SECTION I - IDENTIFICATION

Trade Name: Defoam - A
Manufacturer’s Name: Delta Drilling Products & Services, LLC
Physical Address: 154 Eastpark Drive
                    Eunice, LA 70535
Emergency Number: 866-457-0064 or 337-457-0064
Product Name(s): Del DeFoam
Chemical Family: Ester alcohol

HMIS Rating
Health: 1          Flammability: 1          Physical Hazard: 0          PPE: J

HMIS Key: 4=Severe, 3=Serious, 2=Moderate, 1=Slight, 0=Minimal Hazard. *Chronic effects – See Section 11.
See Section 8 for Personal Protective Equipment Recommendations.

SECTION II – COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>Wt. %</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ester alcohol</td>
<td>100</td>
<td></td>
<td>No Comments.</td>
</tr>
</tbody>
</table>

SECTION III – HAZARDS IDENTIFICATION

Emergency Overview: Occupational exposure not expected to present a health or physical hazard. Prolonged exposure, however, may cause eye, skin and respiratory irritation.

Canadian Classification: UN PIN No: Not Regulated
WHMIS Class: Not a controlled Product

Physical State: Liquid
Odor: Mild
Color: Colorless.

Potential Health Effects:

ACUTE EFFECTS

Eye Contact: Not expected to irritate eyes. Prolonged contact, however, may cause irritation.

Skin Contact: Not expected to irritate skin. Prolonged contact, however, may cause irritation.

Inhalation: Not expected to be an inhalation hazard. Prolonged inhalation vapors or mists, however, may cause irritation.

Ingestion: May cause gastric distress, nausea and vomiting if ingested.

Carcinogenicity & Chronic: See Section 11 – Toxicological Information

Effects:

Routes of Exposure: Eyes. Dermal (skin) contact. Inhalation.
Target Organs/Medical: None expected from occupational exposure.

SECTION IV - FIRST AID MEASURES

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 before reuse. Get medical attention of 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: Dilute with 2 – 3 glasses of water or milk, if conscious. Never give anything by mouth to a unconscious person. Get medical attention.

General Notes: Persons seeking medical attention should carry a copy of this MSDS with them.

SECTION V - FIRE FIGHTING MEASURES

Flammable Properties
Flash Point: Fº (Cº): 232º F (111º C)
Flash Point Method: PMCC
Flammable Limits in Air – Lower (%): ND
Flammable Limits in Air – Upper (%): ND
Auto ignition Temperature: Fº (Cº): 739º F (393º C) (ASTM D2155)
Flammability Class: IIIB
Other Flammable Properties: NB
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.


SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment identified in Section 8.
Spill Procedures: Evacuate surrounding area, if necessary. Keep personnel removed and upwind of spill. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Shut of leak if it can be done safely. Contained spill material. Absorb in vermiculite, dry sand or earth. Place into containers for disposal.
Environmental Precautions: Do not allow to enter sewer or surface and subsurface waters. Waste must be disposed of in accordance with federal, state and local laws. In the U.S., for products with reportable quantity (RQ) components – if the RQ is exceeded, report to National Spill Response Office at 1-800-424-8802.

SECTION VII - HANDLING AND STORAGE

Handling: Put on appropriate personal protective equipment. Avoid contact with skin and eyes. Avoid breathing vapors or spray mists. Use only in a well ventilated area. Wash hands thoroughly after handling.
Storage: Store in dry, well-ventilated area. Keep container closed. Keep away from heat, sparks and flame. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>Wt. %</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>Other</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ester alcohol</td>
<td>100</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>None</td>
</tr>
</tbody>
</table>
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.
  - A NIOSH/MSHA approved respirator with ammonia/methylamine cartridges should be used to protect against ammonia or amine inhalation exposure.

*General Hygiene Considerations:* Wash promptly with soap and water if skin becomes contaminated. Change work clothing daily if there is any possibility of contamination.

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**SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>pH</td>
<td>ND</td>
</tr>
<tr>
<td>Specific Gravity (H₂O = 1)</td>
<td>0.965 at 68° F (20° C)</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>Slightly</td>
</tr>
<tr>
<td>Flash Point °F (°C)</td>
<td>232° F (111° C)</td>
</tr>
<tr>
<td>Melting/Freezing Point</td>
<td>-58° F (-50° C)</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>491° - 501° F (225° - 260.5° C)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>13.5 mPa.s at 68° F (20° C)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>0.013 mbar at 68° F (20° C)</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>7.5</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>0.002 (n-butyl acetate = 1)</td>
</tr>
<tr>
<td>Odor Threshold(s)</td>
<td>ND</td>
</tr>
</tbody>
</table>

---

**SECTION X - STABILITY AND REACTIVITY**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Stability</td>
<td>Stable</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Keep away from heat, sparks and flame.</td>
</tr>
<tr>
<td>Materials to Avoid</td>
<td>Oxidizers.</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Form thermal decomposition products, see Section 5.</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur</td>
</tr>
</tbody>
</table>

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**SECTION XI - TOXICOLOGICAL INFORMATION**

**Component Toxicological Data:** Any Adverse component toxicological effects are listed below. If no effects are listed, no such data were found.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>Acute Data</th>
</tr>
</thead>
</table>


Ester alcohol
Oral LD50: 6517 (rat); Dermal LD50: > 15 g/kg (rabbit); Inhalation LC50: > 3.55 mg/l/6H (rat)

**Product Toxicological Information:** No toxicological data is available for this product.

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### SECTION XII - ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ester alcohol</td>
<td>LC50 96H: 33 mg/l (fathead minnow) (NOEC 16 mg/l); LC50 96H: &gt; 95 mg/l (sideswimmer); EC50 48H: 147.8 mg/l (daphnid) (NOEC 28.4 mg/l); LC 50 96H: &gt; 95 mg/l (pill bug); LC50 96H: 38 mg/l (flatworm) (NOEC 9.5 mg/l); LC50 96H: 30.4 mg/l (aquatic earthworm) (NOEC 9.5 mg/l)</td>
<td>LC50 96H: &gt; 95 mg/l (pill bug); LC50 96H: 38 mg/l (flatworm) (NOEC 9.5 mg/l); LC50 96H: 30.4 mg/l (aquatic earthworm) (NOEC 9.5 mg/l)</td>
</tr>
<tr>
<td>Product Ecotoxicity Data:</td>
<td>Contact Delta Drilling Products for available product ecotoxicity data.</td>
<td></td>
</tr>
<tr>
<td>Biodegradation:</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>Bioaccumulation:</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>Octanol/Water Partition:</td>
<td>Log P (oct) = 3.47 at 77º F (25º C)</td>
<td></td>
</tr>
</tbody>
</table>

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### SECTION XIII - DISPOSAL CONSIDERATIONS

**Waste Classification:**
This product does not meet the criteria of a hazardous waste if discarded in its purchased form.

**Waste Management:**
Under U.S. Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user to determine at the time of disposal, whether the product meets RCRA criteria for the hazardous waste. This is because product uses, transformations, mixture, processes, etc., may render the resulting material hazardous. Empty containers retain residues. All labeled precautions must be observed.

**Disposal Method:**
Recover and reclaim or recycle, if practical. Should this product become a waste disposal of in a permitted industrial landfill, ensure that the containers are empty by the RCRA criteria prior to disposal in a permitted industrial landfill.

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### SECTION XIV - TRANSPORT INFORMATION

**U.S. DOT Shipping Description:** This product does not meet the criteria of a hazardous waste if discarded in its purchased form.

**Canada TDG Shipping Description:** Not regulated.

**UN PIN No:** Not regulated.

**MSDS No:** 10167

**IMDG Shipping Description:** Not regulated.

**ICAO/IATA Shipping Description:** Not regulated.

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### SECTION XV - REGULATORY INFORMATION

**U.S. Federal and State Regulations**
SARA 311/312 Hazard Categories: Not a SARA 311/312 hazard.

SARA 302/304, 313; CERCLA RQ: Note: If no components are listed below, this product is not subject to the California Proposition 65: referenced SARA and CERCLA regulations and is not known to contain a Proposition 65 listed chemical at a level that is expected to pose a significant risk under anticipated use conditions.

**International Chemical Inventories**
Australia AICS – Components are listed or exempt from listing.
Canada DSL – Components are listed or exempt from listing.
China Inventory – Components are listed or exempt from listing.
European Union EINECS - Components are listed or exempt from listing.
Japan METI ENCS - Components are listed or exempt from listing.
Korea TCCL ECL - Components are listed or exempt from listing.
Philippine PICCS - Components are listed or exempt from listing.
U.S. TSCA - Components are listed or exempt from listing.
U.S. TSCA – No components are subject to TSCA 12(b) export notification requirements

Canadian Classification:
Controlled Products Regulations Statement: This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Class: Not a controlled product.

SECTION XVI - OTHER INFORMATION

The following sections have been revised: All sections

NA – Not Applicable
ND – Not determined.

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