

MATERIAL SAFETY DATA SHEET - MSDS

1. DF-FREE™ SAFETY DATA SHEET

Product Name:	DF-FREE
Chemical Characterization:	Proprietary Blend containing Surfactant and Emulsifier
Physical State:	Liquid
Odor:	Hydrocarbons Odor
Color:	Brown
Solubility in Water:	Slightly

2. HAZARDS IDENTIFICATION

- **Emergency Overview:**
 - Warning! Combustible liquid and vapor.
 - May cause severe eye irritation.
 - May cause skin and respiratory tract irritation.
 - May be harmful if absorbed through skin.
 - Vapors or mists may cause central nervous system (CNS) effects if inhaled.
- **Potential Health Effects:**
 - **Eye Contact:** May cause severe eye irritation.
 - **Skin Contact:** May be irritating to the skin. Harmful if absorbed through the skin. May cause skin defatting
 - **Inhalation:** Vapors or mists may be irritating to the respiratory tract. May cause central nervous system (CNS) effects.
 - **Ingestion:** May cause gastric distress, nausea and vomiting if ingested. Aspiration can be a hazard if this material is swallowed.
- **Fire or explosion:**
 - Requires a source of ignition, presence of air, and temperature greater than the flash point. Vapor can travel to a source of ignition for a possible fire, flash back or sparks.
- **Further hazards:**
 - May create vapor/air explosion hazard indoors and in confined areas with sufficient pressure and ignition source. Containers may explode in the heat of fire if not properly cooled.

3. TOXICITY

- **Acute toxicity :**
 - Acute dermal LD50 (rabbits): > 5 ml/kg
 - Acute oral LD50 (rats): 9 ml/kg
- Primary dermal irritation: non-irritating (rabbits)
- Eye irritation: irritating (rabbits)
- US NTP Acute Toxicity Studies : No NTP Studies
- Mutagenicity: No evidence of mutagenic potential on humans.
- Carcinogenicity : Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA
- Local effects: Excessive inhalation may cause minor respiratory irritation, headache.
- Harmful if swallowed.

4. FIRST AID MEASURES

- **GENERAL:** Persons seeking medical attention should carry a copy of this MSDS with them.
- **Eye Contact:** Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
- **Skin Contact:** Wash skin thoroughly with soap and water. Remove contaminated clothing and launder

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before reuse. Get medical attention if any discomfort continues.

- **Inhalation:** Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- **Ingestion:** Do not induce vomiting. Dilute with 2 - 3 glasses of water or milk, if conscious. Never give anything by mouth to an unconscious person. Get immediate medical attention.
- **Notes to Physician:** Aspiration may cause severe lung damage. Evacuate stomach in a way which avoids aspiration.

5. FIRE AND EXPLOSION DATA

- **Flammable Properties :**
 - **Flash Point:** F (C): 100F (38C)
 - **Flash Point Method:** PMCC
 - **Flammable Limits in Air - Lower (%):** Not Determined
 - **Flammable Limits in Air - Upper (%):** Not Determined
 - **Auto ignition Temperature:** F(C) Not Determined
 - **Flammability Class:** II
 - **Other Flammable Properties:** Not determined.
 - **Extinguishing Media:** Water fog, carbon dioxide, foam, dry chemical.
- **Protection of Fire-Fighters:**
Special Fire-Fighting Procedures:
 - Do not enter fire area without proper personal protective equipment, including NIOSH/MSHA approved self-contained breathing apparatus.
 - Evacuate area and fight fire from a safe distance.
 - Water spray may be used to keep fire-exposed containers cool.
 - Keep water run off out of sewers and waterways.
 - Note that flammable vapors may form an ignitable mixture with air.
 - Vapors may travel considerable distances and flash back if ignited.
- **Hazardous Combustion Products:** Oxides of: Carbon. Nitrogen.

6. ACCIDENTAL RELEASE MEASURES

- **Engineering Controls:**
Local exhaust ventilation as necessary to maintain exposures to within applicable limits.
- **Personal Protection Equipment:**
 - **Eye/Face Protection:** Wear chemical safety goggles.
 - **Skin Protection:** Wear appropriate clothing to prevent repeated or prolonged skin contact. Wear chemical resistant gloves such as nitrile or neoprene.
- **Respiratory Protection:** If exposed to particulates/aerosols:
 - Use at least a NIOSH-approved N95 half-mask disposable particulate respirator.
 - In work environments containing oil mist/aerosol use at least a NIOSH-approved P95 half-mask disposable or reusable particulate respirator.
 - If exposed to organic vapors: Use a NIOSH/MSHA-approved organic vapor respirator. CCROV: CCR with organic vapor cartridge.
- **Protection recommendations :** General Hygiene
- **Considerations:**
 - Work clothes should be washed separately at the end of each work day.
 - Disposable clothing should be discarded, if contaminated with product.

7. HANDLING AND STORAGE

- **Handling:**
 - Handle as a combustible liquid.

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- Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area.
- Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.
- Avoid contact with skin and eyes.
- **Storage:**
 - Keep container tightly closed and in a cool place (below 45 OC).
 - Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled.
 - Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition. Store in a well-ventilated area.
 - Avoid storage near incompatible materials.
- **Incompatible products :**
 - Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Keep away from strong oxidizers and reducing agents.
- **Packaging:**
 - Product should be stored in the original packaging. Protect from temperature above 45OC. Packed material must be protected against exceeding the indicated temp.
- **Storage Life:**
 - Physically and chemically stable for 24 months when stored in the original unopened sales container at ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Personal protective equipment**
 - **Respiratory protection:**
If handling generates fume levels which cause irritation, or results in personal exposure exceeding the exposure limit, then suitable approved respirator should be used with chemical cartridge for protection against organic vapors. Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.
 - **Hand protection:**
Impermeable gloves (chemically resistant protective gloves) are recommended if extended exposure anticipated.
 - **Eye protection:**
The use of suitable eye goggles and face shield to protect from any injury.
 - **Skin protection:**
Wear impervious clothing including boots, gloves, lab coat, apron or coveralls as appropriate to prevent from any exposure.
- **Other protecting equipment:**
Eyewash fountains and deluge shower should be provided in areas where there is any possibility that the workers could be exposed to the substances.

9. WASTE AND DISPOSAL

- **WASTE MANAGEMENT:**
Care must be considered to prevent the contamination of the environment from the use of this product. It is the user's responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and non-hazardous wastes.
- **Disposal Methods:**
As a non-hazardous waste, must be disposed of in accordance to local and federal regulations.
- **Container Disposal:**

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Recommend crushing, puncturing or other means to prevent unauthorized recycling of used containers.
Dispose of in a licensed landfill.

10. STABILITY AND REACTIVITY

- **Chemical Stability:** Stable
- **Conditions to Avoid:** Keep away from heat, sparks and flame.
- **Materials to Avoid:** Contact with oxidizing agents.
- **Hazardous Decomposition Products:** None known
- **Hazardous Polymerization:** Will not occur

11. SPECIAL RECOMMENDATIONS

- **Other Special Considerations:** The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties. This does not exonerate the user from ensuring that legal obligations, other than those mentioned, relating to the use and storage of the product, do not exist. This is solely the users' responsibility.

