



## Diesel – The critical fluid disregarded by most generator owners

Diesel is the source of energy for internal combustion of diesel engines. It contains sulfur that provides lubrication for fuel pump and fuel injection systems. It serves as coolant for fuel injectors exposed in high temperatures inside the combustion chamber. Diesel is also the number one killer of diesel engine if dirt and contamination exceeds acceptable level.

### Effects of a dirty or contaminated diesel

1. Form rust in fuel tanks and engine internal precision mechanisms.
2. Failure of fuel injectors and pumps.
3. Clogged fuel filters.
4. Rough idling and erratic engine operation.
5. Engine runaway.
6. Unresponsive engine controls.
7. Form sludge in fuel tanks, fuel lines and fuel system.
8. Foul odor of exhaust.
9. Excessive engine emission polluting the air.
10. Damage engine’s turbocharger.



*Bottle on the left contains clean and fresh diesel. Bottle on the right contain oxidized diesel (upper part) and contaminated with free water and sludge (lower part).*

### Diesel cleanliness

The cleanliness of diesel as it enters an engine should meet the standards specified by ASTM D975, the ISO 4406, the Engine Manufacturers Association (EMA) and the Worldwide Fuel Charter. These standards organization specifies that diesel fuel must meet the following requirements as it enters an engine.

1. Particle contaminants at level of 18/16/13 (or better) of the ISO 4406 code.
2. No visible free water.
3. Dissolved water less than 200 ppm (0.02%).