Safety Data Sheet · OSHA HCS 2024

Diesel Exhaust Fluid (DEF) - 55 Gallon Drum

32.5

Standard	Revised	Emergency
OSHA HCS 2024 · GHS Rev. 7	2026-11-24	Chemtel 1-800-255-3924 (24/7)

1 Identification

Product Identifier	Diesel Exhaust Fluid (DEF) - 55 Gallon Drum
Concentration	32.5
CAS Number	57-13-6
Chemical Formula	CH4N2O (urea), 32.5 % w/w in H2O
Manufacturer	Alliance Chemical 204 South Edmond Street, Taylor, TX 76574
Emergency Phone	Chemtel 1-800-255-3924 (24/7)
Synonyms	DEF; AUS 32; aqueous urea solution 32.5 %; urea solution
Recommended Use	NOx reduction in selective catalytic reduction (SCR) systems of diesel engines: trucks, buses, farm, construction and mining equipment, generators.
Restrictions on Use	Use only through clean, dedicated DEF equipment; contamination can damage SCR systems. Do not dilute or add anything to it.

2 Hazard Identification

Signal Word	No data available
Hazard Statements	No data available
Precautionary Statements	No data available

3 Composition / Information on Ingredients

Component	CAS No.	Formula	Concentration
Water	7732-18-5	H2O	67.5% (w/w)
Urea	57-13-6	CH4N2O	32.5% (w/w)

Concentrations are nominal; lot-specific values appear on the Certificate of Analysis. Components not contributing to classification are omitted.

4 First-Aid Measures

Eyes	Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with soap. Get medical attention immediately.
Inhalation	Move person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.
Most Important Symptoms and Effects	No specific symptoms are expected from the hazards identified in Section 2.
Immediate Medical Attention and Special Treatment	Treat symptomatically. Get medical attention if symptoms develop or persist.

5 Fire-Fighting Measures

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical, or CO2. Use measures appropriate to local circumstances.
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire.
Specific Hazards Arising from the Chemical	Containers may rupture when heated.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Hazardous Combustion Products	Ammonia when heated; carbon monoxide and carbon dioxide in a fire.

6 Accidental Release Measures

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental Precautions	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7 Handling and Storage

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.
Specific Storage Precautions	Keep in the original sealed container in a cool, well-ventilated place out of direct sunlight, ideally between −5 °C and 30 °C (23–86 °F). Keep closed when not in use.

8 Exposure Controls / Personal Protection

Occupational Exposure Limits

No established occupational exposure limits.

Engineering Controls	Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.
Eye/Face Protection	Wear chemical safety goggles or face shield.
Skin Protection	Wear chemical-resistant gloves and protective clothing.
Respiratory Protection	Use NIOSH-approved respirator if exposure limits are exceeded or irritation occurs.

9 Physical & Chemical Properties

Appearance	Clear, colorless liquid
Odor	Slight ammonia odor
Odor Threshold	No data available
pH	9–10
Melting Point / Freezing Point	Freezes at −11 °C (12 °F)
Boiling Point	Above 100 °C (212 °F)
Flash Point	Not flammable (aqueous solution)
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Upper/Lower Flammability or Explosive Limits	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	1.09 (water = 1)
Solubility	Miscible with water
Partition Coefficient (n-octanol/water)	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Particle Characteristics	Not applicable
Form	Liquid

Values shown reflect product-specific canonical data. Lot-specific ranges may vary; see the Certificate of Analysis for the shipped lot.

10 Stability and Reactivity

Reactivity	Not reactive under normal conditions of use and storage.
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Direct sunlight, heat and temperatures above 30 °C (86 °F), which slowly break urea down to ammonia; freezing below −11 °C (12 °F).
Incompatible Materials	Strong acids, strong bases and oxidizing agents (peroxides, chromates, dichromates).
Hazardous Decomposition Products	Ammonia when heated; carbon monoxide and carbon dioxide in a fire.

11 Toxicological Information

See below for route-specific acute toxicity data.

Likely Routes of Exposure	Inhalation, skin contact, eye contact, ingestion.
Symptoms	No specific symptoms are expected from the hazards identified in Section 2.
Delayed and Chronic Effects	No delayed or chronic effects identified beyond the classification in Section 2.

Route	Value
LD50 Oral	8,471 mg/kg (rat, urea)

Carcinogen Classification

Agency	Status
IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12 Ecological Information

Ecotoxicity	Data not available. Avoid release to the environment.
Persistence & Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available

13 Disposal Considerations

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

EPA RCRA Waste Codes	Not a P- or U-listed waste and not a characteristic hazardous waste. The generator makes the final determination.

14 Transport Information

Not regulated for transport under US DOT 49 CFR Subchapter C, IMDG, or IATA DGR.

15 Regulatory Information

Inventory / List	Status
California Proposition 65	Not listed
US EPA TSCA Active Inventory	Listed
EPCRA SARA 313 (TRI)	Not listed
CERCLA Reportable Quantity (RQ)	Not a CERCLA hazardous substance (no RQ) and not an EPCRA Section 313 chemical.

SARA 311/312 hazard categories correspond to the GHS classification in Section 2. Data retrieved as of: California Proposition 65 2026-11-02; US EPA TSCA Active Inventory 2026-11-02; EPCRA SARA 313 (TRI) 2026-11-02.

16 Other Information

Revision Date	2026-11-24
Format	16-section format per OSHA HCS 2024 (29 CFR 1910.1200, Appendix D), aligned with GHS Rev. 7.

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