## MATERIAL SAFETY DATA SHEET

ADDITIN RC 5970 440D/1760S

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

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### Section 1: Product and Company Identification

**Product Name:** ADDITIN RC 5970 440D/1760S  
**Article Number:** 56668148

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### 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>Concentration Max.</th>
</tr>
</thead>
</table>
| Oleic Acid, Monoethanolamine, Ethoxylated with Ethylenecoxide 26027-37-2 | **OSHA (PEL):** Not Established  
**ACGIH (TLV):** Not Established | 10% | 30% |
| Rape oil 8002-13-9 | **OSHA (PEL):** 5.00 mg/m3 TWA  
Respirable Fraction 15.00 mg/m3 TWA  
Total Particulate **ACGIH (TLV):** 10.00 mg/m3 TWA | 7% | 13% |

Exposure limit for: Vegetable oil mists

| Triethanolamine 102-71-6 | **OSHA (PEL):** Not Established  
**ACGIH (TLV):** 5.00 mg/m3 TWA | 5% | 10% |
<table>
<thead>
<tr>
<th>Compound</th>
<th>OSHA (PEL):</th>
<th>ACGIH (TLV):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monoethanolamine</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>141-43-5</td>
<td>3.00 ppm PEL</td>
<td>3.00 ppm TWA</td>
</tr>
<tr>
<td>Dietanolmethylamine</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>105-59-9</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), a-(carboxymethyl)-2-[(9Z)-9-octadecen-1-yloxy]-57635-48-0</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>Distillates, Petroleum, Severely Solvent-Refined Heavy Paraffinic</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>64741-88-4</td>
<td>5.00 mg/m3 TWA</td>
<td>10.00 mg/m3 STEL</td>
</tr>
<tr>
<td></td>
<td>5.00 mg/m3 TWA</td>
<td>Not Established</td>
</tr>
<tr>
<td>Branched tridecylalcohol, ethoxylated</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>69011-36-5</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

**Section 3: Hazards Identification**

**EMERGENCY OVERVIEW**

**WARNING!** Color: Dark Brown  Form: Liquid  Odor: Slightly, amine-like
May cause respiratory tract irritation. Causes skin irritation. Causes eye irritation. May be harmful if swallowed. Toxic gases/fumes are given off during burning or thermal decomposition.

**POTENTIAL HEALTH EFFECTS**

**Route(s) of Entry:** Inhalation, Eye Contact, Skin Contact, Ingestion

**HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE**

**Inhalation Hazards**

**Acute Inhalation Hazards:** This product may cause irritation of the respiratory tract and mucous membranes of the nose and throat. Symptoms may include coughing, headache, nausea, vomiting, and chest pain.

**Chronic Inhalation Hazards:** Expected to be similair to those for acute inhalation.

**Skin Hazards**

**Acute Skin Hazards:** This product can cause skin irritation.
Chronic Skin Hazards: None reported for this product as a whole.

Eye Hazards
Acute Eye Hazards: This product can cause eye irritation, with redness, tearing and smarting pain. The amine vapors are irritating and have been reported to cause transient fogging of the eyes or corneal edema.

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

Ingestion Hazards
Acute Ingestion Hazards: Not a likely route of exposure. However, based on component information if ingested this product may likely cause gastrointestinal distress, accompanied by nausea, headache and vomiting.

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, May aggravate skin conditions.

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 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 breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

First Aid for Ingestion: 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. Call a physician immediately. 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: Not Established
Flammable Limits:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Explosion Limit</td>
<td>Not Established</td>
</tr>
<tr>
<td>(UEL %):</td>
<td></td>
</tr>
<tr>
<td>Lower Explosion Limit</td>
<td>Not Established</td>
</tr>
<tr>
<td>(LEL %):</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

Extinguishing Media:
Suitable: Carbon Dioxide, Dry Chemical, Foam

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. 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. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment, including respiratory equipment during clean-up. (See Employee Protection Recommendations). Cover spill with absorbent material, such as sand, sweeping compound or diatomaceous earth; collect material for disposal. Emergency clean-up personnel should wear appropriate protection when entering the spill area for clean-up.

Section 7: Handling and Storage

Storage Temperature: Not Established - Ambient Recommended

Handling/Storage Precautions:
Handle in accordance with good industrial hygiene and safety practices. Do not get on skin or clothing. Do not get in eyes. Do not breath dust, vapors or mist. Avoid inhalation and skin or eye contact with processing fumes. Use local exhaust ventilation above processing equipment. Wash thoroughly after handling. Keep away from heat, sparks and flames. Keep container tightly closed when not in use. Store in a cool, dry place away from food and drink.

Section 8: Exposure Controls/Personal Protection

Personal Protection Equipment
Eye Protection Requirements: Chemical safety goggles, full-face shield.
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: The specific respirator selected must be based on contamination levels found in the workplace, 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). Observe OSHA regulations for respirator use (29 CFR 1910.134.).

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

<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>Dark Brown</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly, amine-like</td>
</tr>
<tr>
<td>pH</td>
<td>9.2 @ 10 g/l 68 °F (20 °C)</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not Established</td>
</tr>
<tr>
<td>Melting/Freezing Point</td>
<td>Not Established</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Miscible</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.99 @ 68 °F (20 °C) DIN 51757</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not Established</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Established</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 and bases, Reducing agents., Acids.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Extremes of temperature and direct sunlight</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not Established</td>
</tr>
<tr>
<td>Decomposition Products</td>
<td>Oxides of carbon, and other undetermined fragments.</td>
</tr>
</tbody>
</table>

Section 11: Toxicological Information

Toxicity Data for ADDITIN RC 5970 440D/1760S
Toxicity Note: No data available for this product.
Toxicity Data for Oleic Acid, Monoethanolamine, Ethoxylated with Ethyleneoxide
Eye Irritation: Moderately irritating

Skin Irritation: Moderately irritating

Toxicity Data for Rape oil
Toxicity Note: No data available for this component.

Toxicity Data for Triethanolamine
Acute oral toxicity: LD50 = 4,190 mg/kg (Rat)
LD50 = 2,200 mg/kg (Rabbit)
LD50 = 2,200 mg/kg (Guinea pig)

Acute dermal toxicity: LD50 = 1,510 mg/kg (Rat) Intraperitoneal
Skin Irritation: Slightly irritating (Rabbit)

Carcinogenicity: Testing has shown evidence of carcinogenic activity in male rats whereas there was no evidence of carcinogenic activity in female rats.

Toxicity Data for Monoethanolamine
Acute oral toxicity: LD50 = 1,720 mg/kg (Rat)

Acute dermal toxicity: LD50 = 1 ml/kg (Rabbit)
LD50 = 1,025 mg/kg (Rabbit)

Eye Irritation: Severely irritating (Rabbit)
Corrosive (Rabbit)

Skin Irritation: Corrosive (Rabbit)

Sensitization: No sensitization. (Guinea pig)

Repeated Dose Toxicity: (Rat) 90 Days, 320 mg/kg

Toxicity Data for Diethanolmethylamine
Acute oral toxicity: LD50 = 4,780 mg/kg (Rat)

Acute dermal toxicity: LD50 = 5,990 (Rabbit)

Eye Irritation: Moderately irritating (Rabbit)

Skin Irritation: Slightly irritating (Rabbit)

Toxicity Data for Poly(oxy-1,2-ethanediyl), a-(carboxymethyl)-[9Z]-9-octadecen-1-oxyl-
Toxicity Note: No data available for this component.

Toxicity Data for Distillates, Petroleum, Severely Solvent-Refined Heavy Paraffinic
Acute oral toxicity: LD50 = > 5,000 mg/kg (Rat)

Acute dermal toxicity: LD50 = > 3,160 mg/kg (Rat)
Acute inhalation toxicity: > 5,000 mg/m3, (Rat)

Toxicity Data for Branched tridecyl alcohol, ethoxylated
Eye Irritation: Severely irritating (Rabbit) OECD Guideline No. 405 (Acute Eye Irritation Corrosion)

Section 12: Ecological Information

Ecological Data for ADDITIN RC 5970 440D/1760S
Ecological Note: No data available for this product.

Ecological Data for Oleic Acid, Monoethanolamine, Ethoxylated with Ethyleneoxide
Ecological Note: No data available for this component.

Ecological Data for Rape oil
Ecological Note: No data available for this component.

Ecological Data for Triethanolamine
Fish Toxicity: > 10,000 ug/L, 96 hrs. Fathead minnow (Pimephales promelas)
Invertebrate Toxicity: > 10,000 ug/L, 48 hrs. Common shrimp (Crangon crangon)
Plant Toxicity: 19,000 ug/L, 8 Years. Algae

Ecological Data for Monoethanolamine
Fish Toxicity: > 300 mg/L, 96 hrs. Bluegill (Lepomis macrochirus)
224 mg/L, 48 hrs. Ide, silver or golden orfe (Leuciscus idus)
Invertebrate Toxicity: 65 mg/L, 48 hrs. Water flea (Daphnia magna)
140 mg/L, 24 hrs. Water flea (Daphnia magna)
Biodegradation: 20 mg/L, 28 Days. > 70 %
Plant Toxicity: 15 mg/L, 72 hrs. Green algae (Scenedesmos subspicatus)
70 mg/L, 24 hrs. Algae

Ecological Data for Diethanolmethylamine
Ecological Note: No data available for this component.

Ecological Data for Poly(oxy-1,2-ethanediyl), a-(carboxymethyl)-?-[9Z]-9-octadecen-1-vloxy-
Ecological Note: No data available for this component.

Ecological Data for Distillates, Petroleum, Severely Solvent-Refined Heavy Paraffinic
Ecological Note: No data available for this component.

Ecological Data for Branched tridecyl alcohol, ethoxylated

Section 13: Disposal Considerations

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

Empty Container Precautions: Recondition or dispose of empty container in accordance with government regulations.

Other Disposal Notes: Rhein Chemie requires that CHEMTREC be immediately notified (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 14: Transportation Information

Technical shipping name: Lubricating Oil Additives

Product Label: Product Label Established

Domestic Surface Transportation (DOT)
Hazard Class or Division: Non-Regulated

Marine Transportation (IMO / IMDG)
Hazard Class Division Non-Regulated
Number:

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

Section 15: Regulatory Information

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous

TSCA Inventory List: On TSCA Inventory

CERCLA Hazardous Substance:

Component(s)
None

Reportable Quantity

SARA Title III
SARA Section 302 Extremely Hazardous Substances:

Component(s)/
CAS Number
None

Concentration

Min. Max.

SARA Section 311/312 Hazard Immediate Health Hazard
Categories:

SARA Section 313 Toxic Chemicals:

<table>
<thead>
<tr>
<th>Component(s)/CAS Number</th>
<th>Reporting Threshold</th>
<th>Concentration Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</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 Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxidized Polymer 174333-77-8</td>
<td>PA-N, NJ-N</td>
<td>10%</td>
<td>30%</td>
</tr>
<tr>
<td>Tall oil 8002-26-4</td>
<td>PA-N, NJ-N</td>
<td>10%</td>
<td>30%</td>
</tr>
<tr>
<td>Ethoxylated Alcohols 68920-66-1</td>
<td>PA-N, NJ-N</td>
<td>7%</td>
<td>13%</td>
</tr>
<tr>
<td>Rape oil 8002-13-9</td>
<td>PA-H, NJ-N, MA-H</td>
<td>7%</td>
<td>13%</td>
</tr>
<tr>
<td>Triethanolamine 102-71-6</td>
<td>PA-H, NJ-N, MA-H</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Distillates, Petroleum, Severely Solvent-Refined Heavy Paraffinic 64741-88-4</td>
<td>PA-H, NJ-H, MA-H</td>
<td>1%</td>
<td>5%</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 Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide 1310-73-2</td>
<td>NJ-S</td>
<td>0.1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

**State Code Translation Table**

PA-N = Pennsylvania Non-hazardous
PA-H = Pennsylvania Hazardous Substance List
NJ-N = New Jersey Other - includes predominant ingredients
NJ-H = New Jersey Hazardous Substance List
NJ-S = New Jersey Special Health Hazardous Substance List
MA-H = Massachusetts Hazardous Substance List

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: 000000007220
Version Date: 06/09/2009
MSDS Version: 1.0

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Indicates Relevant Change Made.