Section 1. Product and Company Identification

Product Name: Phenyl Isothiocyanate
Product ID: P2513
Chemical Name (Synonyms): PITC, Isothiocyanatobenzene, Phenyl mustard oil, Thiocarbanil

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:
- Flammable liquids (Category 4) H227
- Acute toxicity, Oral (Category 3) H301
- Skin corrosion (Category 1B) H314
- Skin sensitization (Category 1) H317
- Serious eye damage (Category 1) H318
- Respiratory sensitization (Category 1) H334
- Acute aquatic toxicity (Category 2) H401
- Chronic aquatic toxicity (Category 2) H411

Pictogram:

Signal word: Danger

Hazard and precautionary statements:
- Hazard statements:
  - H227 - Combustible liquid
  - H301 - Toxic if swallowed.
  - H314 - Causes severe skin burns and eye damage.
  - H317 - May cause an allergic skin reaction.
  - H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  - H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements:
- P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
- P261 - Avoid breathing dust, fumes, gas, mist, vapors, spray.
- P264 - Wash skin thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P273 - Avoid release to the environment.
- P275 - Wear protective gloves, protective clothing, eye protection, face protection.
- P280 - Wear protective gloves, protective clothing, eye protection, face protection.
- P301 + P305 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P304 + P340 + P318 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing, then call a POISON CENTER or doctor/physician.
- P304 + P340 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 - Immediately call a POISON CENTER or doctor/physician.
- P321 - Specific treatment (see supplemental first aid instructions on this label).
- P333 + P334 + P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P363 - Wash contaminated clothing before reuse.
- P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
- P391 - Collect spillage.
- P403 + P235 - Store in a well-ventilated place. Keep cool.
- P405 - Store locked up.
- P501 - Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification:
- Health hazard: 3
- Chronic health hazard: *
- Flammability: 2
- Physical hazard: 0

NFPA Rating:
- Health hazard: 3
- Fire hazard: 2
- Reactivity hazard: 0

Potential Health Effects:
- Inhalation - May be harmful if inhaled. May cause respiratory tract irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin - May be harmful if absorbed through skin. Causes severe burns. May cause an allergic skin reaction.
Eyes - Causes serious eye damage. Ingestion - Acute toxicity. Toxic if swallowed.

### Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th>Ingredient: Title Compound</th>
<th>Percent:</th>
<th>Formula Wt:</th>
<th>CAS No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>C7H5NS</td>
<td>135.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS No.</td>
<td>103-72-0</td>
<td>EC No.</td>
<td>203-138-1</td>
<td></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**
Flush eyes with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**Skin Contact**
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

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

**Ingestion**
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### Section 5. Firefighting Measures

**Flash Point**
For small (incipient) fires, use media such as alcohol foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams for water may be ineffective. Cool all affected containers with flooding quantities of water.

**Extinguishing Media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Further information: Use water spray to cool unopened containers.

**Firefighting Procedures**
Wear self-contained breathing apparatus for firefighting if necessary.

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

### Section 6. Accidental Release Measures

**Personal Precautions**
Wear respiratory protection. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Environmental Precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleanup**
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). 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. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**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**
Moisture sensitive.
**Section 8. Exposure Controls/Personal Protection**

**Personal protective equipment**

EXPOSURE CONTROLS
Contains no substances with occupational exposure limit values.

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

PERSONAL PROTECTION

Eye/face protection: Tightly fitting safety goggles. Face shield (8-inch minimum). 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. Full contact: Material: Fluorinated rubber, Minimum layer thickness: 0.7 mm, Break through time: 480 min., Material tested: Vitoject® (KCL 890/Aldrich Z677698, Size M). Splash contact: Material: butyl-rubber, Minimum layer thickness: 0.3 mm, Break through time: 30 min., Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

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 particle respirator type N100 (US) or type P3 (EN 143) 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>
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</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Green liquid.</td>
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</table>

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>Volatility</th>
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<tr>
<td>221°C</td>
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<table>
<thead>
<tr>
<th>Melting Point</th>
<th>Density</th>
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<tbody>
<tr>
<td>-21°C</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Solubility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insoluble in water. Soluble in alcohol, ether.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Flash Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignition temperature</td>
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<tr>
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<table>
<thead>
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<th>Lower explosion limit</th>
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</thead>
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</table>

<table>
<thead>
<tr>
<th>Upper explosion limit</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
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<table>
<thead>
<tr>
<th>Water solubility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insoluble in water.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Partition coefficient: n-octanol/water</th>
</tr>
</thead>
<tbody>
<tr>
<td>log Pow: &gt; 3</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable under recommended storage conditions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Materials To Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water, alcohols, strong bases, amines, acids, strong oxidizing agents.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous Decomposition Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
</tr>
</tbody>
</table>
### Section 11. Toxicological Information

#### Oral LD50
- **Mouse** - 87 mg/kg
  - **Remarks:** Kidney, ureter, bladder: Urine volume increased.

#### Inhalation LC50
- **Not available.**

#### Dermal LD50
- **Not available.**

#### Other information on acute toxicity
- **Not available.**

#### Skin corrosion/irritation
- **Not available.**

#### Serious eye damage/irritation
- **Not available.**

#### Respiratory or skin sensitization
- **Not available.**

#### Germ cell mutagenicity
- **Mammal**
  - Cytogenetic analysis

#### Reproductive Toxicity
- **Developmental toxicity - mouse - subcutaneous**
  - Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord). Effects on Embryo or Fetus: Fetal toxicity (except death, e.g., stunted fetus).
- **Teratogenicity**
  - **Not available.**

#### Specific organ toxicity
- **Single exposure (GHS)**
  - **Not available.**
- **Repeated exposure (GHS)**
  - **Not available.**

#### Aspiration Hazard
- **Not available.**

#### Synergistic effects
- **Not available.**

#### Potential Health Effects
- **Inhalation**
  - May be harmful if inhaled. May cause respiratory tract irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  - **Skin**
    - May be harmful if absorbed through skin. Causes severe burns. May cause an allergic skin reaction.
    - **Eyes**
      - Causes serious eye damage.
    - **Ingestion**
      - Acute toxicity. Toxic 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

#### Toxicity
- Toxicity to daphnia and other aquatic invertebrates.
  - **LC50 - Daphnia magna (Water flea)** - 0.1 mg/l - 48 h

#### Mobility in soil
- **Not available.**

#### PBT and vPvB assessment
- **PBT/vPvB assessment not available as chemical safety assessment not required/not
Section 13. Disposal Considerations

Waste Disposal

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. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed disposal company.

Section 14. Transport Information

DOT (US)
UN number: 2927  Class: 6.1 (8)  Packing Group: II
Proper shipping name: Toxic liquid, corrosive, organic, n.o.s. (Phenyl isothiocyanate)
Marine pollutant: No  Poison Inhalation Hazard: No

IATA
UN number: 2927  Class: 6.1 (8)  Packing Group: II
Proper shipping name: Toxic liquid, corrosive, organic, n.o.s. (Phenyl isothiocyanate)

IMDG
Proper shipping name: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (Phenyl isothiocyanate)
Marine pollutant: No

Further Information

Section 15. Regulatory Information

Reach No.

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

SARA 313 Components  SARA 313: 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  No SARA hazards.

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

Pennsylvania Right To Know Components  Phenyl Isothiocyanate  CAS #: 103-72-0  Revision Date:

New Jersey Right To Know Components  Phenyl Isothiocyanate  CAS #: 103-72-0  Revision Date:

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

Section 16. Other Information

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.