PREMIUM SELECT FUEL ADDITIVES

PRIMROSE SINCE 1916

Technical Data Sheet

5001 Klenz ID®

DESCRIPTION:

Injector nozzle coking is not the only concern faced by modern high pressure common rail (HPCR) engines. Internal diesel injector deposits (IDID) are causing substandard performing injectors that lead to decreased power, decreased fuel economy, and increased regulated emissions. This coupled with other ailments, which can be present in ultra low sulfur diesel (ULSD) – require the need for a Premium Select™ premium diesel additive (PDA).

Klenz ID® (KID) 5001 is a Premium Select™ PDA which imparts high performance qualities to diesel fuel. KID 5001 was engineered to eliminate injector problems associated with today's HPCR engines, enhance many other qualities of fuel and may be used in traditional diesel engines. KID 5001 provides "Premium Diesel Fuel" qualities to ULSD in terms of injector deposit control, corrosion, filter blocking tendency (FBT), and lubricity. KID 5001 contains vastly superior IDID quick clean / keep clean additives.

COMPOSITION:

KID 5001 contains the following additives:

- IDID Specific Additives
- Lubricity Agents
- Detergents
- Antifouling Agents
- Dispersants
- Rust Inhibitors
- Thermal Stability Rejuvenation Agents
- Stabilizers
- Corrosion Inhibitors
- Anti-Oxidants
- Metal Deactivators
- Asphaltene Dissolution and Dispersion Agents
- Carboxylate Dissolution and Dispersion Agents
- Filterability Rejuvenation Agents

PERFORMANCE CHARACTERISTICS:

Injector Deposit Control (Detergency) – KID 5001 eliminates and prevents IDID formation and traditional nozzle coking deposits, thus improving/sustaining power, fuel economy, and regulated emissions caused by injector deposits.

Stability – Fuel can also be treated with KID 5001 to improve stability of the treated fuel. Thermal stability may be measured by ASTM D6468 Thermal Stability Test as well as other commonly used storage stability tests. In responsive fuel, thermal stability can be rejuvenated.

Lubricity – KID 5001 improves lubricity of diesel fuels in both the HFRR Test and the BOCLE Test, which is a critical factor with ULSD No. 2 and No. 1.

Rust and Corrosion Protection – Prevents all types of rust and corrosion in fuel lines, strainers, pumps and injectors.

Filter Blocking Tendency - PKID 5001 improves fuel flow through filters, in responsive fuels, as measured by ASTM D2068.

USES:

- Quickly Clean/Prevent IDID
- Boost Power
- Clean/Maintain Fuel Spray Pattern
- Prevent Sludge Induced Filter Plugging
- Reduce Combustion Noise
- Dissolve and Disperse Asphaltenes
- Clean Entire Fuel System
- Reduce Regulated Emissions and Black Smoke
- Rejuvenate Thermally Stressed Fuels
- Reduce Injector System Maintenance
- Extend Engine Life
- Extend Filter Life
- Extend Fuel Storage Life
- Increase/Maintain Fuel Economy
- Effective in Biodiesel
- Dissolves and Disperses Carboxylates
- Improve Flow through Filter(s)

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APPLICATIONS:

KID 5001 is an extremely versatile product that can be used in a wide range of effective treatment ratios from an economical 1:2000 to 1:250 for quick cleaning and maximum performance benefits or for non-responsive or poor quality diesel fuels.

KID 5001 is recommended for ULSD. Use at 1:1000 for enhanced DW-10 (CEC F-98-08)/XUD-9 (CEC F-23-01) performance in suitable diesel fuels and optimal overall performance in most applications including lubricity in kerosene. Treat rates as low as 1:2000 may be used to provide significant enhancement of all properties in responsive fuels. Use at 1:500 for IDID DW-10C (CEC F-110-16(S))performance, outstanding XUD-9 (CEC F-23-01) performance, to clean and prevent carboxylate and sticky IDID or to achieve specific target criteria in certain fuels. Use at 1:250 for DW-10C (CEC F-110-16(S)) performance, outstanding XUD-9 (CEC F-23-01) performance and other extreme performance gains, to quickly clean and prevent carboxylate and sticky IDID or to achieve specific target criteria in certain fuels.

The sulfur content of this diesel fuel additive does not exceed 15 ppm. This diesel fuel additive complies with the federal low sulfur content requirements for use in diesel motor vehicles and nonroad engines.

KID 5001 can be used at 1:1000 in biodiesel blends B6 through B10. KID 5001 can be used at 1:500 in B11 through B20.

TYPICAL SPECIFICATIONS:

Appearance	Amber Liquid
Viscosity, mm^2/sec @ 40° C	4.0
Flash Point, °F min.	142
Density (#/gal)	7-7.5
Pour Point, °F max.	- 70
Klenz ID® Product's HFRR Wear Scar Range	200 µm - 340µm
Baseline Diesel HFRR Wear Scar	610 µm

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