



# Z Energy Ltd

## Technical Data Sheet

### Z DEC (Diesel Exhaust Fluid)

#### Description

Z DEC Diesel Exhaust Fluid (DEF) is a carefully blended aqueous urea solution of 32.5% high purity urea and 67.5% demineralised water.

Z DEC is suitable for use in diesel vehicles equipped with Selective Catalytic Reduction (SCR) exhaust emission control devices. SCR is a technology that uses a urea based diesel exhaust fluid (DEF) and a catalytic converter to reduce oxides of nitrogen (NOx) emissions to harmless nitrogen and water. It is directly injected into the exhaust gas where it is converted to ammonia. The ammonia subsequently reacts with the nitric oxides in the exhaust catalyst to form harmless nitrogen and water.

SCR is fitted to many diesel engines that meet Euro IV and Euro V and Euro VI emissions standards. It is manufactured to meet the specifications detailed in ISO22241.

Diesel Exhaust Fluid MUST NOT be added to the diesel tank. The DEF is NOT a diesel additive. It is stored in a separate tank on the vehicle and is injected into the exhaust gas from the engine in a post combustion process.

#### Health & Safety

Z DEC is a non-flammable liquid. It is classified as a hazardous substance according to New Zealand HSNO legislation.

Z DEC is an aqueous solution of urea. If it is stored, handled and used according to manufacturers' instructions, it poses a minimal risk to operators and a limited risk to the environment. However, users should be aware urea solution is very polluting to groundwater and watercourses and has caused several serious pollution incidents from spillages.

Z DEC is soluble in water and should be kept out of surface water drainage systems that discharge to the environment. It will not be removed in an oil separator so it is important to isolate dispensing area drainage from the surface water system to reduce the possibility of spills and drips causing pollution.

Avoid contact with the skin and eyes, harmful if swallowed.

For further guidance on product health and safety refer to the appropriate Z Energy Safety Data Sheet.

#### Typical Physical Characteristics

Description	Units	Methods	Typical
Density @ 20°C	kg/L	D1298/D4052	1.090
Refractive Index at 20 °C	-	ISO22241	1.3836
Urea content	%m	ISO22241	32.8
Alkalinity as NH <sub>3</sub>	%m	ISO22241	0.17
Insoluble matter	mg/kg	ISO22241	1.94
Phosphate (PO <sub>4</sub> )	mg/kg	ISO22241	0.04

These characteristics are typical of current production. While future production will conform to Z Energy and legislated specifications, variations in these characteristics may occur.