

SDA 400

MULTIFUNCTION ADDITIVE FOR DIESEL FUELS

Dosage: 1:1000 (1 litre per 1000 litres diesel fuel)

- + CETAN NUMBER OPTIMIZING
- + CLEANING
- + REDUCES FUEL CONSUMPTION
- + RUST RETARDANT
- + NOT FOAMY
- + DEHAZER/DEMULSIFIER

SDA 400 specification sheet

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 - Cetan number
 - Cleaning of injection nozzles
 - Reduction of fuel consumption
 - Rust prevention/inhibition
 - Hydrophobic properties
 - Suppression of frothing
 - No interaction with fuel
 - Applicability with other additives
 - Material wear in the engine
 - Pollutant emissions

1. Application

- Multifunctional additive for diesel fuels
- Recommended dosage: 1:1000 (1 litre per 1000 litres diesel fuel)

2. Properties

- Suitable for all common diesel fuels
- Offers the following features
 - + improves the cetan number
 - + cleans
 - + suppresses frothing
 - + prevents Korrosion
 - + demulsifying

The additive **SDA 400** contains neither metal nor organometallic components.
The product is free of sulphur, phosphor and halogen.

3. Use

If applied as recommended the additive **SDA400** effects

- an average increase of the cetan number of about 6 points
- clean injection nozzles
- cleaning of already soiled injection nozzles
- decrease of fuel consumption
- reduced frothing of fuel
- corrosion protection for the fuel system

If **SDA400** is applied as recommended, diesel fuel properties such as water tolerance, flow properties at low temperatures, stability, bacteria growth et cetera are not affected.

4. Advantages

- reduces emissions (soot, not burned particles, carbon monoxide)
- increases the service life of the engine
- improves the driving characteristics of the motor vehicle
- reduces fuel consumption
- prevents spilling on refuelling by reducing the frothing (particularly problematic at self-service petrol stations)
- permits faster and/or more complete filling of the tank
- has excellent water separating properties

5. Test results and methods

· Cetannumber

SDA400 contains a cetan optimizer, which, if applied as recommended, increases the mean value of the cetan number in the fuel by up to 6 points.

An insufficient cetan number causes a delayed ignition. **SDA400** consequently improves the combustibility of diesel fuel and thereby reduces soot and fouling.

· Cleaning of injection nozzles

Influence of soiled injection nozzles on the engine power. After the initial start-up of the engine, the soiling of injection nozzles (either pintle- or hole type nozzle) occurs progressively after only a few thousand kilometres (between 2000 and 6000 kilometres) travelled. Therefore the engine does not run under optimal conditions.

· Pintle-type nozzle

Scaling causes a faulty adjustment phase, which is of outstanding importance for the ignition point and the cylinder charging, because it is supposed to avoid too high pressure within the cylinder. Excessive cylinder pressure leads to higher emissions, increasing fuel consumption and a higher noise level.

The progressive soiling of the pintle-type nozzle is clearly shown by the decrease of fuel flow in the main stream as well as the bypass stream. The flow characteristics of the injector needle lift show significant differences between soiled and clean injection nozzles.

· Hole type nozzle

This type of injection nozzle usually is less prone to be soiled because the fuel is injected at high speed directly into the diesel engine through so-called orifices. Nevertheless detrimental scaling can build up at the injector needle lift and/or straight at the injection nozzles.

SDA400 additionally helps cleaning the fuel-injection system and prevents harmful scaling at inlet valve and distributor pipe, cleans the combustion chamber and keeps the engine clean. Therefore **SDA400** reduces the fuel consumption by up to 4 percent.