Section I – Product Information

Product Name or Identity: Papain

Manufacturer's Name: Acumedia Manufacturers, Inc.

Emergency Phone No.: 517/372-9200

740 Shiawassee

Fax No.: 517/372-2006

Lansing, Michigan 48912

e-mail: foodsafety@neogen.com

Date Prepared or Revised: 10/10/04

Section II – Hazardous Ingredients / Identity Information

Hazardous Components
(Specific Chemical Identity: Common Names) | OSHA PEL (Permissible Exposure Limits) | ACGIH TLV (Threshold Limit Value) | Toxicity Data LD₅₀
--- | --- | --- | ---
Papain (CAS No. 9001-73-4) | N/A | N/A | ORL-RAT, >4000 mg/kg

Section III – Physical Characteristics

Boiling Point: N/A | Specific Gravity (H₂O = 1): N/A

Vapor Pressure (mm Hg.): Negligible | Melting Point: N/A

Vapor Density (AIR = 1): N/A | Evaporation Rate (Butyl Acetate = 1): N/A

Solubility in Water: Readily Soluble

Appearance and Odor: Solid, light tan, amorphous powder

Section IV – Fire and Explosion Hazard Data

Flash Point (Method Used): Not applicable | Flammable Limits: LEL (Lower Explosive Limit) - N/A

UEL: (Upper Explosive Limit) – N/A

Extinguishing Media: Suitable extinguishing agents, CO₂, extinguishing powder or water spray.

Special Fire Fighting Procedures: Fight larger fires with water or alcohol resistant foam. Firefighters should wear protective equipment and self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: During heating or in case of fire poisonous gases are produced.

Section V – Reactivity Data

Stability Unstable | Conditions to Avoid: Stable under normal temperatures and pressures.

Stable X

Incompatibility (Materials to Avoid): Incompatible with strong oxidizers.

Hazardous Decomposition or Byproducts: Carbon monoxide (CO) in cases of incomplete combustion and Carbon dioxide (CO₂).

Hazardous Polymerization May Occur | Conditions to Avoid: Incompatible materials, dust generation, excess heat and strong oxidizers.

Will Not Occur X
### Section VI – Health Hazard Data

<table>
<thead>
<tr>
<th>Route(s) of Entry:</th>
<th>Inhala tion? Yes</th>
<th>Skin? Yes</th>
<th>Ingestion? Yes</th>
</tr>
</thead>
</table>

**Health Hazards: (Acute and Chronic)**
- Irritate. Irritating to eyes, respiratory system and skin at high concentrations.

**Carcinogenicity:**
- NTP? No
- IARC Monographs? No
- OSHA Regulated? No

**Signs and Symptoms of Exposure:** Repeated inhalation can cause sensitization to susceptible individuals. May cause skin sensitization.

**Medical Conditions Generally Aggravated by Exposure:** May cause allergic reaction affecting respiratory tract, digestive tract, or eye irritation.

**Emergency / First Aid Procedures**
- **Ingestion:** If swallowed, seek medical attention immediately.
- **Inhalation:** In case of unconsciousness, place patient on side position for transportation. Supply fresh air or oxygen; seek medical attention.
- **Eye Contact:** Rinse opened eye for at least 15 minutes. Seek medical attention.
- **Skin Contact:** Immediately wash with plenty of soap and water for at least 15 minutes. Seek medical attention.

### Section VII – Precautions for Safe Handling and Use

**Accidental Release Measures:** Ventilate spill area. Wear suitable protective clothing. Wipe up with damp sponge or mop.

**Waste Disposal Method:** Dispose in accordance with all applicable federal, state, and local environmental regulations.

**Handling and Storing:** Keep container tightly closed. Store in cool, dry conditions. Do not store together with oxidizing and acidic materials. Containers may be hazardous when empty because they retain product residues.

**Other Precautions:** Remove contaminated clothing immediately. Ensure good ventilation / exhaustion at the workplace. Prevent formation of dust. Avoid prolonged or repeated exposure.

### Section VIII – Control Measures

**Respiratory Protection** (Specify Type): None required where adequate ventilation conditions exist. If airborne concentration is high, use an appropriate respirator or dust mask.

**Ventilation:**
- Local Exhaust: 50 – 100 CFM
- Mechanical (General): N/A
- Special: N/A
- Other: N/A

**Protective Gloves:** Proper disposable gloves

**Eye Protection:** Chemical resistant safety goggles

**Other Protective Clothing or Equipment:** Uniform, lab coat or disposable lab wear.

**Work / Hygienic Practices:** Follow the usual precautionary measures for handling chemicals / powder. Keep away from food and beverages. Immediately remove all soiled and contaminated clothing. Avoid contact with eyes, skin, and clothing.

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