MATERIAL SAFETY DATA SHEET

PART NO: S232-105-001, Rev. C
MSDS DATE: June 19, 2013

SECTION 1: PRODUCT & COMPANY IDENTIFICATION

Product Name: Litholyme
Synonyms: None
Product Codes: 55-01-0013, 55-01-0014, 55-01-0015, 55-01-0016, 55-01-0017, 55-01-18, 55-01-0019
Manufacturer: Allied Healthcare Products, Inc.
Address: 1720 Sublette Avenue, St. Louis, MO 63110
Emergency Phone: 314-771-2400
CHEMTREC Phone: 800-262-8200
Other Calls: N/A
FAX Phone: 314-268-1767
Chemical Description: Inorganic solid blend
Product Use: CO₂ Absorbent
Prepared By: Jack Dabrowski, Senior Product Manager

SECTION 2: COMPOSITION & INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>CAS NO.</th>
<th>% WT</th>
<th>% VOL</th>
<th>SARA 313 REPORTABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Hydroxide</td>
<td>1305-62-0</td>
<td>&gt;75%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Lithium Chloride</td>
<td>7447-41-8</td>
<td>&lt;3%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Ethyl Violet Indicator</td>
<td>2930-59-2</td>
<td>&lt;1%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Hydroxide</td>
<td>5mg/m³</td>
<td>5mg/m³</td>
</tr>
<tr>
<td>Lithium Chloride</td>
<td>5mg/m³</td>
<td>-</td>
</tr>
<tr>
<td>Ethyl Violet Indicator</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

SECTION 3: HAZARDS IDENTIFICATION

Routes of Entry: Mouth, skin, eyes
Potential Health Effects:

- **Eyes:** Causes severe eye irritation
- **Skin:** Causes skin irritation
- **Ingestion:** Harmful if ingested
- **Inhalation:** Dust can cause irritation and injury to the respiratory system

Acute Health Hazards: Irritant to throat

Chronic Health Hazards: N/A

Carcinogen: OSHA: N/A, ACGIH: N/A, NTP: N/A, IARC: N/A, OTHER: N/A

Medical Conditions Generally Aggravated by Exposure: N/A

SECTION 4: FIRST AID MEASURES

**Eyes:** Flush eyes with water for at least 15 minutes while holding eyelids open. Seek medical attention.

**Skin:** Wash with soap and water. If discomfort or pain exists, consult a physician. Remove contaminated clothing and wash before reuse.

**Ingestion:** Wash out mouth thoroughly. Seek medical attention.

**Inhalation:** Remove from exposure. Seek medical attention.

Notes to Physicians or First Aid Providers: Fresh Litholyme is a basic compound with a pH of 12-12.25.
SECTION 5: FIRE-FIGHTING MEASURES

NFPA Hazard Classification:
- Health: 2
- Flammability: 0
- Reactivity: 0
- Other: N/A

Extinguishing Media: Water, foam, CO₂, powder – all are acceptable
Special Fire-fighting Procedures: Breathing apparatus may be necessary
Unusual Fire & Explosion Hazards: Material is non-combustible. Packaging may be combustible.
Hazardous Decomposition Products: N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid inhaling dust; avoid skin and eye contact.
Environmental Precautions: No hazard
Recovery: Contain material. Sweep or vacuum up.

SECTION 7: HANDLING & STORAGE

Storage: Store in a clean dry environment. Avoid direct sunlight.
Keep containers closed.
Preferred temperature range: 40° F to 100° F (4° C to 37.7° C)

SECTION 8: EXPOSURE CONTROLS & PERSONAL PROTECTION

Respiratory Protection: Nuisance dust mask recommended
Eye Protection: Goggles to protect against dust recommended
Skin Protection: General purpose rubber gloves recommended
Hygiene: Wash hands after skin contact

OCCUPATIONAL EXPOSURE LIMITS (EH 40):

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>TWA/8h</th>
<th>STEL(15 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Hydroxide</td>
<td>5mg/m³</td>
<td>N/A</td>
</tr>
<tr>
<td>Lithium Chloride</td>
<td>10mg/m³</td>
<td>N/A</td>
</tr>
<tr>
<td>Ethyl Violet Indicator</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Physical State: Solid
Appearance: White to blue-white granules
Odor: None
pH as Supplied: 12-12.25
Specific Gravity (H₂O = 1): 2.0 gm/cm³
Solubility in Water: Slight
Percent Solids by Weight: ≥ 82

SECTION 10: STABILITY & REACTIVITY

Stability: Material is stable.
Conditions to Avoid (stability): N/A
Incompatibility (material to avoid): Avoid contact with chloroform or trichloroethylene (Trilene)
Decomposition or By-products: Converts to calcium and lithium carbonates when exposed to air. Heat is generated when exposed to acids.
SECTION 11: TOXICOLOGICAL INFORMATION

Calcium Hydroxide: LD (50) = 7.3 g/kg rat
Lithium Chloride: LD (50) = 526 mg/kg rat

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: No risk of prolonged damage to animal or plant life
Mobility: Converts to naturally occurring minerals

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: May require disposal by a licensed contractor and carrier. Check local ordinances.
Should be disposed of as non-contaminated clinical waste.

SECTION 14: TRANSPORT INFORMATION

Transport Classification: Not classified as hazardous for transport by land, sea or air
Proper Shipping Name: Litholyme
UN Number: N/A
Hazard Class: N/A
Packing Group: N/A
Label Statement: N/A

SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations:
- TSCA (Toxic Substance Control Act): YES
- CERCLA (Comprehensive Response Compensation & Liability Act): YES
- SARA Title III (Superfund Amendments & Reauthorization Act): N/A
- 311/312 Hazard Categories: N/A
- 313 Reportable Ingredients: N/A
State Regulations: YES
International Regulations: YES

SECTION 16: OTHER INFORMATION

Non-Hazardous Ingredient Disclosure:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>% WT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>007732-18-5</td>
<td>12-19%</td>
</tr>
</tbody>
</table>

DISCLAIMER:
The information in this safety sheet is based on best knowledge available at the time and current national legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular application. As the specific conditions of use are outside the control of the supplier, the user is responsible for ensuring that the product is used in a safe manner and the requirements of relevant legislation are complied with.