Section 1: Product and Company Identification

Product Name: ADDOVATE EM 132D
Article Number: 1594242
Product Code: 220190
Chemical Family: Polyether Alcohol
Chemical Name: Polyether Polyol
CAS Number: 69227-21-0

Section 2: Composition/Information on Ingredients

HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient Name/ CAS Number</th>
<th>Exposure Limits</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyether Alcohol 69227-21-0</td>
<td>OSHA (PEL): Not Established</td>
<td>0% 100%</td>
</tr>
<tr>
<td></td>
<td>ACGIH (TLV): Not Established</td>
<td></td>
</tr>
</tbody>
</table>

Section 3: Hazards Identification

EMERGENCY OVERVIEW

CAUTION! Non-regulated. Color: Colorless to Yellow Form: Liquid Odor: Odorless to weak odor
May cause eye, skin, and respiratory tract irritation. Water may cause frothing. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Irritating gases/fumes may be given off during burning or thermal decomposition.

POTENTIAL HEALTH EFFECTS
Route(s) of Entry: Inhalation, Skin Contact, Eye Contact

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

General Effects of Exposure
Acute Effects of Exposure: This product at ambient temperatures, under normal working conditions, using good industrial hygiene practices is not expected to present a problem. However, if heated, processed, or sprayed/misted, this product may cause irritation of the mucous membranes of the upper respiratory tract. Liquid contact with the skin may cause irritation. This material can be absorbed through the skin. However, no information is available on the extent of systemic effects in humans. The lethal dose from dermal absorption in rabbits was 4.6 gm/kg. Liquid and vapor contact with the eyes may cause irritation, redness, swelling, discharge and/or corneal clouding. Ingestion is not a likely route of exposure. However, if ingested this product could cause nausea, diarrhea, pain and other gastrointestinal disturbances.

Chronic Effects of Exposure: Prolonged or repeated exposure with the concentrated solution may cause dermatitis, with drying and cracking of the skin due to the defatting action of the solution. Repeated and prolonged exposure to the mist from this product may cause conjunctivitis.

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

Medical Conditions
Aggravated by Exposure: May aggravate existing skin disorders.

Section 4: First Aid Measures

First Aid for Eye: In case of contact, flush eyes with large quantities of water for at least 15 minutes. Get medical attention if irritation develops or persists.

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

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

First Aid for Ingestion: Give victim one or two glasses of water or milk. If material is ingested, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention. Should vomiting occur, keep patients head
below hip level to prevent aspiration of fluid into the lungs.

**Note to Physician:** Treat symptomatically.

### Section 5: Fire Fighting Measures

**Flash Point:** 365 °F Pensky-Martens Closed Cup (ASTM D-93)

**Flammable Limits:**
- **Upper Explosion Limit (UEL %):** Not Established
- **Lower Explosion Limit (LEL %):** Not Established

**Auto-ignition Temperature:** 698 °F (370 °C) DIN 51794

**Extinguishing Media:**
- Suitable: Water, Carbon Dioxide, Dry Chemical, Foam

**Special Fire Fighting Procedures:** A solid stream of water directed into the burning material could spread the fire. 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. Material supports combustion. During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion.

**Unusual Fire/Explosion Hazards:** None known.

### Section 6: Accidental Release Measures

**Spill or Leak Procedures:** Extinguish all ignition sources. Emergency clean-up personnel should wear appropriate protection when entering the spill area for clean-up. Do not allow spilled or released material to enter ground water, waste water or soil. Cover spill with absorbent material, such as sand, sweeping compound or diatomaceous earth; collect material for disposal. Spill area can be washed with water. Ventilate area to remove vapors.

### Section 7: Handling and Storage

**Storage Temperature:**
- **Maximum:** 122 °F (50 °C)

**Shelf Life:** 6 Months

**Special Sensitivity:** Moisture.

**Handling/Storage Precautions:** Handle in accordance with good industrial hygiene and safety practices. Keep container tightly closed when not in use. Avoid
Section 8: Exposure Controls/Personal Protection

**Personal Protection Equipment**

**Eye Protection Requirements:** Chemical safety goggles. In a splash hazard environment chemical goggles should be used in combination with a full face-shield.

**Skin Protection Requirements:** Permeation resistant gloves (neoprene, nitrile, or PVC) and impervious clothing (long sleeve shirts) are recommended. Cover as much of the exposed skin area as possible with appropriate clothing, coveralls, apron and boots. If skin creams are used, keep the area covered by the cream to a minimum.

**Ventilation Requirements:** None required during handling but necessary during processing.

**Respirator Requirements:** The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA). 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. Observe OSHA regulations for respirator use (29 CFR 1910.134.)

**Additional Protective Measures:** Safety showers and eyewash stations should be accessible to the work area.

Section 9: Physical and Chemical Properties

**Physical Form:** Liquid

**Color:** Colorless to Yellow

**Odor:** Odorless to weak odor

**pH:** Approximately 4.5

**Boiling Point:** Not Established

**Melting/Freezing Point:** Not Established

**Viscosity:** 115 mPa.s @ 75 °F (25 °C)

**Solubility in Water:** Soluble

**Specific Gravity:** 1 @ 68 °F (20 °C)

**Bulk Density:** Not Established

**Vapor Pressure:** 9 mmHg @ 68 °F (20 °C)

**Vapor Density:** Not Established

**VOC by Weight:** Not Established

Section 10: Stability and Reactivity

**Material Name:** ADDOVATE EM 132D  
**Article Number:** 1594242
Stability: Stable
Hazardous Polymerization: Will not occur
Substances to Avoid: Oxidizing materials and isocyanates.
Conditions to Avoid: None known.
 Decomposition Products: By fire - CO, CO2, oxides of nitrogen, and other undetermined aliphatic fragments.

Section 11: Toxicological Information

Toxicity Data for ADDOVATE EM 132D
Acute oral toxicity: LD50 = > 5,000 mg/kg (Rat)

Eye Irritation: Non-irritating
Skin Irritation: Non-irritating

Toxicity Data for Polyether Alcohol
Toxicity Note: No data available for this component.

Section 12: Ecological Information

Ecological Data for ADDOVATE EM 132D
Ecological Note: Water Pollution Class WGK 1 - slightly hazardous to water (German Water Resources Act)

Ecological Data for Polyether Alcohol
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. If incinerated, toxic and corrosive combustion gases must be properly handled.

Empty Container Precautions: Empty container retains product residue and can be hazardous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat, flame, sparks, static electricity, or other sources of ignition. Recondition or dispose of empty container in accordance with government regulations.

Section 14: Transportation Information
Technical shipping name: Polyether Alcohol

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 Number: Non-Regulated

Air Transportation (ICAO / IATA)
Hazard Class Division Number: Non-Regulated

Section 15: Regulatory Information

United States Federal Regulations
OSHA Hazcom Standard Rating: Hazardous

TSCA Inventory List: On TSCA Inventory

CERCLA Hazardous Substance:
  Component(s) Reportable Quantity
  None

SARA Title III
SARA Section 302 Extremely Hazardous Substances:
  Component(s)/ Concentration
  CAS Number Min. Max.
  None

SARA Section 311/312 Hazard Categories:
  Immediate Health Hazard

SARA Section 313 Toxic Chemicals:
  Component(s)/ Reporting Concentration
  CAS Number Threshold Min. Max.
  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>Polyether Alcohol 69227-21-0</td>
<td>PA-N, NJ-N</td>
<td>0% 100%</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>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Reactivity</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: R36590
Version Date: 12/14/2007
MSDS Version: 2.4

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Indicates Relevant Change Made.