MATERIAL SAFETY DATA SHEET

ADDITIN RC 9308 (M 10.435) 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

Section 1: Product and Company Identification

Product Name: ADDITIN RC 9308 (M 10.435) 440D/1760S
Article Number: 56256605
Product Code: 230460, 230461
Chemical Family: Mixture of Aromatic Hydroxyls / Amines / Organophosphorous Compounds / Azole / Mineral oil

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>Butylated Hydroxytoluene 128-39-2</td>
<td>OSHA (PEL): Not Established</td>
<td>40% 70%</td>
</tr>
<tr>
<td>Aromatic Amine CAS# is a trade secret</td>
<td>OSHA (PEL): Not Established</td>
<td>10% 30%</td>
</tr>
<tr>
<td>Tetrapropenylsuccinic Acid Semi Ester CAS# is a trade secret</td>
<td>OSHA (PEL): Not Established</td>
<td>7% 13%</td>
</tr>
</tbody>
</table>
Hydrotreated Light Paraffinic Distillates
CAS# is a trade secret

OSHA (PEL):
5.00 mg/m³ TWA

ACGIH (TLV):
10.00 mg/m³ STEL
5.00 mg/m³ TWA

Exposure limit for: Oil mist, mineral

Phosphate Amine
CAS# is a trade secret

OSHA (PEL):
Not Established

ACGIH (TLV):
Not Established

3% 7%

Exposure limit for: Oil mist, mineral

Alkyl Amine
CAS# is a trade secret

OSHA (PEL):
Not Established

ACGIH (TLV):
Not Established

1% 5%

Section 3: Hazards Identification

**EMERGENCY OVERVIEW**

**WARNING!** No Physical Hazards  **Color:** Light Brown  **Form:** Liquid  **Odor:** Phenolic
Harmful if inhaled or ingested. Causes skin irritation. May cause allergic skin reaction.
Harmful if absorbed through skin. Causes eye irritation. Toxic gases/fumes are given off during burning or thermal decomposition. Toxic fumes are produced during a fire situation when product is combined with TMP (trimethylolpropane)-containing material.

**POTENTIAL HEALTH EFFECTS**

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

**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, during heating, processing, or use in spray/mist applications, inhalation exposure is possible. Under these conditions this product may than be expected to cause moderate to severe respiratory tract irritation with severe sore throat, coughing, headache and nausea. The organophosphorous compound in this product is a weak cholinesterase inhibitor. Initial symptoms of cholinesterase inhibition include headache, dizziness, weakness, incoordination, muscle twitching, tremor, nausea, abdominal cramps, diarrhea, and sweating.

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

**Skin Hazards**

**Acute Skin Hazards:**
This product can cause skin irritation. This product may be absorbed through the skin. May cause sensitization by skin contact.
Chronic Skin Hazards: Repeated and/or prolonged contact with this product may cause defatting of the skin which may result in dermatitis or other allergic skin reactions.

Eye Hazards
Acute Eye Hazards: Causes eye irritation. Eyes will become red and irritated with tearing and possible blistering. Effects depend on concentration and duration of exposure.

Chronic Eye Hazards: Repeated and/or prolonged exposures may result in adverse eye effects such as conjunctivitis or corneal damage.

Ingestion Hazards
Acute Ingestion Hazards: Not a likely route of exposure. However, if ingested this product is expected to cause some gastrointestinal distress with nausea and vomiting. The organophosphorous compound is a mild cholinesterase inhibitor.

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 skin disorders., May aggravate existing eye, skin or respiratory 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. Call a physician immediately.

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

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

First Aid for Ingestion: Call a physician immediately. 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.
Note to Physician: Treat symptomatically.

Section 5: Fire Fighting Measures

Flash Point: Approximately 384 °F (140 °C) ISO 2592

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

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. Material supports combustion. During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion.

Unusual Fire/Explosion Hazards:
Do not combine with Trimethylolpropane (TMP). During fire or thermal decomposition, highly toxic vapors, fumes or gases (bicyclic phosphates) may be produced.

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. 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 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 7: Handling and Storage

Storage Temperature: Store at ambient conditions

Shelf Life: Not Determined


Handling/Storage Precautions: Keep away from heat, sparks and flames. Keep container tightly closed when not in use. Avoid contact with skin or clothing. Avoid breathing dusts, vapors or mists. Handle in accordance with good industrial hygiene and safety practices.

Other Notes: This product may crystallize at low temperatures. If this occurs, gentle warming up to 40°C with agitation will ensure homogeneity of the product without adverse effects.

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. 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.

Respirator Requirements: 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. 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. Observe OSHA regulations for respirator use (29 CFR 1910.134.)

Additional Protective Measures: Emergency showers and eye wash stations should be available. Employees working with this product should not eat, drink, or use tobacco products in the work area. Employees should wash their hands and face before eating, drinking, or using tobacco products.

Section 9: Physical and Chemical Properties

Physical Form: Liquid
Color: Light Brown
Odor: Phenolic
Odor Threshold: Not Established
pH: Approximately 7 in 2% in TBN-solvent
Boiling Point: Not Established
Melting/Freezing Point: Not Established
Viscosity: Approximately 350,000 cm²/s (kinematic value) @ 104 °F (40 °C)
DIN 51562
Solubility in Water: Essentially Insoluble
Solubility (non Aqueous): Soluble in mineral oils and synthetic base oils
Specific Gravity: Approximately 0.98 @ 68 °F (20 °C) DIN 51757
Bulk Density: Not Established
Vapor Pressure: Not Established
Vapor Density: Not Established
VOC by Weight: Not Established
HOC by Weight: None

<table>
<thead>
<tr>
<th>Section 10: Stability and Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability: Stable</td>
</tr>
<tr>
<td>Hazardous Polymerization: Will not occur</td>
</tr>
<tr>
<td>Substances to Avoid: Strong oxidizing agents and bases</td>
</tr>
<tr>
<td>Decomposition Products: By fire - CO, CO₂, oxides of nitrogen, and other undetermined aliphatic fragments.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 11: Toxicological Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity Data for ADDITIN RC 9308 (M 10.435) 440D/1760S</td>
</tr>
<tr>
<td>Toxicity Note: No data available for this product.</td>
</tr>
<tr>
<td>Toxicity Data for Butylated Hydroxytoluene</td>
</tr>
<tr>
<td>Acute oral toxicity: LD₅₀ = Greater than 5,000 mg/kg (Rat)</td>
</tr>
<tr>
<td>Acute dermal toxicity: LD₅₀ = &gt; 10 g/kg (Rabbit)</td>
</tr>
<tr>
<td>LD₅₀ = &gt; 10 g/kg (Guinea pig)</td>
</tr>
<tr>
<td>Eye Irritation: Moderately irritating</td>
</tr>
<tr>
<td>Skin Irritation: Moderately irritating</td>
</tr>
<tr>
<td>Toxicity Data for Aromatic Amine</td>
</tr>
<tr>
<td>Acute oral toxicity: LD₅₀ = &gt; 5 g/kg (Rat)</td>
</tr>
<tr>
<td>Toxicity Data for Tetrapropenylsuccinic Acid Semi Ester</td>
</tr>
<tr>
<td>Sensitization: No sensitization. (Guinea pig)</td>
</tr>
<tr>
<td>Toxicity Data for Hydrotreated Light Paraffinic Distillates</td>
</tr>
<tr>
<td>Toxicity Note: No data available for this component.</td>
</tr>
<tr>
<td>Toxicity Data for Phosphate Amine</td>
</tr>
<tr>
<td>Acute oral toxicity: LD₅₀ = &gt; 5,000 mg/kg (Rat)</td>
</tr>
</tbody>
</table>
**Eye Irritation:** Moderately irritating (Rabbit)

**Skin Irritation:** Moderately irritating (Rabbit)

**Sensitization:** No sensitization. (Guinea pig)

**Mutagenicity:** Negative test results (Ames Salmonella Test)

### Toxicity Data for Alkyl Amine

**Acute oral toxicity:**
- LD50 = 300 mg/kg (Rat)
- LD50 = 612 mg/kg (Rat)
- LD50 = 1,177 mg/kg (Rat)

**Acute dermal toxicity:**
- LD50 = 1,120 mg/kg (Rabbit)
- LD50 = 251 mg/kg (Rat)

**Acute inhalation toxicity:** > 1 mg/L, (Rat)

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

**Skin Irritation:** Severely irritating (Rabbit)
- Corrosive (Rabbit)

**Sensitization:** Positive. (Guinea pig) Dermal Sensitization likely upon prolonged or repeated contact.

**Mutagenicity:** Negative test results (Ames Salmonella Test)

### Section 12: Ecological Information

**Ecological Data for ADDITIN RC 9308 (M 10.435) 440D/1760S**

**Ecological Note:** Water Pollution Class WGK 2 - impairment of water quality (German Water Resources Act)

**Ecological Data for Butylated Hydroxytoluene**

**Ecological Note:** No data available for this component.

**Ecological Data for Aromatic Amine**

**Ecological Note:** No data available for this component.

**Ecological Data for Tetrapropenylsuccinic Acid Semi Ester**

**Ecological Note:** No data available for this component.

**Ecological Data for Hydrotreated Light Paraffinic Distillates**

**Ecological Note:** No data available for this component.

**Ecological Data for Phosphate Amine**

**Fish Toxicity:** 1 - 10 mg/L,
Invertebrate Toxicity: 1 - 10 mg/L, Water flea (Daphnia magna)

Inhibition Bacteria: EC50: > 100 mg/L,

<table>
<thead>
<tr>
<th>Ecological Data for Alkyl Amine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecological Note: No data available for this component.</td>
</tr>
</tbody>
</table>

### 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:** Additive Mixture Containing 2,6-Di-Tert-Butylphenol

**Marine Pollutant Components:**

<table>
<thead>
<tr>
<th>Component(s)/CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated Hydroxytoluene</td>
<td>40% Max. 70%</td>
</tr>
<tr>
<td>128-39-2</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)**

- **Proper Shipping Name:** Environmentally Hazardous Substance, Liquid, N.O.S.
- **Hazard Class or Division:** 9
- **UN/NA Number:** UN3082
- **Packing Group:** III
- **Additional Description:** Marine Pollutant
- **Requirements:**
  - **Hazard Label(s):** Class 9
  - **Hazard Placard(s):** Class 9
- **DOT Postnote:** * Marine Pollutant Notation for Bulk Shipments is required under DOT only.

**Marine Transportation (IMO / IMDG)**

- **Proper Shipping Name:** Environmentally Hazardous Substance, Liquid, N.O.S.
- **Hazard Class Division:** 9
**Number:**
UN Number: UN3082
Additional IMO Information: Marine Pollutant
Packaging Group: III
Hazard Label(s): Marine Pollutant (Mark)
Hazard Placard(s): Marine Pollutant

**Air Transportation (ICAO / IATA)**
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S.
Hazard Class Division: 9
Number:
UN Number: UN3082
Packaging Group: III
Hazard Label(s): Miscellaneous
Radioactive?: Non-Radioactive
Passenger Air - Max. Qty.: No Limit
Passenger Packing Instruction: 914
Cargo Air - Max. Qty.: No Limit
Cargo Air Packing: 914
Instruction:

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**Section 15: Regulatory Information**

**United States Federal Regulations**

OSHA Hazcom Standard: Hazardous
Rating:

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, Delayed 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>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated Hydroxytoluene 128-39-2</td>
<td>PA-N, NJ-N</td>
<td>40%</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>Aromatic Amine</td>
<td>PA-N, NJ-N</td>
<td>10%</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Tetrapropenylsuccinic Acid Semi Ester</td>
<td>PA-N, NJ-N</td>
<td>7%</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Hydrotreated Light Paraffinic Distillates</td>
<td>PA-H, NJ-H, MA-H</td>
<td>3%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Tolyltriazole 29385-43-1</td>
<td>PA-N, NJ-N</td>
<td>3%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Phosphate Amine</td>
<td>PA-H, NJ-H</td>
<td>1%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Alkyl Amine</td>
<td>PA-N, NJ-H</td>
<td>1%</td>
<td>5%</td>
<td></td>
</tr>
</tbody>
</table>

The following component(s) are listed under Massachusetts Extra-ordinary Hazards:

<table>
<thead>
<tr>
<th>Component(s)</th>
<th>State Code</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrotreated Light Paraffinic Distillates</td>
<td>MA-X</td>
<td>3%</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
- **MA-H** = Massachusetts Hazardous Substance List
- **MA-X** = Massachusetts Extra-ordinary Hazardous Substance List

### Foreign Chemical Inventory List(s)

- **EINECS (Europe):** Listed
- **DSL (Canada):** Listed
- **AICS (Australia):** Listed
- **MOE (Korea):** Listed
- **PICCS (Philippines):** Listed

### Section 16: Other Information

#### HMIS Rating

<table>
<thead>
<tr>
<th>Health</th>
<th>*</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Reactivity</td>
<td>1</td>
<td></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: R36538
Version Date: 04/03/2007
MSDS Version: 4.0

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Indicates Relevant Change Made.