Section 1: Product and Company Identification

Product Name: ADDITIN RC 2418 200kgBF/800kgPal
Article Number: 1180472
Product Code: 230340
Chemical Family: Sulfurized Fatty Acid Esters
Chemical Name: Sulfurized Vegetable Fatty Oils and Sulfurized Fatty Acid Esters

Section 2: Composition/Information on Ingredients

HAZARDOUS INGREDIENTS

This product under ambient temperatures, under normal working conditions, is not considered hazardous under the criteria of the OSHA Hazard Communication Standard 29 CFR 1910.1200. However, if the material is used in a manner which generates an aerosol or mist, such as thermal processing, the exposure limits listed below must be followed in order to insure adequate worker safety.

<table>
<thead>
<tr>
<th>Ingredient Name/CAS Number</th>
<th>Exposure Limits</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfurized Rape Oil 68153-37-7</td>
<td><strong>OSHA (PEL):</strong> 5.00 mg/m3 TWA 15%</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>Respirable Fraction 15.00 mg/m3 TWA Fume</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>ACGIH (TLV):</strong> 10.00 mg/m3 TWA</td>
<td></td>
</tr>
</tbody>
</table>

Exposure limit for: Vegetable oil mists

Section 3: Hazards Identification

EMERGENCY OVERVIEW
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: Under normal working conditions, at ambient or room temperatures, using good industrial hygiene practices, this product should not pose an inhalation, skin or eye exposure problem. According to the OECD Guidelines for testing of chemicals both acute skin irritation and acute eye irritation showed negative results (no irritation). The American Conference of Governmental Industrial Hygienists (ACGIH) which has tested analogous materials, recommends that these materials are considered "nuisance" particulates that seem to have little adverse effect on the lungs and do not produce significant organic disease or toxic effects when material exposures are kept under reasonable control for aerosolized (misted) materials (use exposure limits listed at the end of Section 3 - Hazards Identification).

Chronic Effects of Exposure: None reported for this product as a whole.

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

Medical Conditions Aggravated by Exposure: None reported for this product as a whole., 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. Get medical attention if irritation develops or persists.

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.

First Aid for Inhalation: If not breathing, give artificial respiration. If inhaled, remove to

Material Name: ADDITIN RC 2418  200kgBF/800kgPal  Article Number: 1180472
fresh air. 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. 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 immediately.

**Note to Physician:**
Treat symptomatically.

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**Section 5: Fire Fighting Measures**

**Flash Point:**
Approximately 374 °F (190 °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:**
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. Evacuate non-emergency personnel to a safe area. During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion. Hydrogen sulfide (H2S) formation is possible after prolonged heating.

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

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**Section 6: Accidental Release Measures**

**Spill or Leak Procedures:**
Do not allow spilled or released material to enter ground water, waste water or soil. Extinguish all ignition sources. Emergency clean-up personnel should wear appropriate protection when entering the spill area for clean-up. Notify local health authorities and other appropriate agencies if such contamination should occur. Scoop up solid absorbent for waste disposal. Spill area can be washed with water. Place in properly marked containers for disposal. Ventilate area to remove vapors.

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**Section 7: Handling and Storage**

**Storage Temperature:**
Not Established - Ambient Recommended
Shelf Life: Approximately 6 Months

Special Sensitivity: Heat and sources of ignition.

Handling/Storage Precautions: Keep away from heat, sparks and flames. Store in a dry place away from excessive heat. Keep container tightly closed when not in use. Avoid contact with skin or clothing. Avoid breathing dusts, vapors or mists. Storage area should be equipped with sprinkler system. Handle in accordance with good industrial hygiene and safety practices.

Section 8: Exposure Controls/Personal Protection

Personal Protection Equipment
Eye Protection Requirements: Safety glasses with side shields or goggles are recommended.

Skin Protection Requirements: Avoid repeated or prolonged contact. 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 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). An organic vapor cartridge should be used if ventilation is not sufficient to control fumes released during thermal processing. 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
Appearance: Viscous
Color: Reddish Brown
Odor: Characteristic
Odor Threshold: Not Established
pH: Not Established
Boiling Point: Not Established
Melting/Freezing Point: Not Applicable
Viscosity: Approximately 200 mm²/s (kinematic value) @ 104°F (40°C) DIN 51562
Solubility in Water: Insoluble
Solubility (non Aqueous): Soluble in mineral oils and synthetic base oils
Specific Gravity: Approximately 1.01 @ 68 °F (20 °C) DIN 51757
Bulk Density: 8.43 lb/gal
Evaporation Rate: Not Established
Vapor Pressure: Not Established
Vapor Density: Not Established
VOC by Weight: Not Established
HOC by Weight: None

Section 10: Stability and Reactivity

Stability: Stable, Material is stable room temperature under normal storage and handling conditions.

Hazardous Polymerization: Will not occur

Substances to Avoid: Oxidizing agents

Conditions to Avoid: Avoid heat, flames, sparks and other sources of ignition.

Decomposition Temperature: Approximately 329 °F (165 °C)

Decomposition Products: Under thermal decomposition and/or fire - partially oxidized hydrocarbons, carbon monoxide, carbon dioxide, hydrogen sulfide, and sulfur dioxide may be possible.

Section 11: Toxicological Information

Toxicity Data for ADDITIN RC 2418 200kgBF/800kgPal
Acute oral toxicity: LD50 = > 5,000 mg/kg (Rat) Source: Tests performed on a similar product

Acute dermal toxicity: Not Established

Eye Irritation: Non-irritating (Rabbit) OECD Guideline No. 405 (Acute Eye Irritation/Corrosion) Source: Tests performed on a similar product

Skin Irritation: Non-irritating (Rabbit) OECD Guideline No. 404 (Acute Dermal Irritation/Corrosion) Source: Tests performed on a similar product

Sensitization: No sensitization. (Guinea pig) OECD Guideline No. 406 (Skin Sensitization) Source: Tests performed on a similar product

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

Section 12: Ecological Information

Ecological Data for ADDITIN RC 2418 200kgBF/800kgPal
Fish Toxicity: 6,500 mg/L, Source: Tests performed on a similar product
Biodegradation: 90 %, Source: Tests performed on a similar product

Inhibition Bacteria: EC50: 8,000 mg/L, Source: Tests performed on a similar product

Ecological Note: Water Pollution Class WGK 0 - not generally hazardous to water (German Water Resources Act)

Ecological Data for Sulfurized Rape Oil
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. Recondition or dispose of empty container in accordance with government regulations. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat, flame, sparks, static electricity, or other sources of ignition.

Section 14: Transportation Information

Technical shipping name: Sulfurized Vegetable Fatty Esters and Hydrocarbons

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: Non-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):** None
- **CAS Number:** None
- **Concentration:** Min. Max.

**SARA Section 311/312 Hazard Categories:**
- Non-hazardous under Section 311/312

**SARA Section 313 Toxic Chemicals:**
- **Component(s):** None
- **CAS Number:** None
- **Reporting Threshold:** Min. Max.

**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>Fatty Acids, Vegetable Oils, Me-esters, Sulfurized 72102-30-8</td>
<td>PA-H, NJ-N, MA-H</td>
<td>60% 100%</td>
</tr>
<tr>
<td>Sulfurized Rape Oil 68153-37-7</td>
<td>PA-H, NJ-N, MA-H</td>
<td>15% 40%</td>
</tr>
</tbody>
</table>

**State Code Translation Table**
- PA-H = Pennsylvania Hazardous Substance List
- NJ-N = New Jersey Other - includes predominant ingredients
- MA-H = Massachusetts 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>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: 0000000272
Version Date: 08/05/2005
MSDS Version: 1.11

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Indicates Relevant Change Made.