

Safety Data Sheet



Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **DEF (Diesel Exhaust Fluid)**

Synonyms • Urea, Aqueous Solution

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

Relevant identified use(s) • Air Pollution Control

1.3 Details of the supplier of the safety data sheet

Manufacturer • DEF Products LLC
P.O. Box 278
Imperial, CA 92251
United States
www.defproducts.com
defproducts@gmail.com

Telephone (General) • 760-355-7997 - Office

1.4 Emergency telephone number

• 1-800-424-9300 - CHEMTREC (For Health Emergencies, Contact Your Local Poison Center)

Section 2: Hazards Identification

EU/EEC

According to EU Directive 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Not classified

DSD/DPD • Not classified

2.2 Label Elements

CLP

Hazard statements • No label element(s) specifically required

DSD/DPD

Risk phrases • No label element(s) specifically required

2.3 Other Hazards

CLP • According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

DSD/DPD • According to European Directive 1999/45/EC this preparation is not considered dangerous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 • Eye Mild Irritation 2B - H320

2.2 Label elements

OSHA HCS 2012

WARNING

Hazard statements • Causes eye irritation - H320

Precautionary statements

Prevention • Wash thoroughly after handling. - P264

Response • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
If eye irritation persists: Get medical advice/attention. - P337+P313

2.3 Other hazards

OSHA HCS 2012 • No data available

Canada

According to WHMIS

2.1 Classification of the substance or mixture

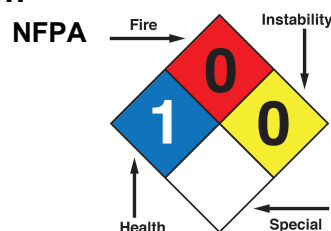
WHMIS • Not classified

2.2 Label elements

WHMIS • No label element(s) specifically required

2.3 Other hazards

WHMIS • In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

2.4 Other information

See Section 12 for Ecological Information.

Section 3 - Composition/Information on Ingredients

3.1 Substances

Hazardous Components					
Chemical Name	Identifiers	%(weight)	LD50/LC50	Classifications According to Regulation/Directive	Comments
Urea	CAS:57-13-6 EINECS:200-315-5	32% TO 33%	Ingestion/Oral-Rat LD50 • 8471 mg/kg	EU DSD/DPD: Classification criteria not met EU CLP: Classification criteria not met OSHA HCS 2012: Eye Irrit. 2B	NDA

3.2 Mixtures

- Material does not meet the criteria of a mixture in accordance with Regulation (EC) No 1272/2008.

See Section 11 for Toxicological Information.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Under normal conditions of use, no health effects are expected. If signs/symptoms develop, move person to fresh air. Give artificial respiration if victim is not breathing. If irritation develops and persists, get medical attention.

Skin

- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Wash skin with soap and water.

Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If easy to do, remove contact lenses, if worn.

Ingestion

- Do NOT induce vomiting. Rinse mouth. Do not give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media

- This product is not flammable. In case of fire use media as appropriate for surrounding fire.

Unsuitable Extinguishing Media

- No data available.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- Closed containers exposed to extreme heat can rupture due to pressure buildup.

Hazardous Combustion Products

- If involved in a fire, oxides of carbon and nitrogen may be generated; exposure to heat may generate ammonia fumes.

5.3 Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Wear suitable protective clothing, gloves, and eye/face protection.

Emergency Procedures

- Stop leak if you can do it without risk. Keep unauthorized personnel away. Use normal clean up procedures.

6.2 Environmental precautions

- None expected to be necessary if material is used under ordinary conditions and as recommended.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Keep out of reach of children. May be corrosive to metals. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Use good safety and industrial hygiene practices. Do not take internally.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Store in a well-ventilated place. Keep container tightly closed. Ventilate enclosed areas. Do not store at temperatures below 40°F.

Special Packaging Materials

- Store only in approved containers.

Incompatible Materials or Ignition Sources

- Keep away from heat and strong oxidizers.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

8.2 Exposure controls

Engineering Measures/Controls

- No applicable exposure limits available for product or components.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses).

Skin/Body

- Wear appropriate gloves.

General Industrial Hygiene

- Do not get in eyes or on skin or clothing. Handle in accordance with good industrial

Considerations

hygiene and safety practice.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Colorless liquid with no odor to a slight ammonia odor.
Color	Colorless	Odor	None to slight ammonia.
Odor Threshold	Data lacking		
General Properties			
Boiling Point	> 212 F(> 100 C)	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	7.5 to 9.5
Specific Gravity/Relative Density	1.09 Water=1	Bulk Density	9.09 lbs/gal
Water Solubility	100 %	Viscosity	Data lacking
Explosive Properties	Not relevant.	Oxidizing Properties:	Not relevant.
Volatility			
Vapor Pressure	Data lacking	Vapor Density	0.6 Air=1
Evaporation Rate	< 1 n-Butyl Acetate = 1		
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Heat of Combustion (ΔH_c)	Data lacking
Autoignition	Not relevant	Flammability (solid, gas)	Not relevant.
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- None known.

10.5 Incompatible materials

- Avoid contact with strong oxidizing agents such as chlorine (bleach), peroxides, chromates, nitric acid, perchlorates, concentrated oxygen or permanganates. Contact can generate heat, fires, explosions and release toxic fumes.

10.6 Hazardous decomposition products

- If involved in a fire, oxides of carbon and nitrogen may be generated; exposure to heat may generate ammonia fumes.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Component Name	CAS	Data
Urea (32% TO 33%)	57-13-6	Acute Toxicity: orl-rat LD50:8471 mg/kg; Irritation: skn-hmn 22 mg/3D-I MLD; Tumorigen/Carcinogen: orl-rat TDLo:821 gm/kg/1Y-C
GHS Properties		Classification
Acute toxicity		EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard		EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Carcinogenicity		EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity		EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation		EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin sensitization		EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-RE		EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-SE		EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction		EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization		EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation		EU/CLP • Classification criteria not met OSHA HCS 2012 • Eye Mild Irritation 2B

Route(s) of entry/exposure

- Skin, Eye

Potential Health Effects

Inhalation

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- None known.

Skin

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- None known.

Eye

Acute (Immediate)

- May cause mild irritation.

Chronic (Delayed)

- None known.

Ingestion**Acute (Immediate)**

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- None known.

Key to abbreviations

TD = Toxic Dose

MLD = Mild

LD = Lethal Dose

Section 12 - Ecological Information**12.1 Toxicity**

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations**13.1 Waste treatment methods****Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user • None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute

State Right To Know				
Component	CAS	MA	NJ	PA
Water	NDA	No	No	No
Urea	57-13-6	No	No	No

Inventory						
Component	CAS	Canada DSL	Canada NDSL	EU EINECS	EU ELNICS	TSCA
Water	NDA	No	No	No	No	No
Urea	57-13-6	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

- Urea 57-13-6 32% TO 33% Uncontrolled product according to WHMIS classification criteria
- Water 7732-18-5 67% TO 68% Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

Environment

Canada - CEPA - Priority Substances List

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

United States

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

United States - California**Environment****U.S. - California - Proposition 65 - Carcinogens List**

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

United States - Pennsylvania**Labor****U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List**

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

United States - Rhode Island**Labor****U.S. - Rhode Island - Hazardous Substance List**

- Urea 57-13-6 32% TO 33% Not Listed
- Water 7732-18-5 67% TO 68% Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date	• 16/January/2013
Preparation Date	• 21/December/2012
Disclaimer/Statement of Liability	• To the best of DEF Product's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.
