Section 1. Product and Company Identification

Product Name: Phenethyl isothiocyanate
Product ID: P2508
Chemical Name (Synonyms): Phenethyl mustard oil
Supplier: LKT Laboratories, Inc
545 Phalen Blvd.
St. Paul, MN 55130 USA
Ph: 651-644-8424 Fax: 651-644-8357
www.lktlabs.com - getinfo@lktlabs.com

Emergency Phone #: 1-800-424-9300

Section 2. Hazards Identification

GHS Classification:
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Skin (Category 4), H312
Skin irritation (Category 2), H315
Skin sensitization (Category 1), H317
Eye irritation (Category 2A), H319
Acute toxicity, Inhalation (Category 4), H332
Respiratory sensitization (Category 1), H334
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

GHS Label elements including precautionary statements

Pictogram: □ □
Signal word: Danger
Hazard statements:
H302 + H312 + H332 - Harmful if swallowed or in contact with skin or if inhaled.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H332 - Harmful if inhaled.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 - May cause respiratory irritation.

Precautionary statements:
P261 - Avoid breathing dust, fumes, gas, mist, vapors and spray.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves, eye protection and face protection.
P285 - In case of inadequate ventilation, wear respiratory protection.
P301 + P312 - IF SWALLOWED: CALL A POISON CENTER or doctor / physician if you feel unwell.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P322 - Specific measures
P330 - Rinse mouth.
P333 + P313 - If skin irritation or rash occurs: Get medical advice / attention.
P337 + P313 - If eye irritation persists: Get medical advice / attention.
P334 - P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician.
P362 - Take off contaminated clothing and wash before reuse.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents / container to an approved waste disposal plant.

HMIS Classification:
Health hazard: 2
Chronic health hazard: 0
Flammability: 1
Physical hazards: 0

NFPA Rating:
Health hazard: 2
Fire: 1
Reactivity hazard: 0

Potential Health Effects:
Inhalation: Acute toxicity. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory tract irritation. Harmful if inhaled.
Skin: Acute toxicity. May cause an allergic skin reaction. Causes skin irritation. Harmful in contact with skin.
Eyes: Causes serious eye irritation. Ingestion: Acute toxicity. Harmful if swallowed.

### Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th>Formula</th>
<th>CAS No.</th>
<th>Formula Wt.</th>
<th>EC No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>C_{9}H_{9}NS</td>
<td>2257-09-2</td>
<td>163.24</td>
<td>218-855-5</td>
</tr>
</tbody>
</table>

### Section 4. First Aid Measures

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**Eye Contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Skin Contact**
Wash off with soap and plenty of water. Consult physician.

**Inhalation**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult physician.

**Ingestion**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult physician.

### Section 5. Firefighting Measures

**Flash Point**
113 °C (235 °F) - closed cup.

**Extinguishing Media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Firefighting Procedures**
Wear self-contained breathing apparatus for fire fighting and protective clothing if necessary.

**Unusual Fire Hazards**
Carbon oxides, nitrogen oxides (NOx) and sulfur oxides.

### Section 6. Accidental Release Measures

**Personal Precautions**
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental Precautions**
Do not let product enter drains.

**Methods and materials for containment and cleanup**
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### Section 7. Handling and Storage

**Handling**
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Normal measures for preventive fire protection.

**Storage Conditions**
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Recommended storage temperature: -20°C.

**Hazardous Decomposition Products**
Not available.

**Other Remarks**
This product is moisture sensitive.
### Section 8. Exposure Controls/Personal Protection

**Personal protective equipment**
- **EXPOSURE CONTROLS**: Contains no substances with occupational exposure limit values. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**PERSONAL PROTECTION**
- **Eye/face protection**: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
- **Skin protection**: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
- **Body protection**: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- **Respiratory protection**: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid.</td>
<td>Clear, pale yellow liquid.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>139 - 140°C (282 - 284 °F) at 15 hPA (11 mmHg) - lit.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Melting Point</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>1.094 g/cm³ at 25 °C (77 °F).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solubility</th>
<th>Volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble in ethanol and DMSO.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>113 °C (235 °F) - closed cup.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lower explosion limit</th>
<th>Autoignition temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Upper explosion limit</th>
<th>Vapor pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water solubility</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insoluble in water.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Partition coefficient: n-octanol/water</th>
<th>Odor Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relative vapor density</th>
<th>Evaporation rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### Section 10. Stability and Reactivity

**Stability**
- Stable under recommended storage conditions.

**Materials To Avoid**
- Avoid strong bases, acids, strong oxidizing agents, amines, water and alcohol.

**Hazardous Decomposition Products**
- Not available.
### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oral LD50</strong></td>
<td>Mouse - 700 mg/kg.</td>
</tr>
<tr>
<td><strong>Inhalation LC50</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Dermal LD50</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Other information on acute toxicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Reproductive Toxicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Specific organ toxicity single exposure (GHS)</strong></td>
<td>Inhalation - May cause respiratory irritation.</td>
</tr>
<tr>
<td><strong>Specific organ toxicity repeated exposure (GHS)</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Teratogenicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Germ cell mutagenicity</strong></td>
<td>Hamster - ovary cytogenetic analysis and ovary sister chromatid exchange. Mammal - cytogenetic analysis and other mutation test systems.</td>
</tr>
<tr>
<td><strong>Aspiration Hazard</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Synergistic effects</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>RTECS</strong>:</td>
<td>NX9115000.</td>
</tr>
</tbody>
</table>

### Potential Health Effects
- **Inhalation**: Acute toxicity. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory tract irritation. Harmful if inhaled. Skin: Acute toxicity. May cause an allergic skin reaction. Causes skin irritation. Harmful in contact with skin. Eyes: Causes serious eye irritation. Ingestion: Acute toxicity. Harmful if swallowed.

### Carcinogenicity
- **IARC**: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **ACGIH**: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- **NTP**: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- **OSHA**: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Section 12. Ecological Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity</strong></td>
<td>Toxicity to daphnia and other aquatic invertebrates. LC50 - Daphnia magna (Water flea) - 0.13 mg/l - 48 h.</td>
</tr>
<tr>
<td><strong>Mobility in soil</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>PBT and vPvB assessment</strong></td>
<td>PBT/vPvB assessment not available as chemical safety assessment not required/not</td>
</tr>
</tbody>
</table>
Section 13. Disposal Considerations
Dispose of material according to all federal, state and local regulations.
Offer material to a licensed, professional waste disposal company to dispose of as unused product.

Section 14. Transport Information
DOT (US)  UN number: 2810  Class: 6.1  Packing group: II
Proper shipping name: Toxic liquid, organic, n.o.s. (Phenethyl isothiocyanate)
Marine pollutant: No
POISON Inhalation Hazard: No

IATA  UN number: 2206  Class: 6.1  Packing group: III
Proper shipping name: Isocyanate solution, toxic, n.o.s. (Phenethyl isothiocyanate)

IMDG  UN number: 2206  Class: 6.1  Packing group III
EMS-No: F-A, S-A
Proper shipping name: ISOCYANATE SOLUTION, TOXIC, N.O.S. (Phenethyl isothiocyanate)
Marine Pollutant: No

Further Information

Section 15. Regulatory Information
Reach No.

SARA 302 Components  No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components  This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Components  Acute health hazard.

Massachusetts Right To Know Components  No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components  Phenethyl isothiocyanate  CAS #: 2257-09-2  Revision Date:

New Jersey Right To Know Components  Phenethyl isothiocyanate  CAS #: 2257-09-2  Revision Date:

California Prop 65 Components  This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other reproductive harm.

Section 16. Other Information
The information in this document is believed to be correct but is not necessarily complete. LKT does not guarantee the accuracy of the information. The burden of verifying the information in this document rests solely upon the user.