

# Material Safety Data Sheet

## Flo-perm Diesel Exhaust Fluid (DEF)

---

### 1. Product and Company Identification

---

Product: Flo-prem Diesel Exhaust Fluid

Product Part #: 99002

Supplier: Vulsay Industries Ltd.  
35 Regan Road,  
Brampton, ON  
L7A 1B2

Contact Phone#: 905 846 22200  
www.vulsay.com

24 Hours Emergency Contact Phone #: Call CANUTEC at 613 916 6666

---

### 2. Hazards Identification

---

Emergency Overview	CAUTION EYE AND SKIN IRRITANT.
Potential short term health effects	
Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Eyes	May cause irritation.
Skin	May cause irritation.
Inhalation	May be harmful by inhalation. May cause respiratory tract irritation.
Ingestion	May cause stomach distress, nausea or vomiting.
Target organs	Eyes. Skin. Respiratory system.
Signs and symptoms	Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

---

### 3. Composition / Information on Ingredients

---

Ingredient(s)	CAS #	Percent
Water	7732-18-5	67.5
Urea	57-13-6	32.5

---

### 4. First Aid Measures

---

First aid procedures	
Eye contact	Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.
Skin contact	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.

**Ingestion**

Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

**Notes to physician**

Symptoms may be delayed.

**General advice**

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Wear impervious gloves and safety glasses. Keep out of reach of children.

## 5. Fire Fighting Measures

**Flammable properties**

Not flammable by WHMIS/OSHA criteria.

**Extinguishing media**

**Suitable extinguishing media** Treat for surrounding material.

**Unsuitable extinguishing media** Not available

**Protection of firefighters**

Not available

**Specific hazards arising from the chemical** Not available

**Protective equipment for firefighters**

Firefighters should wear full protective clothing including self contained breathing apparatus.

**Hazardous combustion products**

May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Ammonia.

**Explosion data**

**Sensitivity to mechanical impact** Not available

**Sensitivity to static discharge**

Not available

## 6. Accidental Release Measures

**Personal precautions**

Keep unnecessary personnel away. Wear appropriate protective clothing.

**Methods for containment**

Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

**Methods for cleaning up**

Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labeled containers.  
Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

## 7. Handling and Storage

**Handling**

Use good industrial hygiene practices in handling this material.

**Storage**

Keep out of reach of children. Store in a closed container away from incompatible materials.

---

## 8. Exposure Controls / Personal Protection

---

Exposure limits Ingredient(s)	Exposure Limits
Urea	<b>ACGIH-TLV</b> Not established <b>OSHA-PEL</b> Not established

---

**Engineering controls** Ensure adequate ventilation, especially in confined areas. Use only under good ventilation conditions or with respiratory protection.

**Personal protective equipment**

<b>Eye / face protection</b>	Wear safety glasses with side shields.
<b>Hand protection</b>	Impervious gloves. Nitrile, Viton, Butyl.
<b>Skin and body protection</b>	As required by employer code.
<b>Respiratory protection</b>	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
<b>General hygiene considerations</b>	Avoid breathing vapors. Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

---

## 9. Physical & Chemical Properties

---

<b>Appearance</b>	Clear.
<b>Color</b>	Colorless
<b>Form</b>	Liquid
<b>Odor</b>	Slight ammonia
<b>Physical state</b>	Liquid
<b>pH</b>	9.8 - 10.0
<b>Freezing point</b>	-12°C
<b>Boiling point</b>	104°C
<b>Density</b>	9.1 lbs. / USG - 4.13 kg / 3.785L
<b>Specific gravity</b>	1.087-1.093 @ 20°C
<b>Solubility (H2O)</b>	100%

---

## 10. Chemical Stability & Reactivity Information

---

<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Do not mix with any other chemical or product.
<b>Incompatible materials</b>	Acids. Oxidizers. Alkalis.
<b>Hazardous decomposition products</b>	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Ammonia.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.

---

## 11. Toxicological Information

---

### Component analysis - LC50

Ingredient(s)	LC50
---------------	------

---

Urea	Not available
------	---------------

---

### Component analysis - Oral LD50

Ingredient(s)	LD50
---------------	------

---

Urea	11,500 - 13,000 mg/kg mouse; 14,300 - 15,000 mg/kg rat; 510 mg/kg cattle.
------	---

---

### Effects of acute exposure

<b>Eye</b>	May cause irritation.
<b>Skin</b>	May cause irritation.
<b>Inhalation</b>	Not available
<b>Ingestion</b>	May cause stomach distress, nausea or vomiting.
<b>Sensitization</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Chronic effects</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Carcinogenicity</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Mutagenicity</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Reproductive effects</b>	Non-hazardous by WHMIS/OSHA criteria.
<b>Teratogenicity</b>	Non-hazardous by WHMIS/OSHA criteria.

---

## 12. Ecological Information

---

**Ecotoxicity** Components of this product have been identified as having potential environmental concerns.

### Ecotoxicity - Freshwater Fish Species Data

Urea	57-13-6	96 Hr LC50 Barillius barna: >9100 mg/L
------	---------	--

### Ecotoxicity - Microtox Data

Urea	57-13-6	24HrEC50 Daphnia magna straus:>10000mg/L
------	---------	--

<b>Environmental effects</b>	Not available
<b>Aquatic toxicity</b>	Not available
<b>Persistence / degradability</b>	Not available
<b>Bioaccumulation / accumulation</b>	Not available
<b>Partition coefficient</b>	Not available
<b>Mobility in environmental media</b>	Not available
<b>Chemical fate information</b>	Not available
<b>Other adverse effects</b>	Not available

---

## 13. Disposal Considerations

---

<b>Waste codes</b>	Not available
<b>Disposal instructions</b>	Review federal, provincial, and local government requirements prior to disposal.
<b>Waste from residues / unused products</b>	Not available
<b>Contaminated packaging</b>	Not available

---

## 14. Transport Information

---

### U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

### Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

---

## 15. Regulatory Information

---

**Canadian federal regulations** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**US Federal regulations** The product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

### Occupational Safety and Health Administration (OSHA)

**29 CFR 1910.1200 hazardous chemical** Yes

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** Yes

**Clean Air Act (CAA)** Not available

**Clean Water Act (CWA)** Not available

**Safe Drinking Water Act (SDWA)** Not available

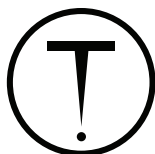
**Drug Enforcement Agency (DEA)** Not available

**Food and Drug Administration (FDA)** Not available

**WHMIS status** Controlled

**WHMIS classification** **Class D - Division 2B**

**WHMIS labeling**



**State regulations**

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**Inventory name**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

---

## 16. Other Information

---

**Disclaimer**

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

---

Prepared By: Q.C. Department

Sources used in preparation: Product manufacturer's MSDS sheet

Preparation Date: November 18, 2014

Revision #: 0