INSUMOS PERÚ
INSUMOS MINEROS INDUSTRIALES

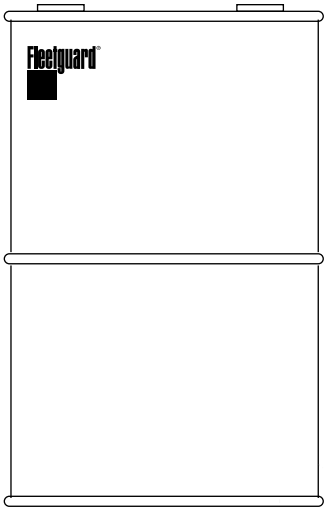
Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Notes

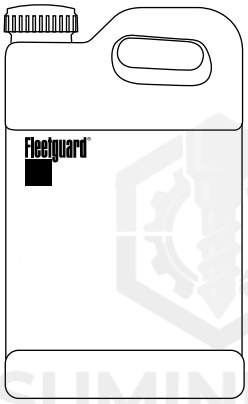
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INSUMOS MINEROS INDUSTRIALES

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Coolant Additives and Maintenance



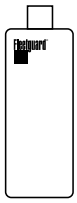
55 Gallon
(208.20 Liter)
Drum



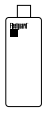
5 Gallon
(18.93 Liter)
Jug



1 Gallon
(3.78 Liter)
Bottle



0.5 Gallon
(1.89 Liter)
Bottle



1 Pint
(0.47 Liter)
Bottle

Note: Not all container sizes are available in all countries.

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type DCA2 Supplemental Coolant Additive (SCA) provides superior engine protection in heavy duty diesel applications where glycol based coolants are used, as well as marine and railroad diesel applications where water is used as the coolant.

Composition DCA2 SCA contains Nitrite for liner pitting protection and Borate for acid protection.

Benefits
- Provides Diesel Line Pitting Protection
- Provides Engine Metal Corrosion Protection
- Mixes Easily with Standard Low Silicate Antifreeze

Specifications

Specification	DCA2 SCA
Color	Blue
Specific Gravity	1.142
pH (undiluted)	11.5
pH (@ 3.1% by volume in deionized water)	10.7
Reserve Alkalinity (@ 3.1% by volume in deionized water)	3.7

Ordering Information

Part Number	Product	Package Size
DCA 30L	DCA2 Borate/Nitrite	1 pt (0.47 L)
DCA 35L	DCA2 Borate/Nitrite	.5 gal (1.89 L)
DCA 40L	DCA2 Borate/Nitrite	1 gal (3.78 L)
DCA 45L	DCA2 Borate/Nitrite	5 gal (18.93 L)
DCA 50L	DCA2 Borate/Nitrite	55 gal (208.20 L)

INSUMIND PERÚ
INSUMOS MINEROS INDUSTRIALES

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

DCA4 Supplemental Coolant Additive (SCA) provides superior engine protection in heavy duty diesel applications where glycol based coolants are used, as well as marine and railroad diesel applications where water is used as the coolant. DCA4 is less toxic and, as a result, is preferred by those concerned about skin sensitivity and coolant spills or disposal.

Composition

DCA4 contains Nitrite and Molybdate for liner pitting protection and phosphate for acid protection.

Benefits

- Provides Improved Cylinder Liner Pitting Protection
- Provides Improved Aluminum and Solder Protection
- Less Tendency to Form Gel in Cooling System
- Improved Tolerance to SCA Under- or Over-charging
- Phosphate Buffers Are Less Likely to Cause Water Pump Leakage
- Less Toxic Than Borate/Nitrite Inhibitors

Specifications

Specification	DCA4 SCA
Color	Blue
Specific Gravity	1.148
pH (undiluted)	10.5
pH (@ 3.1% by volume in deionized water)	10.6
Reserve Alkalinity (@ 3.1% by volume in deionized water)	2.3

INSUMIND PERÚ
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Ordering Information

Part Number	Product	Package Size
DCA 60L	DCA4 Phosphate/Nitrite/Molybdate	1 pt (0.47 L)
DCA 65L	DCA4 Phosphate/Nitrite/Molybdate	.5 gal (1.89 L)
DCA 70L	DCA4 Phosphate/Nitrite/Molybdate	1 gal (3.78 L)
DCA 75L	DCA4 Phosphate/Nitrite/Molybdate	5 gal (18.93 L)
DCA 80L	DCA4 Phosphate/Nitrite/Molybdate	55 gal (208.20 L)

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type Restore cleaner is formulated to be the most effective cooling system oil/fuel contamination-cleaning agent on the market. It is ten times more effective than automotive distributor detergent powders.

Composition Restore is an alkaline chelating cleaner and the only silicate gelation cleaner. Its powerful and effective chelating agents break up gel and hold it in suspension without attacking metal surfaces like strong alkaline cleaners can. Restore is safe for use in aluminum radiators and heaters

Benefits

- Does not harm cooling system components
- Safe for service personnel
- Easy disposal

Specifications

Specification	Restore™
Color	Light Yellow
Specific Gravity	1.100
pH (undiluted)	12.4
pH (@ 10% by volume in deionized water)	11.1

Ordering Information

Part Number	Product	Package Size
CC2610	Restore™	1 gal (3.78 L)
CC2611	Restore	5 gal (18.93 L)
CC2612	Restore	55 gal (208.20 L)

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Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Type

Restore Plus cleaner is a mild acid-based chelating cleaner formulated to remove scale, corrosion and solder bloom – without disassembling your cooling system.

Composition

Restore Plus is an alkaline chelating cleaner with an acid base. Its powerful and effective acid and chelating agents break up scale, corrosion and solder bloom. Failure to adequately remove these problems from cooling systems results in accelerated base wear and loss of oil control, overheating, inadequate coolant flow and short engine life from overheated components.

Benefits

- Does not harm cooling system components
- Removes scale, corrosion and solder bloom
- Safe for service personnel
- Easy disposal

Specifications

Specification	Restore Plus™
Color	Light Yellow
Specific Gravity	1.110
pH (undiluted)	2.5
pH (@ 10% by volume in deionized water)	2.7

Ordering Information

Part Number	Product	Package Size
CC2638	Restore Plus™	1 gal (3.78 L)
CC2637	Restore Plus	55 gal (208.20 L)

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Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

3-Way Heavy Duty Coolant Test Strips

Measuring the Freeze Point and Chemical protection in your engine's cooling system is essential for protection against liner pitting, corrosion and coolant dilution. state-of-the-art Fleetguard® 3-Way Heavy Duty Coolant Test Strips provide a simple and effective means of checking the coolant system. It is easy to use the 3-Way DIP and READ test strips. Simply take a sample of the coolant and dip the 3-Way Test Strip. Within 45-75 seconds, read the Freeze Point and Molybdate/Nitrite levels to obtain SCA units. Record the readings and continue coolant maintenance practices according to OEM recommendations. One strip does it all. No fuss, no coolant dilution, and no chemical mixing.

Ordering Information

Part Number	Product	Package Size
CC2602	3-Way Heavy Duty Coolant Test Strips	50 Strips/Bottle
CC2602A	3-Way Heavy Duty Coolant Test Strips	25 4-Pack Strips/Box
CC2602B	3-Way Heavy Duty Coolant Test Strips	100 Single Strips/Box
CC2602M	3-Way Heavy Duty Coolant Test Strips	50 Strips/Bottle (Metric)
CC2602AM	3-Way Heavy Duty Coolant Test Strips	25 4-Pack Strips/Box (Metric)



Quik-Chek™ 3-Way Coolant Quality Test Kit

With proper maintenance, Fleetguard ES Compleat™ coolant can last for the major overhaul life of the engine. However, when poor quality make-up water is added to the system or when minimum coolant maintenance is not observed, pH levels can rise or fall to dangerous levels and contaminants (Sulfate and Chloride) can rise to unacceptable levels. When this occurs, coolants must be drained and replaced immediately. To help customers determine the quality of their coolants, We have developed revolutionary Quik-Chek Coolant Quality Test Strips. In a matter of minutes the pH, Sulfate and Chloride levels in a coolant can be determined. If results fall within acceptable limits, the coolant can be used until the next service interval with confidence.

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Ordering Information

Part Number	Product	Package Size
CC2718	Quik-Chek™ 3-Way Coolant Quality Test Kit	10 Strips/Bottle



Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

Water-Chek™ H_2O 3-Way Test Strips

The use of poor quality make-up water can drastically reduce coolant life and cooling system performance by causing additive dropout, scale build-up and metal surface corrosion. Fleetguard® Water-Chek H_2O 3-Way Test Strips are the easy, effective way to determine if your coolant make-up water meets OEM, TMC and ASTM specifications. Simply dip the strip in a sample of the make-up water. In a matter of minutes, you will know the pH, Chloride and Hardness levels and be able to determine if your water meets OEM, TMC and ASTM specifications for use in heavy duty cooling systems.

Ordering Information

Part Number	Product	Package Size
CC2609	Water-Chek™ H_2O 3-Way Test Strips	100 Single Strips/Box



Refractometer

The Fleetguard Refractometer is the fast, easy way to determine the freeze point protection in both Ethylene Glycol and Propylene Glycol coolants. It is more accurate than test strips or float-type hydrometers and is as easy as 1,2,3.

1. Place a drop of coolant on the refractometer window and shut the lid.
2. Look through the eyepiece and focus.
3. Record the freeze point protection for either Ethylene Glycol or Propylene Glycol coolants.

Ordering Information

Part Number	Product
CC2806	Refractometer



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Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

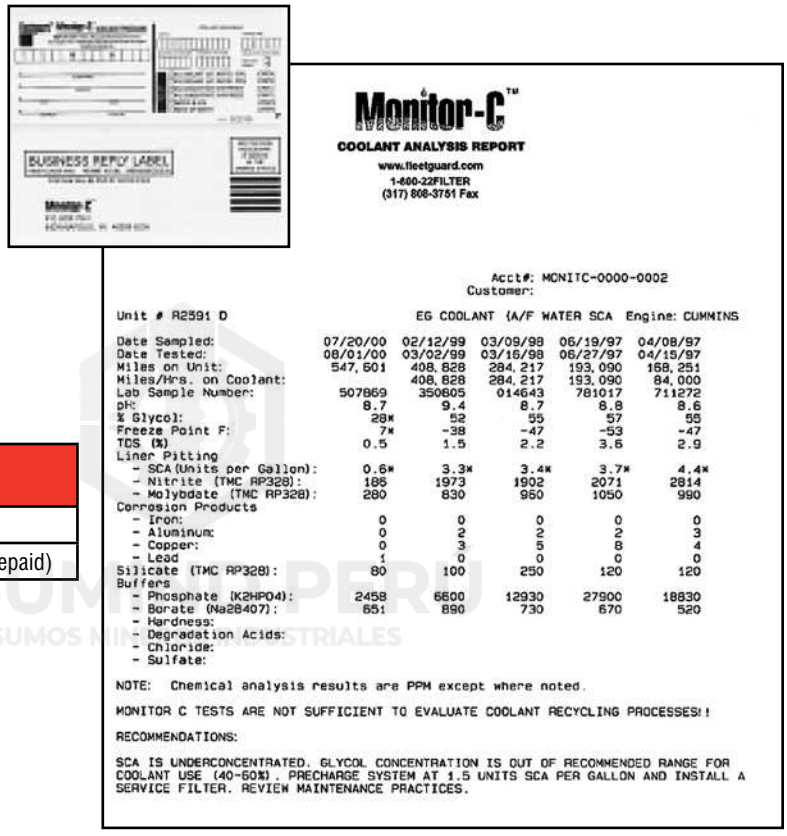
Monitor-C™ Testing – Coolant Analysis

Proper coolant maintenance is vital to heavy duty engine operation. 40% of engine problems can be traced back to an improperly functioning cooling system. Fleetguard® Monitor-C Testing – Coolant Analysis program allows operators of heavy duty diesel engines to effectively monitor their cooling system maintenance practices and conditions through reliable and expedient coolant analysis. The program provides expert laboratory analysis with ***on-line reporting, updated hourly***.

The kit contains a sample bottle, an outer mailing bottle and the appropriate sample ID and mailing labels.

A Monitor-C test report contains the following information:

- pH Level
- % Glycol
- Hardness, Chlorides and Sulfates
- Freeze Point
- % TDS (Total Dissolved Solids)
- Liner Pitting (Molybdate/Nitrate Levels)
- Corrosion Products
- Silicate Level
- Buffers



Monitor-C™

COOLANT ANALYSIS REPORT

www.fleetguard.com
1-800-22FILTER
(317) 808-3751 Fax

Acct#: MONITC-0000-0002
Customer:

Unit # R2591 D — EG COOLANT (A/F WATER SCA Engine: CUMMINS

Date Sampled:	07/20/00	02/12/99	03/09/98	06/19/97	04/08/97
Date Tested:	08/01/00	03/02/99	03/16/98	06/27/97	04/15/97
Miles on Unit:	547,601	408,828	284,217	193,090	158,251
Miles/Hrs. on Coolant:		408,828	284,217	193,090	84,000
Lab Sample Number:	507869	350805	014643	781017	711272
pH:	8.7	9.4	8.7	8.8	8.6
% Glycol:	28*	52	55	57	55
Freeze Point F:	7*	-38	-47	-53	-47
TDS (%)	0.5	1.5	2.2	3.6	2.9
Liner Pitting					
- SCA(Units per Gallon):	0.6*	3.3*	3.4*	3.7*	4.4*
- Nitrite (TMC RP328):	185	1973	1902	2071	2814
- Molybdate (TMC RP328):	280	830	960	1050	990
Corrosion Products					
- Iron:	0	0	0	0	0
- Aluminum:	0	2	2	2	3
- Copper:	0	3	5	8	4
- Lead	1	0	0	0	0
Silicate (TMC RP328):	80	100	250	120	120
Buffers					
- Phosphate (K2HPO4):	2458	6600	12930	27900	18830
- Borate (Na28407):	651	890	730	670	520
- Hardness:					
- Degradation Acids:					
- Chloride:					
- Sulfate:					

NOTE: Chemical analysis results are PPM except where noted.

MONITOR C TESTS ARE NOT SUFFICIENT TO EVALUATE COOLANT RECYCLING PROCESSES!!

RECOMMENDATIONS:

SCA IS UNDERCONCENTRATED. GLYCOL CONCENTRATION IS OUT OF RECOMMENDED RANGE FOR COOLANT USE (40-60%). PRECHARGE SYSTEM AT 1.5 UNITS SCA PER GALLON AND INSTALL A SERVICE FILTER. REVIEW MAINTENANCE PRACTICES.

Ordering Information

Part Number	Product
CC2700	Monitor-C™ Testing – Coolant Analysis
CC2706	Monitor-C Testing – Coolant Analysis (Postage Prepaid)

Coolant products vary by region. For product formula and availablilty, contact your local Customer Assurance Center.

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