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## Why are most Heavy Duty OE Manufacturers recommending a nitrite free OAT antifreeze/coolant?

The manufacturing of aluminum heat exchangers uses a process called Controlled Atmosphere Brazing (CAB). After the brazing process, leftover flux residue may have a caustic effect when nitrites are used in some extended life coolant technologies. This results in pitting of aluminum components. Also, poor maintenance of a NOAT coolant can have an affect on cooling system components. The components can become more vulnerable leading to failure.

## Who is using nitrite free OAT (NF OAT) extended life coolant (ELC)?

These are approximate dates. Always refer to the vehicle's service manual for the proper coolant technology or locate the coolant identification sticker on the surge tank or side tanks of the radiator.

- Cummins has been recommending the use of a NF OAT since approximately 2014. This would be for factory fill and replacement at maintenance service intervals or cooling system parts failure.
- Detroit switched over to a NF OAT in June of 2015 (Service Letter NO. 15 TS-3). In their document "DDC-SVC-BRO-0002 Coolant Requirements For Engine Cooling Systems" they require the use of a NF OAT ELC or Extended Service Interval (ESI) SCA pre-charged coolant. Under the title "4.2 Coolants NOT Permitted" they state "Nitrite Organic Acid Technology (NOAT) must not be used in Detroit Diesel engines because with poor maintenance components become more vulnerable."
- Volvo and Mack recommends the use of NF OAT coolant in My2017 and newer vehicles. They switched over to a NF OAT coolant in 2017. The factory fill color will look pink, but they call it red. Always check the coolant identification sticker or service manual for proper coolant identification.
- PACCAR started the transition to a NF OAT coolant approximately late 2018, but not all of their factories were changed over at that time. Always check the coolant identification sticker or service manual for proper coolant identification.
- Navistar/International Maxxforce 11 and 13 engines were factory filled with NF OAT starting in 2010 and was yellow in color. Always check the coolant identification sticker or service manual because some Navistar/International and Cummins engines might have a NOAT coolant as factory fill before and after 2010; it is red in color.
- CAT still uses a NOAT for factory fill and recommends it for use in engines for CAT equipment.
- Some AG & Mining equipment manufacturers have switched over to a NF OAT for factory fill. Always check the coolant identification sticker or equipment service manual for proper coolant identification.

## What color is NF OAT? Is it different than the red color of the NOAT coolant?

The American Trucking Association Technology and Maintenance Council (TMC) recommended practice RP351 has proposed guidelines for the color of engine coolants, on EG based formulations, in attempts to standardize and prevent confusion. Conventional low silicate coolants are recommended to be green while fully formulated extended service interval coolants are recommended to be pink or purple. NOAT coolant is recommended to be red and NF OAT coolants are recommended to be red or yellow.



HD Nitrite Free OAT  
AFC12000 – Concentrate  
AFC12100 – 50/50 Pre-Mixed



HD Nitrite Free with Cor-Guard® Inhibitor Technology  
AFC13000 – Concentrate  
AFC13100 – 50/50 Pre-Mixed