Diesel Guard Supreme Common Rail Detergent (CRD)

Address the two most prevalent fuel related issues facing today's diesel equipment operators:

- High Pressure Common Rail (HPCR) Internal Diesel Injector Deposits
- Fuel Filter Plugging from Asphaltenes and Glycerin.

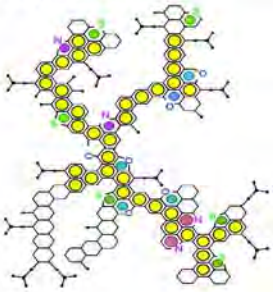
Internal Diesel Injector Deposits (IDID)

High Pressures – High Temperatures – lead to the formation of Waxy – Sticky deposits on HPCR injector plungers. The deposits cause injector plungers to stick interfering with fuel injection and engine operation.

The deposits are sodium salts of an organic acid. They are chemically different from the deposits found in older diesel engine designs. In fact, these deposits do not respond to Cummins L-10 detergents, even when used at very high dosages. A completely new and unique detergent chemistry in **Diesel Guard Supreme CRD** must be used to inhibit and remove these deposits.

Fuel Filter Plugging

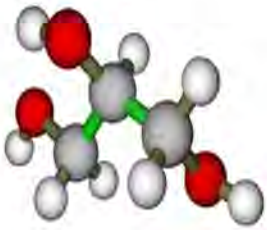
Asphaltenes



Problem: Asphaltenes are highly polarized long chain compounds. These compounds associate themselves to form complex insoluble structures. Asphaltenes are less soluble in ULSD then LSD or HSD. They tend to form in high temperatures and they are very problematic in low porosity fuel filters, such as modern High Pressure Common Rail diesel engines.

Solution: Diesel Guard Supreme CRD. The unique detergent in **Diesel Guard Supreme CRD** prevents Asphaltenes from agglomerating thereby helping to eliminate asphaltene caused fuel filter plugging.

Glycerin



Problem: Glycerin is a by-product of the biodiesel manufacturing process. In cold temperatures, it is insoluble in diesel fuel. Once glycerin comes out of solution, it does not go back in.....the result - plugged fuel filters. Today many refiners are putting 5% biodiesel in ULSD at refineries, so glycerin problems can occur even in low blends of ULSD and biodiesel.

Solution: The unique detergent system in **Diesel Guard Supreme CRD** keeps glycerin in solution to help prevent premature fuel filter plugging.

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