



Coolant Products

COOLANT





Fleetguard Cooling System Maintenance Products

Estimates project up to **40% of total engine repair costs** are related to problems that originate in the cooling system. Repairs are costly and create unnecessary downtime that affects equipment operations and customer deadlines. Fleetguard cooling system products provide unmatched protection with various maintenance programs to meet your needs and keep your engines running longer with less downtime.

One Stop Shop

Our comprehensive line of cooling system products includes everything you need to ensure an easy, trouble-free cooling maintenance program:

- Fully Formulated Heavy Duty Antifreeze Coolants
- Extenders and Supplemental Coolant Additives (SCAs)
- Heat Transfer Fluids
- Cooling System Cleaners
- Coolant Filters – Standard and Chemically Charged
- Field and Laboratory Testing

Easy Maintenance

Fleetguard cooling system maintenance is as simple as 1, 2, 3.

- STEP 1** Fill with long life coolant that meets your needs.
- STEP 2** Properly top off system using the pre-diluted coolant and maintain additive levels at regular service intervals with liquid additives, or chemically charged filters.
- STEP 3** Test with our simple dip and read test strips and maintain as needed.

All Fleetguard coolants are compatible with all other coolants available and are suitable for use in all gasoline, diesel, and natural gas engines.

Unmatched Protection

In addition to providing superior freeze and boil over protection, Fleetguard products protect your engine from the most damaging cooling system problems, including:

- Corrosion
- Liner Pitting/Cavitation
- Scale & Deposits
- Acidification

Fleetguard coolants are manufactured to the highest standards and meet the performance specifications of most major OEMs. You can depend on Fleetguard cooling system products to provide unmatched protection to your engine.

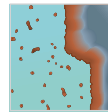
Corrosion

With Fleetguard Protection:

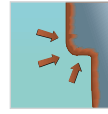


Protective layer created by Fleetguard Fully Formulated Coolant prevents corrosion and erosion.

Without Fleetguard Protection:



Corrosion affects all metal parts, especially aluminium.

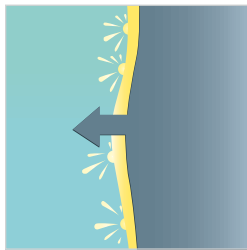


Corrosion products and tiny metal particles begin to circulate in the cooling system, causing erosion damage to mechanical parts.

Liner Pitting/Cavitation

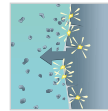
When the liner vibrates, bubbles collapse under an enormous pressure and take small chunks out of the liner.

With Fleetguard Protection:



Fleetguard Fully Formulated Coolant can prevent the fatal effect on your engine by creating a protective layer on the liner wall: implosions now take place on this layer and spare the liner surface.

Without Fleetguard Protection:



Piston-slap causes liner vibration, which creates a vacuum and formation of tiny vapor bubbles.

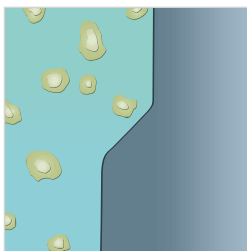


The liner slams back into the coolant causing the bubbles to implode. As this process repeats many times per second, small chunks are kicked out of the liner.

Scale & Deposits

Scale causes detrimental effects to the hot surfaces of your engine cooling system (the liners and the cylinder heads). The consequences are worn piston rings, higher oil consumption and, in the worst cases, total engine failure.

With Fleetguard Protection:

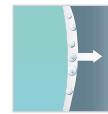


Fleetguard Fully Formulated Coolants contain a proprietary polymer system that 'wraps up' the scale particles so that they can't attach themselves to the hot metal surfaces.

Without Fleetguard Protection:



As the engine functions, the heat causes the formation of scale on the hot surfaces.



The scale layer acts as an insulator, preventing the coolant from absorbing the heat of the engine.

Acidification

Coolants acidify due to the degradation of antifreeze and combustion gases entering the cooling system, which can damage cooling system components. Fleetguard Fully Formulated Coolants buffer the coolant to prevent and neutralize the formation of acids.



Select Fully Formulated Coolant

ES Compleat™



ES Compleat

- Hybrid Lifetime Coolant with 150,000 mi (250,000 km) or 4000 Hours Service Intervals
- Easy Maintenance with ES Extender, DCA4 Chemical Filter, or DCA4 Liquid
- Best Aluminum Corrosion Protection
- ES Extender Extends Coolant Life 150,000 mi (250,000 km) or 4000 Hours
- Meets ASTM 6210, TMC RP329 and Performance Specifications of Most Major OEMs
- Available in Ethylene Glycol and Less Toxic Propylene Glycol Formulations

| | EG Concentrate | EG PreMix | PG Concentrate | PG PreMix | ES Extender |
|---------------------------|----------------|--------------|----------------|--------------|-------------|
| Bulk | | CC2827 | | | |
| 275 Gal. Tote (1040 L) | CC2823 | CC2834 | CC2833 | CC2838 | |
| 275 Gal. Tote (1040 L) | | | | CC2872 60/40 | |
| 55 Gal. Drum (208 L) | CC2821 | CC2826 | CC2831 | CC2836 | |
| 55 Gal. Drum (208 L) | | CC2863 60/40 | | CC2865 60/40 | |
| 5 Gal. Pail (19 L) | CC2847 | CC2848 | CC2849 | CC2850 | |
| 6/ 1 Gal. Bottle (3.78 L) | CC2820 | CC2825 | CC2830 | CC2835 | |
| 6/ 1 Qt. Bottle (.94 L) | | | | | CC2840 |
| 12/ 1 Pint Bottle (.47 L) | | | | | CC2843 |



ES Compleat OAT

- Organic Lifetime Coolant with 300,000 mi (500,000 km) or 6000 Hours Service Intervals
- Easy Maintenance with OAT Extender and Non-Chemical Filters
- Best Aluminum Corrosion Protection
- OAT Extender Extends Coolant Life 300,000 mi (500,000 km) or 6000 Hours
- Meets ASTM 6210, TMC RP329 and Performance Specifications of Most Major OEMs
- OEM approved Nitrite, Amine, Phosphate, Borate and Silicate free formulation

| | OAT EG Concentrate | OAT EG PreMix 50/50 | OAT EG PreMix 60/40 | OAT Extender |
|---------------------------|--------------------|---------------------|---------------------|--------------|
| Bulk | * CC36070 | * CC36074 | CC2908 | |
| 275 Gal. Tote (1040 L) | CC36071 | CC36075 | | |
| 55 Gal. Drum (208 L) | CC36072 | CC36076 | | |
| 6/ 1 Gal. Bottle (3.78 L) | CC36073 | CC36077 | | |
| 55 Gal. Drum (208 L) | | | CC36078 | |
| 275 Gal. Tote (1040 L) | | | CC36079 | |
| 6/ 1 Qt. Bottle (.94 L) | | | | CC2779 |
| 12/ 1 Pint Bottle (.47 L) | | | | CC2777 |

ES Compleat™



ES Compleat Glycerin

- Extended Service Interval of 150,000 mi (250,00 km) or 4000 Hours
- Easy Maintenance with ES Extender, DCA4 Chemical Filter, or DCA4 Liquid
- Uses Non-toxic Glycerin from Renewable Sources (such as a Biodiesel By-products) – No EG or PG
- Non-hazardous Shipping Classification
- Freeze Protection to -26 °F (-32 °C)
- Best Aluminum Corrosion Protection
- Pre-diluted (50/50), No Mixing Required

| ES Compleat Glycerin | |
|-----------------------------|---------|
| Bulk | CC36004 |
| 275 Gal. Tote (1040 L) | CC36003 |
| 55 Gal. Drum (208 L) | CC36002 |
| 5 Gal. Pail (19 L) | CC36001 |
| 1 Gal. Bottle (3.78 L) | CC36000 |



ES Compleat HTF

- Fully Formulated Heat Transfer Fluid
- Silicate Free Formulate that Provides Solid Liner Pitting, Scale, and Corrosion Protection
- Meets ASTM D-4985, SAE 1941 and GM 1899 Specifications
- Common Applications Include Refrigeration Systems, Heat Tracing Systems, Gas Compressor Engines, Well and Pipeline Heaters, Etc.

| | HTF EG PreMix | HTF PG PreMix | HTF PG Concentrate |
|----------------------|--------------------------------|--------------------------------------|-------------------------------|
| Bulk | CC2562C 50/50 CC2565C 60/40 | PG CC2566C 60/40 PG CC2564C 50/50 | CC2563C |
| 55 Gal. Drum (208 L) | CC2568 50/50 | | CC2569 |

Fleetcool™



Fleetcool EX

- Hybrid Lifetime Coolant with 150,000 mi (250,000 km) or 4000 Hours Service Intervals
- Easy Maintenance with EX Extender, DCA2 Chemical Filter, or DCA2 Liquid
- Best Aluminum Corrosion Protection
- Meets ASTM 6210, TMC RP329 and Performance Specifications of Most Major OEMs
- Phosphate free to meet requirements of some OEMs
- Borate Buffered Product
- Available in Ethylene Glycol and Less Toxic Propylene Glycol Formulations

| | EX EG Concentrate | EX EG PreMix | EX Extender |
|---------------------------|--------------------------|---------------------|--------------------|
| Bulk | CC2739 | CC2743 | |
| 275 Gal. Tote (1040 L) | CC2740 | CC2744 | |
| 55 Gal. Drum (208 L) | CC2741 | CC2745 | |
| 5 Gal. Pail (19 L) | | | |
| 6/ 1 Gal. Bottle (3.78 L) | CC2742 | CC2746 | |
| 6/ 1 Qt. Bottle (0.94 L) | | | CC2765 |

Fleetcool™



Fleetcool

- Standard Lifetime Coolant with 30,000 mi (50,000 km) or 700 Hours Service Interval
- Aluminum Corrosion Protection
- Maintain with EX Extender, DCA2 Liquid, or DCA2 Chemical Filter
- Meets ASTM 6210, TMC RP329 and Performance Specifications of Most Major OEMs

| | EG Concentrate | *EG PreMix |
|---------------------------|----------------|------------|
| Bulk | *CC8965 | *CC8970 |
| 275 Gal. Tote (1040 L) | CC8966 | CC8971 |
| 55 Gal. Drum (208 L) | CC8967 | CC8972 |
| 5 Gal. Pail (19 L) | CC8968 | CC8973 |
| 6/ 1 Gal. Bottle (3.78 L) | CC8969 | CC8974 |



Fleetcool Recycled

- Standard Lifetime Coolant with 30,000 mi (50,000 km) or 700 Hours Service Interval
- Aluminum Corrosion Protection
- Maintain with EX Extender, DCA2 Liquid, or DCA2 Chemical Filter
- Meets ASTM 6210, TMC RP329 and Performance Specifications of Most Major OEMs
- Recycled Formulation: Ethylene Glycol Purified to Meet ASTM E1177 Specifications for Virgin Glycol and U.S. Military/Government Requirements: CID A-A 52624A

| | Recycled EG PreMix | Universal Recycled |
|----------------------|--------------------|--------------------|
| Bulk | *CC2674 | CC2677 |
| 55 Gal. Drum (208 L) | CC2675 | CC2678 |

HD Coolants



Heavy Duty Antifreeze/Coolant

- Ethylene Glycol Low Silicate Formula
- Standard Corrosion Protection to meet Low Silicate Requirements of the ASTM D 4985 Specification
- Add DCA-2 Liquid or Ex Extender for liner pitting and scale protection
- Available in Ethylene Glycol and Less Toxic Propylene Glycol Formulations

| | Heavy Duty EG Concentrate | Heavy Duty PG Concentrate |
|---------------------------|---------------------------|---------------------------|
| Bulk | | |
| 55 Gal. Drum (208 L) | CC2556 | CC2758 |
| 6/ 1 Gal. Bottle (3.78 L) | CC2551 | *CC2757 |

STEP 2 Maintain Additive Levels

Coolant Additives



Liquid Supplemental Coolant Additives (SCAs)

DCA2

- Standard Corrosion Protection Using Borate/Nitrite Based Inhibitor Package

DCA4

- Superior Liner Pitting, Scale & Corrosion Protection Using Phosphate/Molybdate Based Inhibitor Package

| | DCA2™ | DCA4™ |
|-----------------------------|--------|--------|
| 12/ 1 Pint Bottle (.47 L) | DCA30L | DCA60L |
| 6/ 1/2 Gal. Bottle (1.89 L) | DCA35L | DCA65L |
| 6/ 1 Gal. Bottle (3.78 L) | DCA40L | DCA70L |
| 5 Gal. Pail (19 L) | DCA45L | DCA75L |
| 55 Gal. Drum (208 L) | DCA50L | DCA80L |

Coolant Filtration

Coolant filtration is proven to reduce wear and to maintain all cooling system components. Additionally, water filters can provide a convenient and reliable method for delivering supplemental coolant additives into the cooling system to improve performance and extend coolant service life.



Extended Service Water Filters

- Easy Maintenance every 12 months, 150,000 miles (250,000 km), or 4000 hours
- Patented Slow-Release Mechanism Replenishes Chemicals Depleted by Use
- StrataPore™ Multilayer Media Offers Superior Durability, Efficiency and Capacity
- Improved Mechanical Design for Increased Durability and Corrosion Resistance

| Part # | Slow Release Coolant Additive | Thread Size |
|--------|-------------------------------|------------------|
| WF2121 | 15 units DCA4 | 11/16-16 UN- 2B |
| WF2124 | 15 units DCA4 | 3/4-20 UNEF- 2B |
| WF2128 | 15 units DCA4 | M16 X 1.5-6H INT |
| WF2131 | 15 units DCA2 | 11/16-16 UN-2B |
| WF2133 | 15 units DCA2 | 3/4-20 UNEF-2B |
| WF2138 | 15 units DCA2 | M16 X 1.5-6H INT |

| Part # | Non-Chemical | Thread Size |
|--------|--------------|------------------|
| WF2122 | Non-Chemical | 11/16-16 UN- 2B |
| WF2129 | Non-Chemical | M16 X 1.5-6H INT |
| WF2134 | Non-Chemical | 3/4-20 UNEF- 2B |
| WF2123 | Non-Chemical | 11/16-16 UN- 2B |
| WF2130 | Non-Chemical | M16 X 1.5-6H INT |
| WF2127 | Non-Chemical | M36 X 2-6G INT |

Coolant Filtration



Standard Service Water Filters

- For use at OEM recommended standard service intervals
- Immediate Release SCA for Use with Any Coolant at Standard Service Interval
- High Quality Filtration for Efficient Removal of Harmful Contaminants

| Part # | Immediate Release Coolant Additive | Thread Size |
|--------|------------------------------------|-----------------|
| WF2070 | 2 units DCA4 | 11/16-16 UN- 2B |
| WF2071 | 4 units DCA4 | 11/16-16 UN- 2B |
| WF2072 | 6 units DCA4 | 11/16-16 UN- 2B |
| WF2073 | 8 units DCA4 | 11/16-16 UN- 2B |
| WF2087 | 9 units DCA4 | 11/16-16 UN- 2B |
| WF2151 | 4 units DCA4 | 11/16-16 UN- 2B |
| WF2015 | 8 units DCA4 | 3/4-20 UNEF- 2B |
| WF2074 | 12 units DCA4 | 11/16-16 UN- 2B |
| WF2075 | 15 units DCA4 | 11/16-16 UN- 2B |
| WF2076 | 23 units DCA4 | 11/16-16 UN- 2B |
| WF2083 | 4 units DCA4 | 3/4-20 UNF-2B |
| WF2104 | 15 units DCA4 | 11/16-16 UN- 2B |
| WF2106 | 4 units DCA4 | 11/16-16 UN- 2B |

| Part # | Immediate Release Coolant Additive | Thread Size |
|--------|------------------------------------|------------------|
| WF2108 | 8 units DCA4 | M16 X 1.5-6H INT |
| WF2126 | 8 units DCA4 | M36 X 2-6G INT |
| WF2022 | 8 units DCA4 | 1-16 UN-2B |
| WF2082 | 6 units DCA4 | 1-16 UN-2B |
| WF2051 | 4 units DCA2 | 11/16-16 UN- 2B |
| WF2088 | 6 units DCA2 | 11/16-16 UN- 2B |
| WF2054 | 15 units DCA2 | 11/16-16 UN- 2B |
| WF2144 | 12 units DCA2 | 11/16-16 UN- 2B |
| WF2096 | 8 units DCA2 | M16 X 1.5-6H INT |
| WF2145 | 18 units DCA2 | 11/16-16 UN- 2B |
| WF2053 | 8 units DCA2 | 11/16-16 UN- 2B |
| WF2055 | 23 units DCA2 | 11/16-16 UN- 2B |
| WF2091 | 14 units DCA2 | 11/16-16 UN- 2B |
| WF2056 | 34 units DCA2 | 11/16-16 UN- 2B |



Non-Chemical Filters

- For Use at OEM Recommended Standard Service Intervals
- High Quality Filtration for Efficient Removal of Harmful Contaminants

| Part # | Standard Service | Thread Size |
|--------|------------------|------------------|
| WF2077 | Standard Service | 11/16-16 UN- 2B |
| WF2078 | Standard Service | 3/4-20 UNF-2B |
| WF2101 | Standard Service | 11/16-16 UN- 2B |
| WF2109 | Standard Service | M16 X 1.5-6H INT |
| WF2084 | Standard Service | 11/16-16 UN- 2B |
| WF2107 | Standard Service | 11/16-16 UN- 2B |



Filter Head Assembly

- Head Assembly for Installation on Engines without Water Filtration Capability
- Assemblies Provide Everything Needed to Achieve Benefits of Coolant Filtration

| Part #* | Description | Style | Port Size | Thread Size |
|-----------|--|-------------------------|-----------|-----------------|
| 204163 S | Water Filter Spin-On Head | Aluminum | 3/8" NPT | 11/16-16 UN- 2B |
| 215617 S | Dual Water Filter Spin-On Heads | Aluminum | 1/2" NPT | 11/16-16 UN- 2B |
| 256535 S | Filter Head Mounting Bracket | N/A | N/A | N/A |
| 257715 S | Water Filter Head (204163 S) and Mounting Bracket Assembly | Aluminum Head | 3/8" NPT | 11/16-16 UN- 2B |
| 3904378 S | Severe Duty Water Filter Head | Aluminum / Steel Insert | 3/8" NPT | 11/16-16 UN- 2B |

* Severe Duty Filter Head is recommended for most applications.



Test and Maintain Coolant Regularly

Coolant Testing

Every good cooling system maintenance program should include regular coolant testing to determine if the proper level of protection is present or if contaminants exist. A good coolant testing program eliminates guesswork and allows the cooling system to maintain peak performance.



2-Way™ Glycerin Coolant Test Kit

- Easy to Use Test Strips Measure Nitrite and Molybdate levels
- Designed specifically for use with ES Compleat Glycerin

| | |
|-----------------|----------|
| 50/Bottle | CC36050 |
| 100 Singles/Box | CC36050B |



3-Way™ SCA/Freeze Point Strips

- Measures Protection against Liner Pitting, Corrosion and Coolant Dilution
- Easy to Use Test Strips Measure Freeze Point and Molybdate/Nitrite
- Results in 45 – 75 Seconds

| 50/Bottle | 25 4-Packs/Box | 100 Singles/Box | 50/Bottle (Metric) | 25 4-Packs (Metric) |
|-----------|----------------|-----------------|--------------------|---------------------|
| CC2602 | CC2602A | CC2602B | CC2602M | CC2602AM |



4-Way™ ES Compleat OAT Test Kit

- Easy to use test strips measure Molybdate, Nitrite, Freeze point, and pH
- Results in 45-75 Seconds
- Designed specifically for use with ES Compleat™ OAT

| | |
|-------------------|--------|
| 50 Strip Test Kit | CC8997 |
|-------------------|--------|



QuikChek™ Coolant Quality Strips

- Easy to Use Test Strips Measure Levels of pH, Sulfate and Chloride for Overall Coolant Quality
- Minimizes Unnecessary Draining of Coolant still within Specifications

| | |
|-----------|--------|
| 10/Bottle | CC2718 |
|-----------|--------|



Water-Chek™ 3-Way Strips

- Determines if Coolant Make-Up Water Meets OEM, TMC and ASTM specifications
- Easy to Use Test Strips Measure pH, Chloride and Hardness

| | |
|-----------------|--------|
| 100 Singles/Box | CC2609 |
|-----------------|--------|

Coolant Testing



Refractometer

- Determines the Freeze Point Protection for Coolants
- More Accurate than Test Strips or Float-Type Hydrometers
- Durable Storage Case Included

| | |
|-------------------------------------|---------|
| Ethylene Glycol or Propylene Glycol | CC2806 |
| Glycerin | CC36049 |
| ES Compleat™ OAT | CC8998 |

Monitor-C™ Laboratory Testing - Coolant Analysis



- Expert Laboratory Analysis with On-line Reporting, Results in 24 Hours
- Measures Molybdate, Nitrite, pH, Hardness, Chloride, Sulfates, Corrosion Products (iron, lead, etc), and Silicates
- Tests for Freeze/Antifreeze Points, TDS and Buffers
- Available in Both Standard Packaging and with a Prepaid Mailer

Standard Kit

CC2700

Standard Kit with Prepaid Mailer

CC2706

Cooling System Cleaners

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. They are also approved by Cummins® as the preferred product for cleaning oil contaminated cooling systems under warranty maintenance.

Restore™



- Alkaline-Based Cleaner
- Most Effective Cooling System Oil/Fuel Contamination-Cleaning Agent on Market
- More Effective than Automotive Distributor Detergent Powders
- Safe for Use in Aluminum Radiators and Heaters
- Removes Silicate Gel
- Approved by Cummins

| | Restore |
|------------------------|---------|
| 1 Gal. Bottle (3.78 L) | CC2610 |
| 5 Gal. Pail (19 L) | CC2611 |
| 55 Gal. Drum (208 L) | CC2612 |

Restore Plus™



- Safely Removes Rust, Corrosion, Scale, and Solder Bloom – Without Disassembling your Cooling System
- Mild Acid-Based Chelating Cleaner

| | Flash Rust Inhibitor |
|------------------------|----------------------|
| 1 Gal. Bottle (3.78 L) | CC2638 |
| 55 Gal. Drum (208 L) | CC2637 |

Disposable Totes



SpaceKraft® Disposable Tote

- Disposable – NO return
- Holds 275 Gal. (1040 liters) (5 drums)
- Stacks up to 4 high
- Corrugated 8-ply construction – Over 25 Tons of Compression Strength
- Easy side dispensing ball valve



Cutting and Dispensing



SpaceKraft Totes can be emptied by gravity or pumping. Follow the instructions below to cut the bladder and attach the ball valve in Kit Part #3918034S.

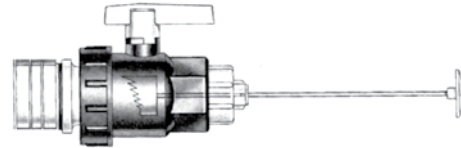
In addition to the ball valve, the kit includes a 2 in Male Nipple, Elbow and Cutter Tool. When gravity draining, attach the ball valve and elbow and place tote on rack of pallets at least 25 in above ground level. When dispensing by pump, a quick disconnect coupling is recommended.

SpaceKraft Totes conform to 46 CFR, Part 64, and meet UN#3082 for shipping ethylene glycol, propylene glycol, or Urea liquids. EG, PG or Urea products are not considered hazardous by OSHA definition and are not considered hazardous from a shipping standpoint if containers hold less than 500 gallons of product.

SpaceKraft has agreed to provide customer sales support and distributor training on tote handling and dispensing. In addition, SpaceKraft will provide tote and dispensing videos upon request. For field support or to report leaks, call SpaceKraft Customer Service at 1-877-868-2748.

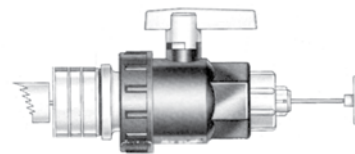
Using the cutting tool for side dispensing

1. Attach the 2 in male nipple to the tote side buttress. (Supplied in the Valve Cutter Kit)
2. Attach the SpaceKraft cutting tool directly to the valve.



Insert cutting tool through nipple and valve.

3. With the valve in the open position, push the handle of the cutting tool to extend the plunger through the valve opening into the bag.
4. When the bag has been punctured, withdraw the plunger by pulling back on the handle of the cutting tool.



Puncture bag and pull back on handle to withdraw.

5. Close the ball valve and remove the cutting tool.
6. To facilitate drainage, block (raise) the side of the pallet opposite the valve with a 4 in x 4 in.
7. For gravity dispensing, attach an elbow to the valve, open the valve and drain. For pump dispensing, use hose with quick disconnect fittings, connect to the valve, open the valve and begin pumping.

Coolant Product Glossary

Antifreeze: A mixture of glycol or glycerin base plus an additive package. The base provides freeze and boil over protection, while the additive package prevents corrosion, liner pitting, and the formation of scale and deposits.

ASTM: American Society for Testing of Materials (www.astm.org), the most important standards-setting organization in the world, publishes specifications most commonly cited, ASTM D-3306 for cars and ASTM D-6210 for trucks, and ASTM D-4985 for old trucks.

Conventional Coolant: A coolant whose additive package is made up entirely of conventional additives such as borate, molybdate, nitrite, nitrate, phosphate, and silicate.

Coolant: The fluid in the cooling system. Typically it will be composed of 50% antifreeze concentrate and 50% water.

Coolant Bases: Chemicals used in antifreeze to lower freeze point and increase boil point. The most common coolant bases include ethylene glycol (EG), diethylene glycol (DEG), propylene glycol (PG), and glycerin.

Coolant Types: Coolants are divided into three types depending on the chemicals used in the additive package. The three coolant types are: conventional, organic acid or OAT, plus hybrid.

Fully Formulated Coolant: Another term for a heavy duty antifreeze/coolant. Unlike light duty coolant, a fully formulated coolant contains additives to prevent liner pitting and scale/ deposit formation.

Heavy Duty Coolant: Fully Formulated to provide buffering capacity, corrosion, erosion, and liner pitting protection. Also provides foam, scale, and deposit control.

Light Duty Coolant: Formulated to provide buffering capacity, corrosion protection, and control foam tendencies

Molybdate: A conventional coolant additive used in premium, long life coolants. Molybdate when used with nitrite provides optimum liner pitting protection as well as increases a coolant's ability to protect aluminum.

Nitrite: A conventional additive found in many heavy duty SCAs and antifreezes. Nitrite provides excellent liner pitting as well as steel and cast iron corrosion protection.

OAT Coolant: Organic Acid Technology Coolant. Composed primarily of organic acids with very limited or no use of conventional additives.

Organic Acid: Type of coolant additive that has become much more popular in the past 10 years. Organic acids are also referred to by the term carboxylate. There are several organic acids commonly used in coolants such as benzoic, sebacic, adipic, etc.

Phosphate: A conventional coolant additive used to provide buffering capacity plus aluminum corrosion protection. Detroit Diesel along with some European OEMs do not recommend coolants that contain phosphate.

Precharged: A term used to describe the addition of SCA to a light duty coolant to make it acceptable for heavy duty service. This practice is now seldom used with the wide availability of fully formulated heavy duty coolant.

Premix Coolant: Coolant where the antifreeze concentrated is already cut with water and delivered to the customer ready to use. Water content of premix coolant generally runs in the 40% to 60% range depending on climate and altitude.

Reserve Alkalinity: The measure of a coolants ability to resistant pH change caused by exhaust gas leakage into the cooling system plus the thermal breakdown of glycols.

SCA: Supplemental Coolant Additive. The products are available in liquid form or a solid contained within a coolant filter. SCAs are a mixture of chemicals that provide corrosion, liner pitting, and scale/ deposit control similar to the additive package in an antifreeze. They can be used to replenish the additives in an antifreeze coolant or used alone in water only coolant.

Total Hardness: The amount of both calcium (as CaCO₃) and magnesium (as MgCO₃) in a make-up water which indicates the potential to form scale and deposits in the cooling system. EMA, ASTM, and TMC limit make-up water total hardness to 170 ppm.



Fleetguard® Fuel Additives

We also provide a wide range of fuel additives that are designed to provide genuine solutions to the challenges of today's modern fuels and fuel systems. Our broad product line provides solutions for cold weather operations, fuel system performance improvement, as well as emissions control support. To learn more about our fuel additives, see our Fuel Additives Brochure LT36049 available on cumminsfiltration.com.



Have a technical question about a Cummins Filtration product? From filtration to coolant products, we can answer your most pressing maintenance questions.

For detailed technical information about all products featured in this brochure, refer to the **Fleetguard Technical Information Catalog, LT32599**. Some part numbers may not be available in all countries. Contact your local customer assistance center for product availability.



For more information, visit
cumminsfiltration.com

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