MATERIAL SAFETY DATA SHEET

ADDOVATE OM 396D

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 OM 396D
Article Number: 1568632
Product Code: 220870
Chemical Family: Fatty Acid Ammonium Salt Preparation
Chemical Name: 9-Octadecenoic Acid (Z), Compound with N-ethylethanamine with Diethylamine
Product Use: The product is not affected by the European directive 2002/95/EC (RoHS)

Section 2: Composition/Information on Ingredients

HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient Name/ CAS Number</th>
<th>Concentration Exposure Limits</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
</table>

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

Section 3: Hazards Identification

EMERGENCY OVERVIEW

CAUTION! Combustible. Color: Brownish Form: Liquid Odor: Slight Odor
Vapors or mist may be a fire and explosion hazard when exposed to high temperature or ignition. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Use water as fog or mist; solid streams may spread fire. Toxic gases/fumes are given off during burning or thermal decomposition.

POTENTIAL HEALTH EFFECTS

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

**Inhalation Hazards**

**Acute Inhalation Hazards:** Exposure to high vapor concentrations may cause respiratory tract irritation, sore throat, severe cough, shortness of breath, and chest pain.

**Chronic Inhalation Hazards:** None reported for this product as a whole. Expected to be similar to those for acute inhalation.

**Skin Hazards**

**Acute Skin Hazards:** This product may cause skin irritation.

**Chronic Skin Hazards:** Repeated and/or prolonged contact with this product may cause dermatitis or other allergic skin reactions.

**Eye Hazards**

**Acute Eye Hazards:** At elevated temperatures the vapors from this product may cause irritation marked by redness and tearing.

**Chronic Eye Hazards:** Prolonged or repeated exposure to concentrations of this product, slightly below the irritant level often result in corneal edema, blurred vision, and the appearance of halos around lights and bright objects.

**Ingestion Hazards**

**Acute Ingestion Hazards:** Not a likely route of exposure. However, if ingested this product may result in nausea, vomiting and diarrhea.

**Chronic Ingestion Hazards:** None reported for this product as a whole, expected to be similar to those listed for acute ingestion.

**Carcinogenic Components:**

- **NTP:** None
- **IARC:** None
- **OSHA:** None

**Medical Conditions Aggravated by Exposure:** May aggravate existing eye, skin or respiratory conditions.

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**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. The eyelids should be held apart during irrigation to ensure thorough flushing of all eye tissue. Get medical attention.

**First Aid for Skin:** In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Wash clothing and clean shoes before reuse. Get medical attention if irritation develops or persists.
First Aid for Inhalation: If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If inhaled, remove to fresh air. Call a physician immediately.

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. Should vomiting occur, keep patients head below hip level to prevent aspiration of fluid into the lungs. Call a physician.

Note to Physician: Treat symptomatically.

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**Section 5: Fire Fighting Measures**

**Flash Point:** Approximately 165 °F

**Flammable Limits:**

- **Upper Explosion Limit (UEL %):** No Data Available
- **Diethylamine 10.1**
- **Lower Explosion Limit (LEL %):** No Data Available
- **Diethylamine 1.8**

**Auto-ignition Temperature:** Not Established

**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:** Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back.

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**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. A water fog or spray should be used to control vapors. Notify local health authorities and other appropriate agencies if such contamination should occur. Place in properly marked containers for disposal. Vermiculite absorbent can be spread over the spill area to absorb as much of the remaining product as possible. Scoop up solid absorbent for waste disposal. Spill area can be washed with water. Ventilate area to remove vapors.

**Other Accidental Release**

Rhein Chemie requires that CHEMTREC be immediately notified.
Notes: (800-424-9300) when this product is unintentionally released from its container during its course of distribution, regardless of the amount released. Such notification must be immediate and made by the person having knowledge of the release. Distribution includes transportation, storage incidental to transportation, loading and unloading.

Section 7: Handling and Storage

Storage Temperature: Not Established - Ambient Recommended

Shelf Life: Not Established


Handling/Storage Precautions: Keep away from heat, sparks and flames. Keep container tightly closed when not in use. Avoid breathing dusts, vapors or mists. Protect from physical damage. Handle in accordance with good industrial hygiene and safety practices. Do not store with incompatible materials. Do not get in eyes.

Section 8: Exposure Controls/Personal Protection

Personal Protection Equipment

Eye Protection Requirements: Chemical safety goggles, full-face shield., Contact lenses should not be worn.

Skin Protection Requirements: Permeation resistant gloves (neoprene, nitrile, or PVC) and impervious clothing (long sleeve shirts) are recommended., Barrier creams may be used but their use should be kept to a minimum.

Ventilation Requirements: Use local exhaust ventilation if dusting or misting is a problem, to maintain air levels below the recommended exposure limit. Ventilation equipment should be explosion-proof if explosive concentrations of dust, vapor or fume are present. Engineering controls should be sufficient to ensure airborne levels do not approach or exceed the exposure limits listed in Section 2.

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. Employees working with this product should not eat,
drink, or use tobacco products in the work area.

Section 9: Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Brownish</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight Odor</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not Established</td>
</tr>
<tr>
<td>pH</td>
<td>7.6 - 8 @ 10 g/l</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Approximately 147 °F (60 °C)</td>
</tr>
<tr>
<td>Melting/Freezing Point</td>
<td>14 °F (-10 °C)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>120 - 130 mPa.s @ 68 °F (20 °C)</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.9 @ 68 °F (20 °C)</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>7.51 lb/gal</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt; 75 mmHg @ 122 °F (50 °C)</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Established</td>
</tr>
<tr>
<td>VOC by Weight</td>
<td>100 %</td>
</tr>
<tr>
<td>HOC by Weight</td>
<td>None</td>
</tr>
</tbody>
</table>

Section 10: Stability and Reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur</td>
</tr>
<tr>
<td>Substances to Avoid</td>
<td>Oxidizing materials, cyanides, metals.</td>
</tr>
<tr>
<td>Decomposition Products</td>
<td>By fire - CO, CO2, oxides of nitrogen, and other undetermined aliphatic fragments.</td>
</tr>
</tbody>
</table>

Section 11: Toxicological Information

Toxicity Data for ADDOVATE OM 396D

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>LD50 = &gt; 5,000 mg/kg (Rat)</td>
</tr>
<tr>
<td>Eye Irritation</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Skin Irritation</td>
<td>No Data Available</td>
</tr>
</tbody>
</table>

Section 12: Ecological Information

Ecological Data for ADDOVATE OM 396D

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish Toxicity</td>
<td>&gt; 100 mg/L, 48 hrs. Ide, silver or golden orfe (Leuciscus idus)</td>
</tr>
<tr>
<td>Biodegradation</td>
<td>25 - 50 %</td>
</tr>
</tbody>
</table>
Inhibition Bacteria: 500 mg/L, Pseudomonas fluorescens

Ecological Note: No data available for this product.

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: Fatty Acids, Alkali Salts

RSPA/DOT Regulated Components:

<table>
<thead>
<tr>
<th>Component(s)/CAS Number</th>
<th>Concentration</th>
<th>RQ.</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylamine 109-89-7</td>
<td>100 lb</td>
<td>0.1%</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

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

Hazard Label(s): None, None

Hazard Placard(s): Combustible

DOT Postnote: * Applicable for domestic transportation by highway and rail, but not air or vessel. (See 49 CFR 173.150(F)(1)). If the quantity is in a non-bulk packaging (less than 119 gallons), this material ships as non-regulated unless the Combustible Liquid is a Hazardous Substance or a Hazardous Waste. (See 49 CFR 173.150(F)(2)).

Marine Transportation (IMO / IMDG)

Hazard Class Division: Non-Regulated

Number: 

IMO/IMDG Ocean Postnote: This material is non-regulated when shipped in non-bulk packaging.

Air Transportation (ICAO / IATA)

Hazard Class Division: Non-Regulated

Number: 

Material Name: ADDOVATE OM 396D  Article Number: 1568632
**Subsidiary Risk:** Non-Regulated  
**Radioactive?:** Non-Radioactive

### Section 15: Regulatory Information

**United States Federal Regulations**

**OSHA Hazcom Standard Rating:** Non-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>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

- Non-hazardous under Section 311/312

**SARA Section 313 Toxic Chemicals:**

<table>
<thead>
<tr>
<th>Component(s)/CAS Number</th>
<th>Reporting Threshold</th>
<th>Concentration</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RCRA Status:**

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>Oleic Acid Diethylamine Salt 17200-00-9</td>
<td>PA-N, NJ-N</td>
<td>95%</td>
</tr>
</tbody>
</table>

The following component(s) are listed under New Jersey Special Hazards:

<table>
<thead>
<tr>
<th>Component(s)</th>
<th>State Code</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylamine 109-89-7</td>
<td>NJ-S</td>
<td>0.1% 1%</td>
</tr>
</tbody>
</table>

**State Code Translation Table**

- PA-N = Pennsylvania Non-hazardous
- NJ-N = New Jersey Other - includes predominant ingredients
- NJ-S = New Jersey Special Health Hazardous Substance List
Section 16: Other Information

HMIS Rating

<table>
<thead>
<tr>
<th>Rating</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>2</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: R34455
Version Date: 06/29/2006
MSDS Version: 1.33

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