

COMPLETE ENGINE CLEANER : DIESEL

Aftermarket Multifunctional Diesel Additive



TOTAL

Product Sheet



Use

COMPLETE ENGINE CLEANER DIESEL is a multipurpose additive for diesel fuel, specially designed to improve diesel engine operation by keeping the engine fuel injection system clean, improving combustion properties and lowering wear through better lubrication.

COMPLETE ENGINE CLEANER DIESEL is designed for aftermarket use and is an excellent choice for preventive maintenance and as precaution against fuel related problems.

Benefits

COMPLETE ENGINE CLEANER DIESEL is a top-tier performance multifunctional Diesel fuel additive. It offers features adapted to the new engine technologies and fuel evolutions: engines are cleaner, combustion is better and friction losses within the engine and fuel injection equipment are reduced. Each of these properties contributes to fuel economy benefits.

COMPLETE ENGINE CLEANER DIESEL offers the following benefits, proven in the laboratory and confirmed by numerous engine (indirect injection and common-rail direct injection) and road tests:

- **Detergent action** - Elimination of deposits present in the injection system parts
 - Maintaining performance and drivability (power, liveliness)
 - Reducing over-consumption and exhaust emissions
- **Dispersant action** – Ensures better diesel fuel atomization in the combustion chamber
 - Better combustion and less pollutants emissions
- **Procetane action** – Raises the diesel cetane number (~ +2pt)
 - Easy ignition and combustion
 - Less mechanical and thermal constraints (long life).
- **Friction modifier action** – Improves wearprotection index of the fuel
 - Reduces friction losses in fuel injection pump and injectors

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- **Anti-foam action** – Reduces the tendency to foam when filling up the tank
- **Anti-corrosion action** – Protects the fuel system against corrosion.
 - Extending the lifetime of equipment in contact with the fuel, particularly injection system parts.

The combination of these properties and improvements lead to valid fuel economy figures that can exceed 5%, as measured during a long term field trial on heavy-duty vehicles monitored by an independent laboratory.

COMPLETE ENGINE CLEANER DIESEL does not modify diesel characteristics (cold properties, colour, dehazing, etc.) and does not affect the additives and markers normally used to treat diesel fuels.

COMPLETE ENGINE CLEANER DIESEL is compatible with additive, as cold flow improver, already present in commercial Diesel fuels.

Characteristics

Characteristics	Units	Method used	Typical values
Density at 15°C	kg/m ³	NF EN ISO 12185	850 - 875
Flash Point Pensky Martens	°C	NF EN 22719 ASTM D 93	> 60
Viscosity à 40°C	mm ² /s	NF EN ISO 3104	< 6
Pour Point	°C	NF – T – 60105	< -30°C

Treatment ratios

Recommended dosage: 250 ml for 100L of fuel each 2000 km.

For very critical urban driving conditions, this dosing rate might be increased up to 250 ml for every 100L fuel consumption.

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Storage and Handling

Storage

Technical measures: Prevent any build-up of static electricity.

Storage precautions: **COMPLETE ENGINE CLEANER DIESEL** may be stored and handled at temperatures as low as - 10°C. Carbon steel, stainless steel, or Teflon may be used in the construction of storage capacities and injection systems. The use of rubber (either natural or synthetic) and of polystyrene is to be avoided. Keep away from water, moisture, heat, and any source of ignition.

Incompatible products: Dangerous reaction with strong oxidizing agents.

COMPLETE ENGINE CLEANER DIESEL quality may not be affected during storage up to 18 months if COMPLETE ENGINE CLEANER DIESEL is subject to normal handling procedures.

Handling

COMPLETE ENGINE CLEANER DIESEL does not represent any specific hazard when handled and stored according its MSDS. Like any additive or petroleum product, it is recommended to wear Personal Protective Equipment and to avoid any contact with eyes and skin and not to inhale the vapours when handling the product.

COMPLETE ENGINE CLEANER DIESEL (contains 2-Ethylhexyl nitrate) can undergo a violent thermal decomposition when exposed to temperatures above 100°C. The principle here is to use equipment that does not have the potential to heat the product. Therefore **COMPLETE ENGINE CLEANER DIESEL** must not be stored in tanks and/or transfer lines with heaters or tracing (existing heating systems must be permanently disabled).

A deluge cooling system effective enough to cool storage facilities and their sides has to be provided. Loading and mixing pumps must be fitted with a fluid temperature sensor to stop the pump and a system to reduce the pressure in the event of overheating.

For product mixing and transfer the use of centrifugal pumps with required safeguards such as cut-off at high-temperature, low-flow and high-pressure, to prevent heating of product by dead-heading of the pump.

For further details about handling conditions and the product's toxicology, please consult the relevant safety data sheet.

COMPLETE ENGINE CLEANER DIESEL may be delivered in bulk, IBC or drums.