



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product Name : CDEF Diesel Exhaust Fluid

Other means of identification

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use/Diesel Exhaust Fluid

1.3. Details of the supplier of the safety data sheet

Certified DEF, LLC
50 W. Forest St.
Suite 204
Brigham City UT, 84302 T (435) 723-5225
www.certifieddef.com

1.4. Emergency telephone number

Emergency number : 800-424-9300
CHEMTREC

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not Classified

2.2. Label elements

GHS-US labelling : None

Signal word (GHS-US) : None

Hazard statements (GHS-US)

Precautionary statements (GHS-US) : None

2.3. Other hazards

No additional information available : None

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixture

Name	Product identifier	% by weight	GHS-US classification
Urea	(CAS No.) 57-13-6	31 - 70 31 - 34	Not Classified
Water	(CAS No.) 7732-18-5	66 - 69	Not Classified

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : If medical advice is needed, have product container or label at hand.
- First-aid measures after inhalation : If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.
- First-aid measures after skin contact : Wash skin thoroughly with mild soap and water. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Obtain medical attention if irritation develops or persists.
- First-aid measures after ingestion : If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Irritation to eyes, skin and respiratory tract.
- : Under conditions of use, no symptoms/injuries are expected to present a significant hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Not flammable. Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Under conditions of fire this material may produce: Ammonia. Nitrogen oxides. Carbon Dioxide.
Explosion hazard : Avoid contact with strong oxidizers (chlorine, peroxide, chromates, nitric acid, perchlorates, concentrated oxygen, and permanganates) which can generate heat, fire or explosions or release toxic fumes.
Reactivity : Stable at ambient temperature and under normal conditions of use.

5.3. Advice for firefighters

- Firefighting instructions : Not flammable.
Protection during firefighting : Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).
Other information : Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Handle in accordance with good industrial hygiene and safety practice.
Caution : this product can cause the floor to be very slippery.

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Wear suitable protective clothing, gloves and eye/face protection.
Emergency procedures : If possible, stop the flow of product. Ventilate area.

6.2. Environmental precautions

If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300. In other countries call CHEMTREC at (International code) +1-703-527-3887.

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6.3. Methods and material for containment and cleaning up

- Methods for cleaning up
- : Large Spills: Clean up any spills as soon as possible, using an inert absorbent to collect it. Collected absorbent material should be stored away from other materials and disposed of.
 - : Minor Spills: Mop up DEF and wash down with excess water. Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling
- : Handle in accordance with good industrial hygiene and safety procedures. Avoid contact with skin and eyes. Avoid breathing mist.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions
- : Store tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Protect from physical damage. This material is vented instorage. Avoid direct sunlight.
- Special rules on packaging
- : Avoid containers, piping or fittings made of brass, bronze, or other copper-bearing alloys or galvanized metal.

7.3. Specific end use(s)

Industrial Use/Diesel Exhaust Fluid

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No exposure limits were found.

8.2. Exposure controls

- Appropriate engineering controls
- : Ensure adequate ventilation, especially in confined areas.
- Personal protective equipment
- : Gloves. Safety glasses. Protective clothing.



- Hand protection
- : Impermeable protective gloves.
- Eye protection
- : Chemical safety goggles or face shield. Do not wear contact lenses.

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Skin and body protection	: Wear suitable protective clothing. Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice.
Respiratory protection	: Not required under normal conditions of use. Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits.
Environmental exposure controls	: Ensure adequate ventilation, especially in confined areas.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear
Colour	: Colorless
Odour	: Slight ammonia
Odour threshold	: No data available
pH	: 10 (approximately)
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: 11.3°F (-11.5°C)
Boiling point	: 106 °C (223 °F)
Flash point	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure at 20°C	: No data available
Relative vapour density at 20 °C	: 0.79
Specific Gravity	: 1.09
Density	: 9.09 lb/gal
Solubility	: Water: Miscible
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

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9.2. Other information

Salt Out Temperature
32.5% AT -11.5°C (11.3 °F)

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable at ambient temperature and under normal conditions of use.

10.2. Chemical stability

Stable at standard temperature and pressure.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Protect from moisture. Keep away from heat. Evaporation residue should not be heated above its melting point, 106 °C (223 °F). Decomposes to hazardous products.

10.5. Incompatible materials

Avoid contact with strong oxidizers (chlorine, peroxide, chromates, nitric acid, perchlorates, concentrated oxygen, and permanganates) which can generate heat, fire or explosions or release toxic fumes.

10.6. Hazardous decomposition products

Under conditions of fire this material may produce: Ammonia. Nitrogen oxides. Carbon Dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Urea (57-13-6)	
LD50 oral rat	8471 mg/kg

Skin corrosion/irritation : Not Classified
pH: 10

Serious eye damage/irritation : Not Classified
pH: 10

Respiratory or skin sensitisation : Not classified

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Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	EPA Ecological Toxicity rating :	
	Acute Toxicity to Fish:	96 -h : (<i>Barillius barna</i>) LC ₅₀ (96 hr) > 9,100 mg/L.
	Chronic Toxicity to Fish:	No data available
	Acute Toxicity to Aquatic Invertebrates:	(<i>Daphnia magna</i>): 24 - h EC ₅₀ = > 10,000 mg/L . [DIN 38412 Part II modified]
	Chronic Toxicity to Aquatic Invertebrates:	No data available
	Acute Toxicity to Aquatic Plants:	(<i>Scenadesmus quadricauda</i>) 192-hr cell multiplication inhibition test- TT > 10,000 mg/L. [Call multiplication inhibitor test]
	Toxicity to Other Non-Mammalian Terrestrial Species:	(Pigeon)-Subcutaneous-LDL ₀ =16,000 mg/kg.
	Toxicity to Terrestrial Plants:	No data available
Environmental Fate:	Stability in Water:	T _{1/2} > 1 year. Since Urea is a fertilizer, it may promote eutrophication in waterways. Non-toxic to aquatic organisms as defined by USEPA.
	Stability in Soil:	(Glycine max (L.) Merr.: Leaf tip necrosis [7 day exposure to 9 mg urea/leaf]
	Transport and Distribution:	Transport: 0.16% in air; 99.84% in water [Calculated fugacity Level 1 type]
Toxicity:	No known toxicity	
Degradation Products:	Biodegradation:	Ultimately biodegradable. [OECD Guideline 302B]
	Photodegradation:	No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : DEF is a non-hazardous liquid waste and should be solidified using an inert absorbent at an industrial waste landfill.

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Additional information : Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: Transport information

In accordance with DOT / TDG / ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

CDEF Diesel Exhaust Fluid	
SARA Section 311/312 Hazard Classes	Urea. No hazards resulting from the material is supplied.
SARA Section 302 Threshold Planning Quantity (TPQ) - No extremely hazardous substances are in this product.	
Listed on the United States TSCA (Toxic Substances Control Act) inventory.	
RQ (reportable quantity, section 304 of EPA's List of Lists) - None. This material is not classified as hazardous under U.S. EPA regulations.	
Urea (57-13-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Sara Section 311/312 Hazard Classes

Immediate (acute) health hazard

15.2. US State regulations

The following states have an OSH program approved by OSHA. If you are located in any of these states you may be under state jurisdiction rather than federal jurisdiction and your state may have more stringent requirements than OSHA. You should consult your state regulations to ensure compliance.

Alaska	Indiana	Minnesota	North Carolina	Utah
Arizona	Iowa	Nevada	Oregon	Vermont
California	Kentucky	New Mexico	Puerto Rico	*Virgin Islands
*Connecticut	Maryland	*New Jersey	South Carolina	Virginia
Hawaii	Michigan	*New York	Tennessee	Washington
*Illinois				Wyoming

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*The state plans in these states apply only to public sector employers. In these states private sector employers are subject to USOL – OSHA jurisdiction. All other state plans apply to both public and private sector employers.

Urea (57-13-6)
U.S. - Minnesota - Hazardous Substance List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

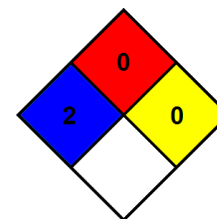
15.3. Canadian regulations

Urea (57-13-6)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

SECTION 16: Other information

- NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
- NFPA fire hazard : 0 - Materials that will not burn.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health	1 Slight Hazard - Irritation or minor reversible injury possible
Flammability	0 Minimal Hazard - Materials that will not burn
Physical	0 Minimal Hazard - Will not react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
Personal Protection	B - Safety glasses, gloves

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