METATRON™ 803

DESCRIPTION :

Metatron™ 803 is a multifunctional, ashless, all season diesel fuel additive that is formulated for use in all types of diesel fuel. When added to diesel fuel **Metatron™ 803** will not only help to keep diesel engines running for extended periods of time by cleaning and keeping clean the injectors and fuel system and preventing the formation of harmful sludge and varnish deposits from accumulating in the vehicle and fuel storage tanks, but also will increase the diesel fuel's quality to a "Premium Grade" diesel fuel.

CLEAN-UP AND KEEP CLEAN PERFORMANCE:

Diesel engine performance is very sensitive to the quality of diesel fuel that is burned. Because of a lack of a uniform fuel quality standard this can result in a diesel engine burning a variety of diesel fuels. If a low quality diesel fuel is burned this can cause the formation of carbon, varnish and gum deposits that can block filter, pumps and fuel injectors. Once these deposits are formed they can result in improper fuel flow, incomplete combustion, increased emissions, exhaust smoke and particulates, poor compression and overall poor diesel engine performance.

Metatron™ 803 contains an ashless detergent additive system that provides clean up and keep clean performance to the entire fuel system. When added to the diesel fuel, **Metatron™ 803** detergent additives modify existing fuel system and in fuel injector deposits, allowing for their removal and safe passage into the combustion chamber where they can be burned. Once these deposits are completely removed the detergents in **Metatron™ 803** will coat the entire fuel system in order to provide cleanliness throughout the entire fuel system.

Metatron™ 803 detergent additive system in addition to providing cleanliness to the fuel system helps to control and neutralize the formation of acidic by products that are formed by the combustion of the diesel fuel.

During storage of the diesel fuel **Metatron™ 803** detergent additive system will not only disperse and insoluble gums and varnishes that may be present in low quality diesel fuels but also will prevent the formation gums and residues, thus resulting in increased storage stability.

INCREASED COMBUSTION OF THE DIESEL FUEL:

Metatron™ 803 when added to the diesel fuel increases the combustibility of the diesel fuel in two different ways.

The first way is by helping the diesel fuel to completely vaporize into smaller particles, while the second way is by raising the Cetane Number of the diesel fuel.

Cetane Number is a measure of the ignition quality of the diesel fuel based upon the interval between the beginning of injection of the diesel fuel into the combustion chamber and the ignition of the diesel fuel. The higher the diesel fuel's Cetane Number, the shorter the interval of the diesel fuel into the combustion chamber and the better the diesel fuel's combustibility.

Metatron™ 803 contains a Cetane Improver that when added to the diesel fuel will raise the Cetane Number rating of the diesel fuel up to 4 Cetane Numbers. Once the Cetane Number of the diesel fuel is raised this results in:

1. Easier cold weather starting
2. Reduced engine misfiring
3. Faster warm-up
4. Elimination of rough engine operation
5. Decreased engine noise
6. Decreased smoke and particulate emissions.
7. Increased fuel economy.

IMPROVED DIESEL FUEL THERMAL AND OXIDATIVE STABILITY:

Under heat and pressure diesel fuel can begin to oxidize to form black particulates that can become deposited as a residue in the fuel injection system. A lot of the diesel fuel that is circulated in the diesel engine's fuel system is used as a coolant and circulated back into the vehicle's fuel tank. The average fuel temperature as it is returned to the storage tank in many cases is 85°C (185°F) to 99°C (210°F). Fuel is often pressurized above 20,000 psig and braised by temperatures in excess of 343°C (650°F). Prolonged exposure to this kind of stress can accelerate the thermal breakdown of the diesel fuel, creating sediments and sludge that can alter spray patterns and plug fuel filters.

Metatron™ 803 when added to the diesel fuel provides the diesel fuel with an effective anti-oxidant additive system that not only prevents the oxidation of the diesel fuel, but also increases the thermal stability of the diesel fuel in order to provide resistance to thermal degradation.

During storage **Metatron™ 803** anti-oxidant additive system will inhibit the oxidation of the fuel, thus extending diesel fuel storage life.

INCREASED DIESEL FUEL LUBRICITY AND CORROSION PROTECTION:

Diesel fuel is the main lubricant of the moving parts of the diesel engine's fuel pumps and fuel injectors. If the diesel fuel does not provide the proper lubrication that is need these systems can failure prematurely.

Metatron™ 803 contains an advanced lubricity additive system that plates itself to the metallic surfaces of the entire fuel system. Once plated this lubricity additive system protects the fuel system from damaging frictional wear. In addition this lubricity additive system provides lubrication of the upper cylinders and supplemental ring and valve-train anti-wear protection.

Besides preventing damaging frictional wear, **Metatron™ 803** lubricity additive system provides a dual function of acting as a rust and corrosion inhibitor for the vehicle's fuel system and for the fuel delivery system and storage tanks during diesel fuel storage.

ADDITIONAL PERFORMANCE BENEFITS:

Metatron™ 803 when added to the diesel fuel will provide the additional performance benefits.

1. Allows moisture to be rapidly separated from the diesel fuel during storage so that it can be removed.
2. Dispersion of water present in diesel fuel in order to prevent fuel icing and other problems associated with water.
3. Prevention of the formation of stable fuel-water emulsions.
4. Excellent deposit control for light duty and medium duty in-direct injected diesel engines.
5. Control of bacterial and fungal growth in diesel fuels.
6. Superior Cummins L-10 Detergency Performance and N-14 Anti-Corrosion Performance.

TREATMENT RATIO:

4 Liters of **Metatron™ 803** to 7,570 Liters of Diesel Fuel (1 Gallon of **Metatron™ 803** to 2000 Gallons of Diesel Fuel).

TYPICAL PROPERTIES:

Specific Gravity	0.9494
Flash Point °C (°F) Pensky Marten Closed Cup ASTM D-93	74° (165°)
Pour Point °C (°F) ASTM D-97	-46° (-50°)
Ash Content % weight ASTM D-482)	0%
Copper Strip Corrosion Test ASTM D-130	1A