MATERIAL SAFETY DATA SHEET

ADDITIN RC 3775 420D

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 3775 420D
Article Number: 1568322
Chemical Family: Amine phosphate with alkyl sulfur/nitrogen heterocycle additive

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>
<tbody>
<tr>
<td>Phosphate Amine</td>
<td>OSHA (PEL):</td>
<td></td>
<td>60% 100%</td>
</tr>
<tr>
<td></td>
<td>Not Established</td>
<td>ACGIH (TLV):</td>
<td>Not Established</td>
</tr>
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</tbody>
</table>

Section 3: Hazards Identification

EMERGENCY OVERVIEW

CAUTION!  Color: Light Yellow  Form: Liquid  Odor: Characteristic
May cause skin irritation.  May cause eye irritation.  Water may cause frothing.  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.

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

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

Chronic Skin Hazards: It is expected that chronic skin exposure will be similar to that listed for acute skin exposure.

Eye Hazards
Acute Eye Hazards: This product is considered an eye irritant.

Chronic Eye Hazards: None reported for this product as a whole. Effects are expected to be similar to those listed above for acute eye exposure.

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.

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

Medical Conditions Aggravated by Exposure: May aggravate eye conditions, May aggravate skin conditions, May aggravate skin allergies.

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. Wash clothing and clean shoes before reuse. In case of skin contact, wash affected areas with soap and water. 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: If material is ingested, do not induce vomiting unless directed to do so by medical personnel. Should vomiting occur, keep patients head below hip level to prevent aspiration of fluid into the lungs. Give victim one or two glasses of water or milk. Never give anything by mouth to an unconscious person. Get medical attention.

First Aid Other: Wash affected areas for at least 15 minutes.

Note to Physician: Treat symptomatically.

Section 5: Fire Fighting Measures

Flash Point: Approximately 374 °F (190 °C)

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

Auto-ignition Temperature: Not Established

Extinguishing Media: 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. During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion.

Unusual Fire/Explosion Hazards: Water or foam may cause frothing. 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.
**Section 7: Handling and Storage**

**Storage Temperature:** Not Established - Ambient Recommended

**Shelf Life:** Approximately 18 Months

**Special Sensitivity:** Heat. Moisture.

**Handling/Storage Precautions:** Keep away from heat, sparks and flames. Avoid getting in eyes or on skin. Keep container tightly closed when not in use. Do not breath dust, vapors or mist. Storage area should be equipped with sprinkler system.

**Section 8: Exposure Controls/Personal Protection**

**Personal Protection Equipment**

**Eye Protection Requirements:** Chemical safety goggles.

**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. Thermal processing equipment should be ventilated to control gases and fumes given off 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:** 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:** Light Yellow

**Odor:** Characteristic

**Odor Threshold:** Not Established

**pH:** Not Established

**Boiling Point:** Not Established
Melting/Freezing Point: Not Established
Solubility in Water: Essentially Insoluble
Solubility (non Aqueous): Soluble in mineral oils and synthetic base oils
Specific Gravity: Approximately 0.94 @ 68 °F (20 °C)
Vapor Pressure: Not Established
Vapor Density: Not Established
VOC by Weight: Not Established
HOC by Weight: None

**Section 10: Stability and Reactivity**

Stability: Stable
Hazardous Polymerization: Will not occur
Substances to Avoid: Strong oxidizing agents and bases, Acids.
Conditions to Avoid: None reported.
Decomposition Temperature: Not Established
Decomposition Products: By fire and/or thermal decomposition: oxides of phosphorus, phosphorus acid, oxides of nitrogen, oxides of carbon and other undetermined aliphatic fragments.

**Section 11: Toxicological Information**

Toxicity Data for ADDITIN RC 3775 420D
Toxicity Note: No data available for this product.

Toxicity Data for Phosphate Amine
Acute oral toxicity: LD50 = > 5,000 mg/kg (Rat)
Eye Irritation: Moderately irritating (Rabbit)
Skin Irritation: Moderately irritating (Rabbit)
Sensitization: No sensitization. (Guinea pig)
Mutagenicity: Negative test results (Ames Salmonella Test)

**Section 12: Ecological Information**

Ecological Data for ADDITIN RC 3775 420D
Ecological Note: No data available for this product.

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,

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: Organic Phosphate

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
   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) Reportable Quantity
None

**SARA Title III**

**SARA Section 302 Extremely Hazardous Substances:**

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

**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 Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**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 Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate Amine</td>
<td>PA-H, NJ-H</td>
<td>60%</td>
<td>100%</td>
</tr>
<tr>
<td>NJTSRN:000001553</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimercaptodiadiazole Derivative</td>
<td>PA-N, NJ-N</td>
<td>10%</td>
<td>30%</td>
</tr>
<tr>
<td>NJTSRN:000000781</td>
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<td></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

**Foreign Chemical Inventory List(s)**

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

**Section 16: Other Information**

**HMIS Rating**

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<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: 000000000125
Version Date: 04/26/2005
MSDS Version: 1.15

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Indicates Relevant Change Made.