

# DIESEL EXHAUST FLUID (DEF)

## DESCRIPTION

---

- › Selective Catalytic Reduction (SCR) is technology which leading North American manufacturers of diesel vehicles have jointly adopted after comparing and testing a variety of available technologies aimed at reducing emission levels to required limits.
- › Diesel Exhaust Fluid (DEF) is a non-toxic, high quality and highly pure urea solution that works with SCR technology to chemically change harmful nitrogen oxide (NOx) emissions from heavy-duty diesel vehicles into harmless nitrogen and water. DEF is a clear liquid, similar in appearance to water.

## FEATURES & BENEFITS

---

- › DEF is injected into the exhaust system of the catalyst. It is neither a fuel nor a fuel additive. It is not hazardous or harmful to the environment.
- › DEF is safe to handle and use; it is not explosive, flammable, toxic, or subject to any hazardous product regulations.

## TYPICAL APPLICATION

---

- › SCR technology reduces emissions of the NOx gases that are produced inside the engine during combustion. This process requires the correct injected volume of DEF.
- › DEF is sprayed into the hot exhaust gas stream just prior to the SCR unit. The DEF is hydrolyzed to ammonia (NH<sub>3</sub>) and inside the SCR unit it assists in breakdown of NOx to harmless Nitrogen gas (N<sub>2</sub>) and water (H<sub>2</sub>O).

It is important that you do not put diesel in the DEF tank or DEF in your diesel tank. Some vehicles will have safeguards to ensure this doesn't happen but this might not be the case on all vehicles - so please check!

*See reverse for typical physical properties*

**TYPICAL PHYSICAL PROPERTIES**

PARAMETER	TYPICAL	PARAMETER	TYPICAL
Urea Concentration	32.5%, +/-0.7%	Copper	0.2 ppm, max
Density/Specific Gravity, at 20°C	1.087-1.093 kb/m <sup>3</sup>	Zinc	0.2 ppm, max
Refractive Index, at 20°C	1.3814-1.3843	Chromium	0.2 ppm, max
Alkalinity (Ammonia)	0.2% max	Nickel	0.2 ppm, max
Biuret	0.3% max	Aluminium	0.5 ppm, max
Formaldehyde	Below limits of detection	Magnesium	0.5 ppm, max
Insoluble matter	20 ppm, max	Sodium	0.5 ppm, max
Phosphates	0.5 ppm, max	Potassium	0.5 ppm, max
Calcium	0.5 ppm, max	Water Quality	Demineralized, ISO 3696 applicable
Iron	0.5 ppm, max		

**Bluewave DEF is ISO 22241 compliant and an API Certified Product.**



**HEALTH & SAFETY**

Based on available information, Diesel Exhaust Fluid is a non-toxic, non-hazardous product that is not expected to cause any adverse health effects when used as designed. Users are advised to follow the recommendations provided in the MSDS.

For more detailed information on lubricant applications and procedures for converting to Diesel Exhaust Fluid (DEF), please consult with your Bluewave Technical Service Representative.

**TECHNICAL SUPPORT**  
lubestechsupport@parkland.ca

**VISIT US ONLINE**  
BluewaveEnergy.ca