MATERIAL SAFETY DATA SHEET

ADDOVATE DD 1092 110D

RHEIN CHEMIE CORPORATION
145 Parker Court
Chardon, OH 44024

TRANSPORTATION EMERGENCY
CALL CHEMTREC.........: (800) 424-9300
INTERNATIONAL ...........: (703) 527-3887

NON-TRANSPORTATION
RCC EMERGENCY PHONE : (440) 285-3547
RCC INFORMATION PHONE: (800) 289-2436

Section 1: Product and Company Identification

Product Name: ADDOVATE DD 1092 110D
Article Number: 1567377
Product Code: 220280
Chemical Name: Alkylbenzenesulfonate, amine salt-fatty acid polyglycol ester preparation

Section 2: Composition/Information on Ingredients

HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient Name/ CAS Number</th>
<th>Exposure Limits</th>
<th>Concentration Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyglycol Oleate CAS# is a trade secret</td>
<td>OSHA (PEL): Not Established</td>
<td>ACGIH (TLV): Not Established</td>
<td>40% 70%</td>
</tr>
</tbody>
</table>

Section 3: Hazards Identification

EMERGENCY OVERVIEW

Causes eye irritation. May be harmful if swallowed. Irritating gases/fumes may be given off during burning or thermal decomposition.

POTENTIAL HEALTH EFFECTS

Route(s) of Entry: Eye Contact, Skin Contact, Inhalation
HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation Hazards
Acute Inhalation Hazards: Under normal working conditions, using good industrial hygiene practices, this material is not expected to pose an inhalation hazard. However, this material, if processed or vapors are generated from heating, may cause irritation of the mucous membranes and the upper respiratory tract and may cause lipoid pneumonia (inflammation of the lungs), headache, dizziness and/or drowsiness if exposure is excessive.

Chronic Inhalation Hazards: None reported for this product as a whole.

Skin Hazards
Acute Skin Hazards: This product is non-irritating to the skin.

Chronic Skin Hazards: None reported for this product as a whole.

Eye Hazards
Acute Eye Hazards: This product causes severe irritation with redness, tearing, pain and swelling.

Chronic Eye Hazards: None reported for this product as a whole.

Ingestion Hazards
Acute Ingestion Hazards: This product is moderately toxic by ingestion.

Chronic Ingestion Hazards: None reported for this product as a whole.

Carcinogenic Components:
NTP: None
IARC: None
OSHA: None

Medical Conditions Aggravated by Exposure: May aggravate eye conditions.

Section 4: First Aid Measures

First Aid for Eye: Call a physician immediately. In case of contact, flush eyes with large quantities of water for at least 15 minutes. The eyelids should be held apart during irrigation to ensure thorough flushing of all eye tissue.

First Aid for Skin: In case of skin contact, wash affected areas with soap and water. Get medical attention if irritation develops or persists. Immediately remove contaminated clothing and shoes. Wash clothing and clean shoes before reuse.

First Aid for Inhalation: If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If inhaled, remove to fresh air. Call a physician.
First Aid for Ingestion: Get medical attention.

Section 5: Fire Fighting Measures

Flash Point: Approximately 464 °F (240 °C) DIN 22719

Flammable Limits:
- Upper Explosion Limit (UEL %): Not Established
- Lower Explosion Limit (LEL %): Not Established
- Auto-ignition Temperature: Not Applicable

Extinguishing Media:
- Suitable: Carbon Dioxide, Dry Chemical, Foam, Water spray for large fires.

Special Fire Fighting Procedures:
Evacuate non-emergency personnel to a safe area. Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. Use cold water spray to cool fire exposed containers.

Unusual Fire/Explosion Hazards: None known.

Section 6: Accidental Release Measures

Spill or Leak Procedures:
Do not allow spilled or released material to enter ground water, waste water or soil. Extinguish all ignition sources. Emergency clean-up personnel should wear appropriate protection when entering the spill area for clean-up. Notify local health authorities and other appropriate agencies if such contamination should occur. Cover the spill with absorbent material such as sand, sweeping compound or diatomaceous earth. Scoop up solid absorbent for waste disposal. Spill area can be washed with water. Ventilate area to remove vapors.

Section 7: Handling and Storage

Storage Temperature:
- Minimum: 60 °F (15 °C)
- Maximum: 110 °F (43 °C)

Shelf Life: 24 Months

Special Sensitivity: Moisture.

Handling/Storage Precautions:
Do not get in eyes. Avoid contact with skin or clothing. Avoid breathing dusts, vapors or mists. Do not taste or swallow. Wash
Section 8: Exposure Controls/Personal Protection

**Personal Protection Equipment**

**Eye Protection Requirements:** Contact lenses should not be worn. Safety glasses with side shields or goggles are recommended.

**Skin Protection Requirements:** Permeation resistant gloves (neoprene, nitrile, or PVC) and impervious clothing (long sleeve shirts) are recommended.

**Ventilation Requirements:** Use local exhaust ventilation if dusting or misting is a problem, to maintain air levels below the recommended exposure limit.

**Respirator Requirements:** Under normal handling conditions, at room temperature using good industrial hygiene practices, a respirator is not required. Air purifying respirator equipped with a full-face organic vapor and dust/mist cartridge if vapors are near or exceeding the exposure limits listed in Section 2. In areas of high concentrations, confined space or other poorly ventilated areas and for large spill clean-up sites, fresh air-line respirators or self-contained breathing apparatus should be used.

**Additional Protective Measures:** Emergency showers and eye wash stations should be available. Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees on the safe use and handling of this product.

Section 9: Physical and Chemical Properties

- **Physical Form:** Liquid
- **Color:** Brown
- **Odor:** Slight Odor
- **pH:** 7 - 9.5
- **Boiling Point:** > 392 °F (> 200 °C) @ 759 mmHg
- **Melting/Freezing Point:** Not Established
- **Viscosity:** 1,400 mPa.s @ 77 °F (25 °C) DIN 53211
- **Solubility in Water:** Essentially Insoluble
- **Specific Gravity:** Approximately 1.04 @ 68 °F (20 °C) DIN 51757
- **Vapor Pressure:** Not Established

Section 10: Stability and Reactivity

- **Stability:** Stable
- **Hazardous Polymerization:** Will not occur
- **Substances to Avoid:** Strong oxidizing agents, acids, isocyanates.
- **Conditions to Avoid:** None Known
Decomposition Temperature: Not Established
Decomposition Products: None Known

Section 11: Toxicological Information

Toxicity Data for ADDOVATE DD 1092 110D
Acute oral toxicity: LD50 = > 2,000 mg/kg (Rat) Source: Supplier Material Safety Data Sheet (MSDS)

Eye Irritation: Severely irritating (Rabbit) Source: Supplier Material Safety Data Sheet (MSDS)

Skin Irritation: Non-irritating (Rabbit) Source: Supplier Material Safety Data Sheet (MSDS)

Toxicity Data for Polyglycol Oleate
Acute oral toxicity: LD50 = 500 mg/kg (Mouse)

Eye Irritation: Slightly irritating (Rabbit) Standard Draize Test

Skin Irritation: Slightly irritating (Rabbit) Standard Draize Test

Section 12: Ecological Information

Ecological Data for ADDOVATE DD 1092 110D
Ecological Note: Water Pollution Class WGK 2 - impairment of water quality (German Water Resources Act)

Ecological Data for Polyglycol Oleate
Ecological Note: No data available for this component.

Section 13: Disposal Considerations

Waste Disposal Method: Disposal must be in compliance with federal, state and local environmental control regulations.

Section 14: Transportation Information

Technical shipping name: Amine salt

Freight Class Bulk: Chemicals, N.O.I. (NMFC 60000)
Package: Chemicals, N.O.I. (NMFC 60000)

Product Label: Product Label Established

**Domestic Surface Transportation (DOT)**

Hazard Class or Division: Non-Regulated

**Marine Transportation (IMO / IMDG)**

Hazard Class Division: Non-Regulated

**Air Transportation (ICAO / IATA)**

Hazard Class Division: Non-Regulated

Radioactive?: Non-Radioactive

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### Section 15: Regulatory Information

**United States Federal Regulations**

OSHA Hazcom Standard Rating: Hazardous

TSCA Inventory List: On TSCA Inventory

**CERCLA Hazardous Substance:**

<table>
<thead>
<tr>
<th>Component(s)</th>
<th>Reportable Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

**SARA Title III**

**SARA Section 302 Extremely Hazardous Substances:**

<table>
<thead>
<tr>
<th>Component(s)/CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min.</td>
</tr>
<tr>
<td></td>
<td>Max.</td>
</tr>
</tbody>
</table>

| None                  |             |

**SARA Section 311/312 Hazard Categories:** Immediate Health Hazard

**SARA Section 313 Toxic Chemicals:**

<table>
<thead>
<tr>
<th>Component(s)/CAS Number</th>
<th>Reporting Threshold</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Max.</td>
<td></td>
</tr>
</tbody>
</table>

| None                  |                     |

**RCRA Status:**

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.
State Right-to-Know Information

<table>
<thead>
<tr>
<th>Component(s)/CAS Number</th>
<th>State Code</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyglycol Oleate</td>
<td>PA-N, NJ-N</td>
<td>40% 70%</td>
</tr>
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<td>Alkylbenzenesulfonate, amine salt</td>
<td>PA-N, NJ-N</td>
<td>40% 70%</td>
</tr>
</tbody>
</table>

State Code Translation Table
PA-N = Pennsylvania Non-hazardous
NJ-N = New Jersey Other - includes predominant ingredients

Section 16: Other Information

HMIS Rating

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
* = Chronic Health Hazard

RHEIN CHEMIE CORPORATION’s method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by RHEIN CHEMIE CORPORATION as a customer service.

Contact: HES Dept.
Phone: (440) 285-3547
MSDS Number: 00000000484
Version Date: 11/10/2007
MSDS Version: 2.6

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Indicates Relevant Change Made.