

POWER OF PARTNERSHIP

2023 DTNA PARTS CONFERENCE

Selling Alliance and Detroit Coolant

Mario Cannistra

DTNAParts™



www.dtnaportal.com

Click on “Lubricants, Fuels & Coolants” to get all the info on fluids for Detroit Powertrain components

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DTNA Portal

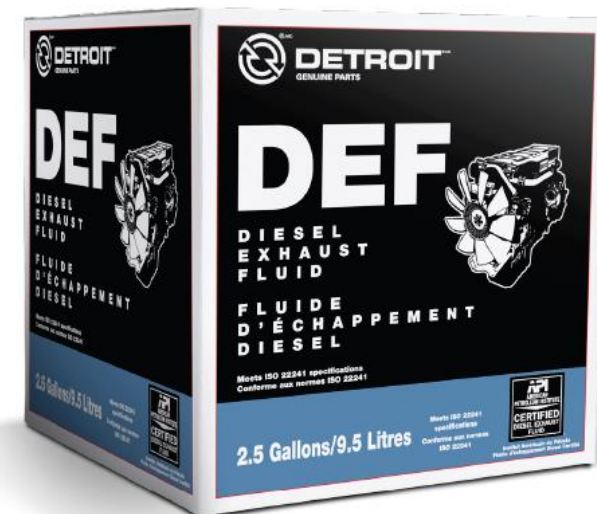
Welcome to DTNA Portal, the starting point for working with all brands and franchises that fall under the Daimler Truck North America umbrella. Whether you use DTNA's online resources to complete repairs, purchase parts, submit warranty claims, spec new vehicles or track the status of your vehicle orders, DTNA Portal offers customization and personalization to streamline your daily tasks and activities.

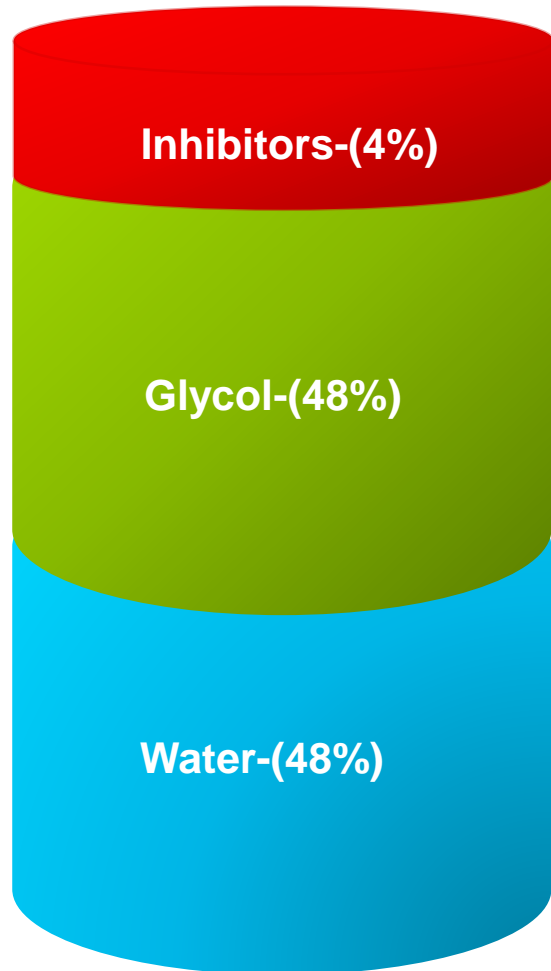
Service Information

- [Detroit Warranty Booklets](#)
- [Driver Info/Aids](#)
- [Driver's and Maintenance Manuals](#)
- [eComponents](#) (electrical components site)
- [Emergency Response Guides](#)
- [Engineering Documents](#)
- [Lubricants, Fuels & Coolants](#)
- [Spec Manager](#)
- [Vehicle Recall Look-Up](#)

- OWI + DTNA Partnership
- Choosing the Right Coolant
- Common Issues with Poor Coolant Maintenance
- Why Alliance OAT/Detroit Powercool+ is the Right Coolant

- Antifreeze & Coolant (Alliance/Detroit/PEAK)
- Diesel Exhaust Fluid (Detroit/BlueDEF)
- Washer Fluid (PEAK)
- Windshield Wipers (PEAK)
- Lighting (Alliance)





← **Inhibitors** Protect Metals From Rust And Corrosion

← **Glycol** Provides Boil-Over And Freeze Point Protection

← **Water** Transfers Heat

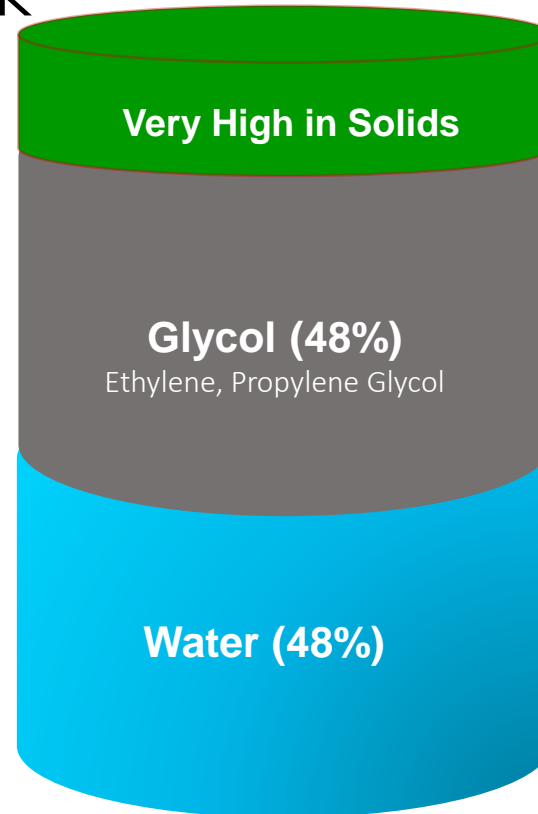


- Protection - 2 years/24k miles

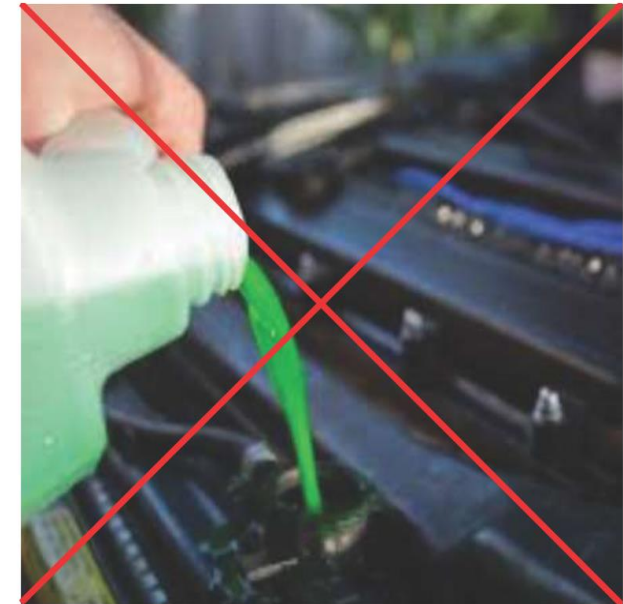
- **No Liner Cavitation Protection**

- High Solids

- **VOIDS WARRANTY!**



Coolants Not Permitted



Automotive Coolant

The following coolants are not to be used in Detroit engines:



- SCAs dilute over time
- Protection – 3 months or 20k miles
- Heat transfer and overall engine protection dwindles over time/use
- **SCA maintenance is crucial**



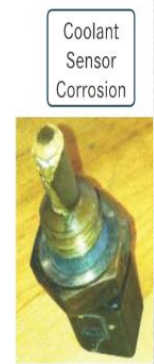


NOAT Extended Life Coolant

- Coolant Breakdown
- Corrosive
- 2EH can damage seals
- Causes leaks
- Bad for silicone
- “Aggressive inhibitor”
- **Not approved by Detroit!**



Effects of Aluminum with NOAT



Coolant Sensor Corrosion



Aluminum Corrosion with NOAT

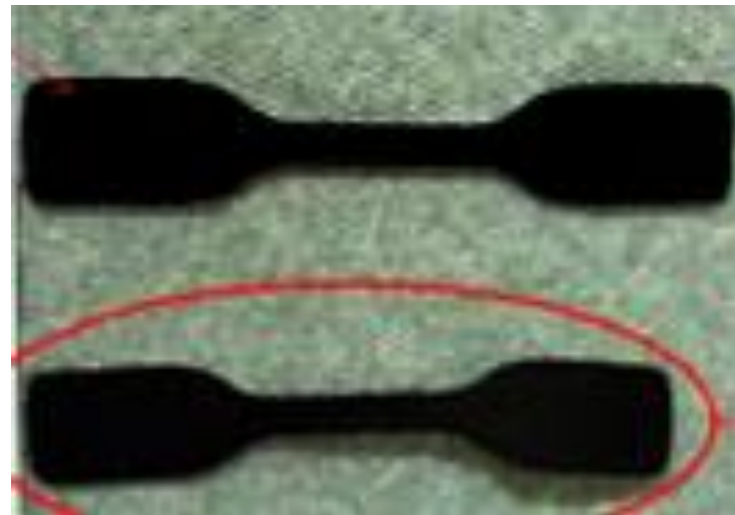
Deposit Formation

- 2EH & Post Braze Flux Residue form deposits on aluminum components



Silicone Elastomers and Seals

- 2EH is not compatible with silicone → Silicone is a common material in gaskets and seals in HD engines



- Which two technologies of coolant are not approved by Detroit?
 - A) OAT and NOAT
 - B) Conventional (Green) and SCA Precharged (Fuchsia)
 - C) NOAT and Conventional (Green)

Answer: **NOAT &
Conventional (Green)**

- Why would DTNA not want NOAT coolant or Green Conventional coolant to be used in the aftermarket?
 - A) Warranty is voided on the vehicle through Detroit
 - B) Both technologies leave engine susceptible to corrosion
 - C) Wet sleeve cylinder is not protected as a result of use
 - D) All of the above

Answer: **All of the above**

Common Issues with Poor Coolant Maintenance

CAVITATION



Or Wet Sleeve
Cylinder Liner
Pitting



- **Most common result** of improper cooling system maintenance
 - Wet sleeve liner replacement
 - Cost: \$10,472
 - Downtime: 3 days
 - Complete engine overhaul
 - Cost: \$35,492
 - Downtime: 5 days

CORROSION



Destroys Cooling
System Metals/Parts



- Aluminum radiators at greatest risk
 - New radiator installation
 - Cost: \$3,146
 - Downtime: 1 day

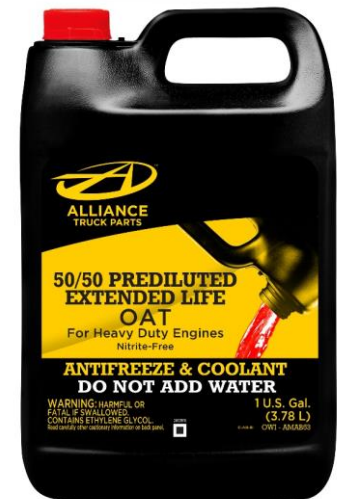


- Hard water blocks a cooling system's ability to transfer heat
- 1/16" of scale will reduce cooling system efficiency by **38%**
- Cracked head gasket
 - Cost: \$3,542
 - Downtime: 2 days
- Water Pump Seal Replacement
 - Cost: \$1,542
 - Downtime: 1 day



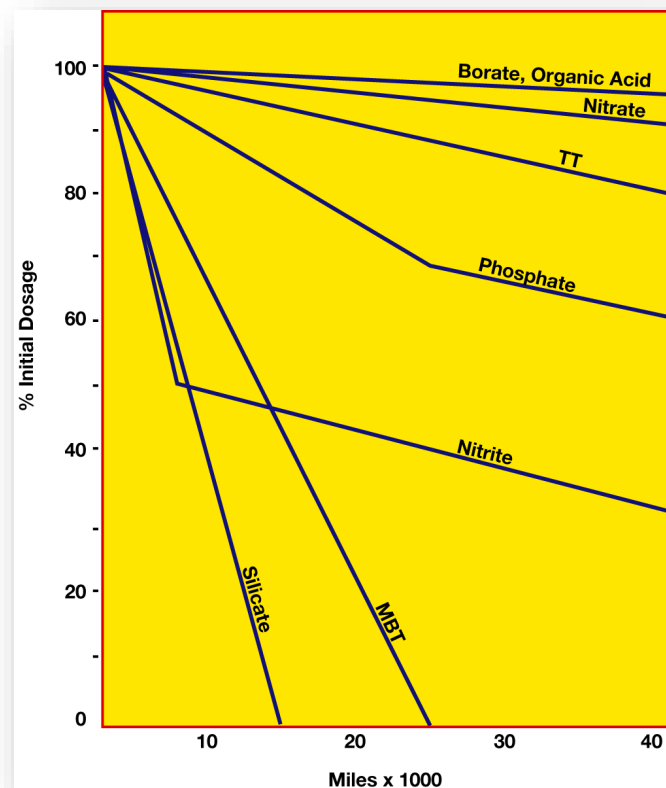
- Average cost of new flush and fill (2016 Cascadia): **\$388**

- Decreased downtime → Less testing, maintenance and better protection against coolant related issues!
- Liquid Insurance → Investing in the life of the truck!
- Cost Savings → 40% of all HD related downtime is due to coolant related issues. Detroit Powercool+ reduces this downtime significantly!



Why OAT Extended Life Coolant?

- 85% of HD OEM's Factory Fill with ELC
- Superior Engine Protection
- Eliminate Need for SCA's
- Better Heat Transfer

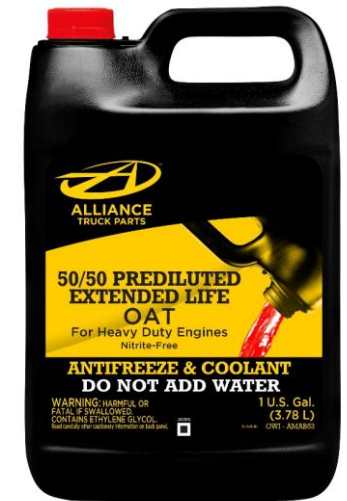


← Organic Acids Deplete at Slower Rate



Why Power Cool Plus or Alliance OAT?

- Reverse Compatible
- Superior Engine Component Protection
- 1,000,000 Miles or 20k Operating Hours
- Not Harmful to Aluminum/Silicone Components



OWI Testing Recommendations

- Color, Clarity, Test Strips & Refractometer
 - Color: Vibrant, bright color. Not brown/dark orange
 - Clarity: No debris, rust etc.
 - Test Strips: Check for PH levels (acidity) and integrity of inhibitor package.
 - Refractometer: Measures boiling point. -34F in 50/50 dilution.
- Test every 6 months or 50,000 miles regardless of technology
- Testing equipment available through DTNA!





- **Green Conventional (\$)**

- Voids warranty!
- Lowest service interval/weakest inhibitor package



- **SCA Precharged (\$\$)**

- HD Coolant
- **Testing needed!**



- **NOAT (\$\$)**

- Voids warranty!
- Nitrites/2EH – bad for componentry



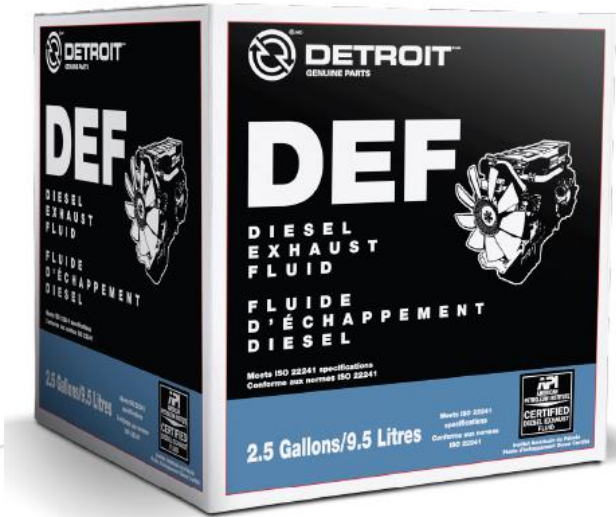
- **OAT (\$\$\$)**

- Nitrite/2EH free
- 1 million miles
- Reverse compatible (all makes)

- What percentage of heavy-duty downtime is related to poor coolant maintenance?
 - A) 25%
 - B) 45%
 - C) 70%
 - D) 40%

Answer: **40%**

Diesel Exhaust Fluid (DEF)



Diesel Exhaust Fluid (DEF) is the mixture of high purity synthetic automotive grade urea and deionized water that is used in Selective Catalytic Reduction (SCR) systems on diesel engines.

- 32.5% High Purity Synthetic Automotive Grade Urea
- 67.5% Deionized Water
- Meets ISO-22241 Quality Standard & API Certified
- Accepted range: 30.8% - 34.2%

What is Urea?

Urea Is A Nitrogen Compound With Many Commercial Uses

- Fertilizer
- Animal Feed Supplement
- Production Of Adhesives And Resins

SCR Systems Use A **High-Quality Urea**

- Currently Used In SCR Systems In The Stationary Power Generation



- Expanded footprint in 2023
- Miles off gallons
- Regionalized territory pricing for best, local costs
- Improved lead time and coverage

Program Details

- 2.5 Gallon Jugs
- 55 Gallon Drums
- 330 Gallon Totes
- Bulk Refills



Program Benefits

- OEM Factory Fill Tech
- ICR 2x per year
- Quality Packaging
- Highest quality DEF on the market!
 - Each batch is tested and quality controlled

INNER CIRCLE REWARDS™

- How much salt, could ruin an entire 5,000-gallon tanker of DEF?
 - A) A tablespoon
 - B) A teaspoon
 - C) A cup
 - D) A handful

Answer: B

- **Deposit Impact in the SCR System**

- Active or Forced System Regens
- Reduced or loss of fuel economy
- Deposits cannot be removed

- **How Deposits form in the SCR System**

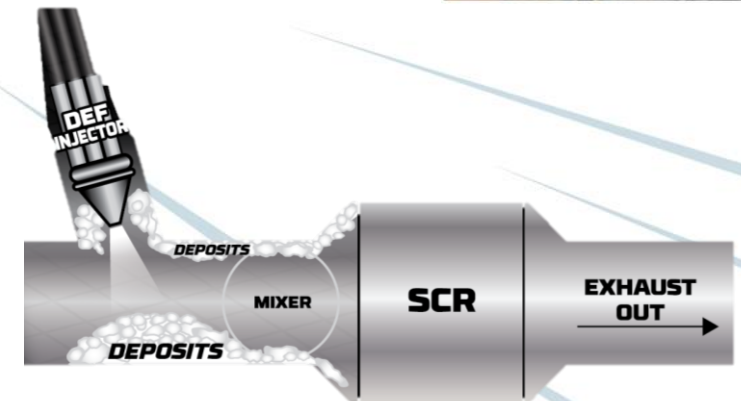
- Inefficient Urea decomposition (Exhaust Temps below 250°C)
- Frequent Stops & Low Load Vehicles
- Low ambient temperatures

- **Future State: 2027 EPA Emission Standards**

- Tighter Emission Standards (8% Reduction)
- Increased DEF Consumption/Higher Dose Rate/DEF Injection

- **BlueDEF Platinum**

- Advanced System Shield
- Reduces and Prevents Deposit Build Up
- Maintains Fuel Economy & Sustains SCR System



Develop a breakthrough DEF product that...

- ✓ Prevents deposit formation
- ✓ Makes SCR systems more efficient
- ✓ Provides maintenance savings
- ✓ Drives consumer trade-up

DIESEL EXHAUST FLUID

Blue DEF PLATINUM

- + **Maintains Optimum Fuel Economy**
- + **Saves Money On Costly Repairs**
- + **Sustains The Life Of Your SCR System**

2.5 Gallon Jugs PN: OWI DEG002	55 Gallon Drums PN: OWI DEG001
330 Gallon Totes PN: OWI DEG330	Bulk Truckloads PN: OWI DEG030

DEF ISO 22241





Questions?