

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name	Diesel Exhaust Fluid
CAS #	Mixture
Product use	Diesel Exhaust NOx Reducing Agent
Manufacturer	CF Industries Sales, LLC 4 Parkway North Deerfield, IL 60015-2590 Phone: 847-405-2400
CHEMTREC	800-424-9300

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 1
Flammability	0
Physical Hazard	0
Personal Protection	B



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	ACGIH-TLV Not established OSHA-PEL Not established
Engineering controls	Ensure adequate ventilation, especially in confined areas. Use only under good ventilation conditions or with respiratory protection.
Personal protective equipment	
Eye / face protection	Safety glasses with side shields are recommended if splashing or contact is likely.
Hand protection	Impervious gloves (Nitrile, Viton, Butyl) are recommended if prolonged or repeated contact is likely.
Skin and body protection	As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
General hygiene considerations	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

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

10. Chemical Stability & Reactivity Information

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

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
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Urea	Not available
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Component analysis - Oral LD50

Ingredient(s)	LD50
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Urea	11,500 - 13,000 mg/kg mouse; 14,300 - 15,000 mg/kg rat; 510 mg/kg cattle.
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Effects of acute exposure

Eye	May cause irritation.
Skin	May cause irritation.
Inhalation	Not available
Ingestion	May cause stomach distress, nausea or vomiting.

Sensitization	Non-hazardous by WHMIS/OSHA criteria.
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Chronic effects	Non-hazardous by WHMIS/OSHA criteria.
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Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.
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Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.
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Reproductive effects	Non-hazardous by WHMIS/OSHA criteria.
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Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.
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12. Ecological Information

Ecotoxicity	Components of this product have been identified as having potential environmental concerns.
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Ecotoxicity - Freshwater Fish Species Data

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

Urea	57-13-6	24HrEC50 Daphnia magna straus:>10000mg/L
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Environmental effects	Not available
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Aquatic toxicity	Not available
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Persistence / degradability	Not available
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Bioaccumulation / accumulation	Not available
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Partition coefficient	Not available
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Mobility in environmental media	Not available
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Chemical fate information	Not available
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Other adverse effects	Not available
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13. Disposal Considerations

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

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	Inventory name	On inventory (yes/no)*
Country(s) or region		
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

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Prepared by	CF Industries Sales, LLC – 847-405-2400