

SAFETY DATA SHEET

Product Name: Quality DEF Solutions EXHAUST FLUID (DEF)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Diesel Exhaust Fluid (DEF)
Generic Name: Urea, Aqueous Solution
Chemical Family: Organic Salt Solution
Responsible Party: Quality DEF Solutions
471 South Hwy 16
San Saba, Texas 76877

Information telephone # 325.372.1255

EMERGENCY OVERVIEW

24 Hour Emergency: Poison Control System
Cont. US: (800) 222-1222
Outside US: (415) 821-5338

Health Hazards: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Physical Hazards: None Anticipated

Physical Form: Liquid

Appearance: Colorless, clear

Odor: None to slight ammonia

Hazard Rating NFPA 704M / HMIS:

Health: 1 / 1

Flammability: 0 / 0

Reactivity: 0 / 0

Other: 0/

0 = Insignificant, 1= Slight, 2 = Moderate, 3 = High, 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS No hazardous components identified per 29 CFR 1910.1200.

Material	CAS #	% Weight	STEL	TWA
Urea	57-13-6	32-33	Not Established	10 mg/m3 (AIHA WEEL)
Water	7732-18-5	67-68	N/A	N/A

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

3. HAZARDS IDENTIFICATION - POTENTIAL HEALTH EFFECTS

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness and burning. No harmful effects from skin absorption have been reported.

Inhalation (Breathing): No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Ingestion (Swallowing): No harmful effects reported from ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the nose, throat and digestive tract, headaches, coughing, nausea, vomiting, and transient disorientation.

Cancer: Inadequate evidence available to evaluate the cancer hazard of this material.

Target Organs: No data available.

Developmental: Inadequate evidence available for this material.

Pre-Existing Medical Conditions: None known.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): If respiratory develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

5. FIRE FIGHTING MEASURES

Flammable Properties:

- Flash Point: None to boiling
- OSHA Flammability Class: Not applicable
- LEL/UEL: No data
- Autoignition Temperature: No data

Unusual Fire & Explosion Hazards: Closed containers exposed to extreme heat can rupture due to pressure buildup.

Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk.

6. ACCIDENTAL RELEASE MEASURES

Stop the source of the release if it can be done without risk. Immediately isolate the hazard area and restrict access to authorized personnel only. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8). To prevent spilled material from entering sewers, storm drains or natural watercourses, contain material with a dike or with appropriate absorbent materials such as sand, clay, soil or commercially available absorbent. Place reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to Section 12 for appropriate disposal.

7. HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 2 and 8). Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Use good personal hygiene practice.

Storage: Keep container(s) tightly closed. Do not heat or contact with strong oxidizers. Use and store this material in cool, dry, well-ventilated areas. Do not store at temperatures below 40°F. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: If current ventilation practices are not adequate to minimize exposure, additional ventilation or exhaust systems may be required.

Personal Protective Equipment (PPE):

Respiratory: Respiratory protection is not usually required. If significant spray or mist occurs, wear a NIOSH approved or equivalent dust respirator.

Skin: The use of gloves impermeable to the specific material handled is advised to prevent skin contact, possible irritation, and absorption (see glove manufacturer for information on permeability)

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Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

	32.50%	40% Flash
Point:	None to boiling	None to
Flammable/Explosive Limits:	Not Applicable	Not Applicable
Autoignition Temperature:	Not Applicable	Not Applicable
Appearance:	Colorless, Clear	Colorless, Clear
Physical State:	Liquid	Liquid
Odor:	None to slight ammonia	None to slight
pH:	7.5 - 9.5	7.5 - 9.5
Vapor Pressure (mm Hg):	Not Applicable	Not Applicable
Vapor Density (air=1):	0.6 H ₂ O, >1	0.6 H ₂ O, >1
Aerosol Boiling Point:	>212°F	>212°F
Crystallization Point:	12°F	35°F Solubility
in Water:	100%	100%
Specific Gravity (nBuAc=1):	1.09	1.11 Bulk
Density:	9.09 lb/gal	9.28
lb/gal		

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of storage and handling.

Conditions To Avoid: None known

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.

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

Hazardous Polymerization: Will not occur.

DIESEL EXHAUST FLUID SPECIFICATION

Meets Cummins OEM specifications as outlined in Cummins Bulletin 4021566, ISO 22241-1

German Institute of Standardization DIN 70700 and AUS 32 industry standards as follows;

- (a) Urea 31.8 / 33.3% by weight
- (b) Alkalinity as NH₃ < 0.2% by weight
- (c) Carbonate as CO₂ < 0.2%
- (d) Biuret < 0.3%
- (e) Insolubles < 20 mg/kg
- (f) Formaldehyde < 10 mg/kg
- (g) Phosphate (PO₄) < 0.5 mg/kg
- (h) Calcium < 0.5 mg/kg
- (i) Iron < 0.5 mg/kg
- (j) Copper < 0.2 mg/kg
- (k) Zinc < 0.2 mg/kg
- (l) Chromium < 0.2 mg/kg
- (m) Nickel < 0.2 mg/kg
- (n) Magnesium < 0.5 mg/kg
- (o) Sodium < 0.5 mg/kg
- (p) Potassium < 0.5 mg/kg
- (q) Density at 20°C 1.0870 / 1.0920 g/cm³
- (r) Refractive index at 20°C 1.3817 / 1.3840 (-)

11. TOXICOLOGICAL INFORMATION

No definitive information available on carcinogenicity, mutagenicity, target organs or developmental toxicity.

12. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, is not a RCRA "listed" or "characteristic" hazardous waste. Use resulting in chemical or physical change or contamination may subject it to regulation as a hazardous waste. Along with properly characterizing all waste materials consult state and local regulations regarding the proper disposal of this material.

Disposal: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D. As a non-hazardous liquid waste, it should be solidified with stabilizing agents such as sand, fly ash, or clay absorbent, so that no free liquid remains before disposal to an industrial waste landfill.

13. TRANSPORT INFORMATION

Hazard Class or Division: Not classified as hazardous

14. REGULATORY INFORMATION

This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

--None--

Warning: This material contains the following chemicals which are known to cause cancer, birth defects or other reproductive harm.

--None Known--

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. EPA

{CERCLA} Reportable Quantity: --None--

15. DOCUMENTARY INFORMATION

Issue Date: 10/08/01

16. DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

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