WHY GO OAT?

FS Lubricants

FS Extended Life Organic Acid Technology (OAT) coolant is preferred for today's engines and eliminates the need for supplemental coolant additives.

A SMALL DIFFERENCE CAN GO A LONG WAY:

A typical antifreeze/coolant formulation is 96% water and glycol. However, the remaining 4% is important and can have a lasting impact on a heavy-duty diesel engine. In heavy-duty diesel engine applications, coolant/antifreeze is formulated to prevent liner cavitation in wet-sleeve liners and protect against scale, corrosion, and hard water deposits.

WATER	+	GLYCOL	+	ADDITIVES
Transfers heat to radiator		Lowers the freezing point		Corrosion protection
		Raises the boiling point		Liner cavitation protection
		Reduces water surface tension		Scaling and deposit protection
		Transfers heat to the radiator		

WET-SLEEVE LINER CAVITATION:

Cavitation occurs in wet-sleeve liners from rapid formation and collapse of vapor bubbles caused by vibrations occurring as the piston moves up and down. High pressures generated in very small areas cause the collapsing bubbles to hammer the liner and effectively drill small holes into the liner wall. Coolant additives, referred to as inhibitors, prevent this catastrophic occurrence by forming a hard surface on the liner wall that shields the metal.

Cylinder with liner cavitation

INHIBITORS:

There are two general categories of inhibitors, inorganic and organic. Organic acid technology (OAT) inhibitors are preferred by today's original equipment manufacturers (OEMs) and eliminate the need to add or maintain supplemental coolant additives (SCAs). OAT inhibitors are opportunistic by moving to trouble spots as needed and selectively protect the cooling system, resulting in longer-lasting protection. Conventional inhibitors are typically composed of inorganic molecules that act quickly and cover all components throughout the cooling system. Unfortunately, they also deplete quickly and result in short-lived protection unless SCAs are added periodically.

Visit FSSystem.com for more information or contact your local FS Energy Sales Specialist to Go OAT.

CHOOSE FS OAT FOR PREMIUM PROTECTION

- Premium organic acid technology
- Heavy-duty and light-duty diesel and gasoline applications
- Eliminates the need for SCAs and coolant filters
- Provides superior long-term elastomer compatibility
- Prevents pitting caused by cavitation and corrosion of brass, copper, solder, steel, cast iron, and aluminum
- Extended service life – up to 1,000,000 miles | 20,000 hours (or 8 years) protection
- Free of phosphates, silicate, nitrites, amines, and borates
- Compatible with most major OEM extended life coolants
- Provides maximum freeze-up and boil-over protection
- Available as pre-diluted (50/50) or as concentrate
- NOAT Extended Life Coolant is also available (contains nitrite; up to 1,000,000 miles | 20,000 hours [or 8 years] protection; does require an extender at 500,000 miles)

STICKING WITH GREEN?

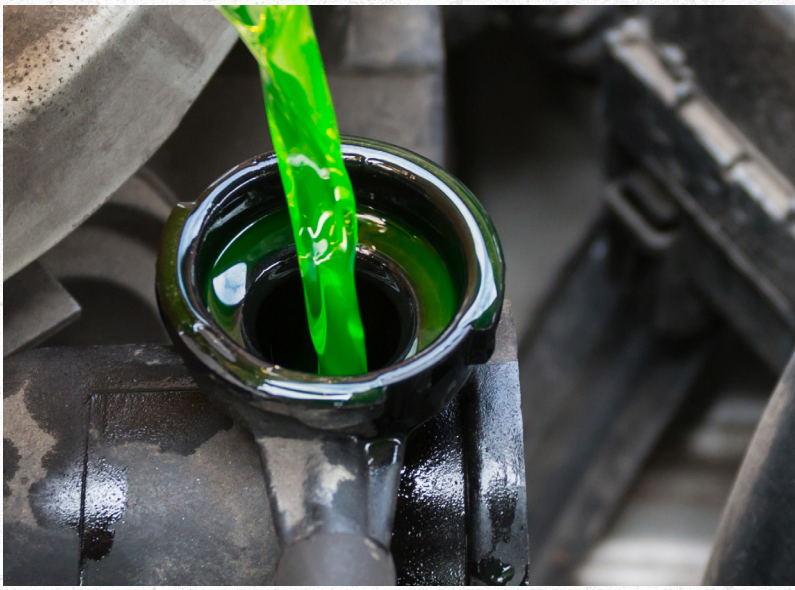
If you have been maintaining vehicles for decades, it is easy to stick with what you know when it comes to cooling system fluids: conventional "green" antifreeze. The maintenance practices are easy to remember: replace every 12 months or 12,000 miles. But the old standard green isn't the best coolant for modern engines, and misusing it can even cause damage!

HERE ARE THREE THINGS TO CONSIDER IF YOU ARE STICKING WITH GREEN:

1. If you are using it in a vehicle with the model year 1996 or newer, you are likely using suboptimal antifreeze for your system. Most automotive makes of these model years use OAT antifreeze due to the high aluminum content of their cooling systems.

2. Sticking with conventional technology antifreeze can be more costly. The increased maintenance compared to OAT antifreeze/coolant can cost time and money.

3. Using conventional green antifreeze/coolant in heavy-duty applications can cause catastrophic damage in the form of liner pitting/cavitation. Review manufacturer recommendations: You typically need to add SCAs to green antifreeze to use it in heavy-duty applications.



-Reference: KOST USA; "Sticking with Green" quoted from KOST USA

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