

MATERIAL SAFETY DATA SHEET



MFA OIL Company
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Section 1. Chemical Product and Company Identification

Product Name	DEFense™
Supplier	MidContinental Chemical Company, Inc. 1802 East 123 rd Terrace Olathe, Kansas 66061-5876 USA (913) 390-5556
Material Uses	Diesel Exhaust Fluid
24 Hour Emergency Numbers:	ChemTrec (800) 424-9300 (U.S. 24 Hour)
National Fire Protection Association (U.S.A.)	<p>Health 1 0 Reactivity 1 Special Hazard</p>

Synonyms: Urea Solution 32.5%

Section 2. Composition and Information on Ingredients

Name	CAS #	EC #	% by Weight
Water	7732-18-5	231-791-2	67.5
Urea	57-13-6	200-315-5	32.5

Section 3. Hazard Identification

Potential Health Effects

Eye: May cause slight eye irritation.

Skin: May cause slight skin irritations.

Section 4. First Aid Measures

Skin Contact: Avoid prolonged or repeated contact with skin. After handling, always wash hands thoroughly with soap and water. Get medical attention if irritation develops.

Eye Contact: In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs.

Ingestion: If large quantities of this material are swallowed, call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Section 5. Fire Fighting Measures

Extinguishing Media: In case of fire, use water spray (fog), foam, dry chemical or CO₂

Hazardous thermal decomposition products: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂, etc.), ammonia (NH₃).

Fire Fighting Protective Equipment: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental Release Measures

Personal precautions: Follow all fire-fighting procedures (section 5).

Environmental precautions and clean-up methods: Avoid contact of spilled material and runoff with soil and water courses.

Absorb with DRY sand or other non-combustible material. Use a tool to scoop up solid or absorbed material and place into appropriate labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Keep out of waterways. See section 13 for waste disposal information.

Section 7. Handling and Storage

Handling: Avoid contact with eyes, skin and clothing. Ensure that eyewash stations and safety showers are close to the workstation location.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Keep away from heat and direct sunlight.

Packing materials recommended: Use original container.

Section 8. Exposure Controls/Personal Protection

Exposure Controls

Respiratory Protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand Protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

>8 hours (breakthrough time) : butyl rubber, natural rubber (latex), nitrile rubber

Eye Protection: Recommended: Chemical splash goggles or face shield.

Skin Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure eyewash and washdown facilities are located close to the working environment.

Section 9. Physical and Chemical Properties

These properties are the most relevant and no other properties are available. For specific physical properties of individual grades, please refer to technical literature and/or product specifications.

Form	Liquid clear
Odor	Ammoniacal (Slight)
pH	9.8 to 10 (Conc. (% w/w): 10%)
Boiling Point	Decomposition temperature: 100C (212F)
Melting/Freezing Point	-11.5 C (11.3 F)
Flash Point (Deg C)	None
Vapor Pressure (mm Hg)	6.4 kPa (48 mm Hg) (at 40C)
Density	1.09 g/ml (20C/ 68F)
Miscible in water	Yes

Section 10. Stability and Reactivity

Stability: Stable under recommended storage and handling conditions (see section 7)

Conditions to Avoid: Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride.

Materials to Avoid: Highly reactive or incompatible with the following materials: oxidizing materials, acids, and alkalis.

Hazardous Decomposition Products: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂, etc.), ammonia (NH₃).

Section 11. Toxicological Information

Potential acute health effects

Adverse health effects are considered unlikely, when the product is used according to directions.

Chronic effects: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation: No specific data.

Ingestion: No specific data.

Skin: No specific data.

Eyes: No specific data.

Section 12. Ecological Information

Environmental effects: Readily biodegradable. This product does not show any bioaccumulation phenomena.

Mobility: Soluble in water

Other adverse effects: No known significant effects or critical hazards.

Section 13. Disposal Considerations

Methods of disposal: Empty containers or liners may retain some product residues. Do not empty into drains; dispose of this material and its container in a safe way. Dispose of in accordance with all applicable local and national regulations.

Hazardous waste: Within the present knowledge of the supplier, this product is not regulated as hazardous waste, as defined by EU Directive 91/689/EEC..

Section 14. Transportation Information

Not Regulated

Not classified as hazardous material according to UN Orange Book and international transport codes e.g. ADR (road), RID (rail), AND (inland waterways) and IMDG (sea).

Section 15. Regulatory Information

US FEDERAL REGULATIONS

OSHA Classification This product is not classified as a "Hazardous Chemical" by definition of Hazard Communication Standard (29 CFR 1910.1200)

Carcinogen Status This product is not classified as a carcinogen by IARC, NTP or OSHA.

TSCA Inventory Status Yes

SARA Regulations: Sections 313 and 40 CFR 372: This product is not subject to reporting requirements.

Hazard Categories SARA SECTIONS 311/312 (40CFR370.21):

ACUTE: N

CHRONIC: N

FIRE: N

REACTIVE: N

SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

Ozone Protection and 40 CFR 42: This product does not contain nor is it manufactured with ozone depleting substances.

Canadian Regulations This product has been classified in accordance with the hazard criteria of the CPR

(Controlled Products Regulations) and this MSDS (Material Safety Data Sheet) contains all the information required by the CPR.

Controlled Products Regulations (WHMIS) Classification: Not regulated.

CEPA / Canadian Domestic Substances List (DSL): The substances in this product are on the Canadian Domestic Substances List (CEPA DSL).

EU Regulations

Risk phrases: This product is not classified according to EU legislation. Classification and labeling have been performed according to EU directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use.

Inventory Status United States, Australia, Canada, China, EU, Korea, Philippines

Section 16. Other Information

GLOSSARY

ACGIH - American Conference of Governmental Industrial Hygienists

CAS - Chemical Abstracts Service Registry Number

CFR - Code of Federal Regulations

COM - The company aims to control exposure in its workplace to this limit

DOT - Department of Transportation

EINECS - European Inventory of Existing Commercial Chemical Substances

OSHA - Occupational Safety & Health Administration

SARA - Superfund Amendments and Reauthorization Act of the U.S. EPA

TDG - Transportation of Dangerous Goods Act/Regulations

TLV - Threshold Limit Value

TSCA - Toxic Substances Control Act

TWA - Time-Weighted Average

MidContinental Chemical Disclaimer

NOTE: The information on this MSDS is based on data which is considered to be accurate. MidContinental Chemical Company, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the products are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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