Section 1. Product and Company Identification

Product Name  S-Sulforaphene
Product ID   S8049
Chemical Name (Synonyms)  Raphanin; Sativin
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  Not a hazardous substance or mixture.

GHS Label elements including precautionary statements

Pictogram

Signal word

Hazard and precautionary statements  Hazard statement
Not a hazardous substance or mixture.
Precautionary statement
Not a hazardous substance or mixture.

HMIS Classification  Health hazard: 0
                       Flammability: 0
                       Physical hazard: 0

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

Potential Health Effects  Inhalation: May be harmful if inhaled.
                          Skin: May be harmful if absorbed through skin.
                          Eyes: May cause eye irritation.
**Section 3. Composition/Information on Ingredients**

<table>
<thead>
<tr>
<th>Substances</th>
<th>Ingredient: Title Compound</th>
<th>Percent: 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>( \text{C}_6\text{H}_9\text{NOS}_2 )</td>
<td>Formula Wt. 175.27</td>
</tr>
<tr>
<td>CAS No.</td>
<td>592-95-0</td>
<td>EC No.</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**
Remove contact lenses. Flush with water for at least 15 minutes and seek medical attention immediately.

**Skin Contact**
Wash with soap and water for 15 minutes and seek medical attention immediately.

**Inhalation**
Remove from exposure and provide respiration support if necessary. Seek medical attention.

**Ingestion**
Rinse mouth with water. Contact a physician or poison control immediately.

**Section 5. Firefighting Measures**

**Flash Point**
Not available.

**Extinguishing Media**
Water spray, alcohol-resistant foam, dry chemical powder or carbon dioxide.

**Firefighting Procedures**
Wear self-contained breathing apparatus and protective clothing for firefighting.

**Unusual Fire Hazards**
May emit toxic fumes under fire conditions.

**Section 6. Accidental Release Measures**

**Personal Precautions**
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental Precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleanup**
Use appropriate tools to collect material and dispose of in waste container. Avoid raising dust. Ventilate the area and wash spill site after material has been removed.

**Section 7. Handling and Storage**

**Handling**
Wear gloves, goggles, and lab coat when handling this material. Use in a well ventilated area. Use only in a chemical fume hood. Wash thoroughly after handling material.

**Storage Conditions**
Store in a cool dry place in a tightly closed container at -20°C.

**Hazardous Decomposition Products**
Nature of decomposition products not known.

**Other Remarks**
None.
Section 8. Exposure Controls/Personal Protection

**Personal protective equipment**

**EXPOSURE CONTROLS:** Contains no substances with occupational exposure limit values.

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

**PERSONAL PROTECTIVE EQUIPMENT:**

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 particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplier air respiratory. 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>Slightly yellow liquid.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>Volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>bp0.015: 125-130°C</td>
<td>Not available.</td>
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</table>

<table>
<thead>
<tr>
<th>Melting Point</th>
<th>Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solubility</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble in water, methanol, DMSO, or chloroform.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>Ignition temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</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>Soluble 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. Avoid prolonged contact with moisture and freeze thaw cycles.

**Materials To Avoid**

Keep away from sunlight and heat.

**Hazardous Decomposition Products**

Nature of decomposition products not known.
Section 11. Toxicological Information

Oral LD50: Not available.

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: Not available.

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.

Reproductive Toxicity: Not available.

Teratogenicity: Not available.

Specific organ toxicity single exposure (GHS): Not available.

Specific organ toxicity repeated exposure (GHS): Not available.

Aspiration Hazard: Not available.

Synergistic effects: Not available.

Additional Information: Not available.

Potential Health Effects:
- Inhalation: May be harmful if inhaled.
- Skin: May be harmful if absorbed through skin.
- Eyes: May cause eye irritation.
- Ingestion: May be harmful if swallowed.

Section 12. Ecological Information

Toxicity: Not available.

Mobility in soil: Not available.

PBT and vPvB assessment: Not available.

Possibility of hazardous reactions: Not available.

Conditions to avoid: Not available.
Persistence and degradability  Not available.  Other adverse effects  Not available.

Bioaccumulative potential  Not available.

Section 13. Disposal Considerations

Waste Disposal
Dispose of material according to all federal, state and local regulations. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dispose of as unused product.

Section 14. Transport Information

DOT (US)  Not dangerous goods.
IATA  Not dangerous goods.
IMDG  Not dangerous goods.

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  R-Sulforaphane  CAS #: 142825-10-3  Revision Date:

New Jersey Right To Know Components  R-Sulforaphane  CAS #: 142825-10-3  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.