Section 1. Product and Company Identification

Product Name: Diallyl Sulfide
Product ID: D3201
Chemical Name (Synonyms):
- 2-Propenyl sulphide; 3,3-Thiobis(1-propene)
- Diallyl monosulfide; Diallyl thioether
- Allyl monosulfide; Allyl sulfide
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 3), H226
- Skin irritation (Category 2), H315
- Eye irritation (Category 2A), H319
- Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335.

GHS Label elements including precautionary statements

Pictogram: Flammable liquid and vapor.

Signal word: Warning

Hazard and precautionary statements:
- H226 - Flammable liquid and vapor.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H335 - May cause respiratory irritation.

Precautionary statements:
- P210 - Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
- P233 - Keep container tightly closed.
- P240 - Ground, bond container, and receiving equipment.
- P241 - Use explosion-proof electrical, ventilating, lighting, and equipment.
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P261 - Avoid breathing dust, fumes, gas, mist, vapors, and spray.
- P264 - Wash skin thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves, protective clothing, eye protection, and face protection.
- P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- 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.
- P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
- P313 - Specific treatment (see supplemental first aid instructions on this label).
- P321 - If skin irritation occurs: Get medical advice/attention.
- P332 + P313 - If eye irritation persists: Get medical advice/attention.
- P362 - Take off contaminated clothing and wash before reuse.
- P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinguition.
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- 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: 2
- Flammability: *
- Physical hazard: 0

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

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

**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>C₆H₁₀S</td>
<td>114.21</td>
</tr>
<tr>
<td>CAS No.</td>
<td>592-88-1</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.

**Skin Contact**
Wash off with soap and plenty of water. 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**: 46°C
- **Extinguishing Media**: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
- **Firefighting Procedures**: Wear self-contained breathing apparatus for firefighting if necessary.
- **Unusual Fire Hazards**: Carbon oxides, sulfur oxides.

**Section 6. Accidental Release Measures**

- **Personal Precautions**: Use personal protective equipment. 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.
- **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).

**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.
- **Hazardous Decomposition Products**: Not available.
- **Other Remarks**
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: Impervious clothing. Flame retardant antistatic protective clothing. 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).

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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, colorless liquid.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>-83°C</th>
</tr>
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<tbody>
<tr>
<td>Melting Point</td>
<td>Insoluble in water.</td>
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<tr>
<td>Flash Point</td>
<td>46°C</td>
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<tr>
<td>Lower explosion limit</td>
<td>Not available.</td>
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<tr>
<td>Upper explosion limit</td>
<td>Not available.</td>
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<tr>
<td>Water solubility</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>3.94 - (Air = 1.0)</td>
</tr>
</tbody>
</table>

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Section 10. Stability and Reactivity

**Stability**

Stable under recommended storage conditions.

**Materials To Avoid**

Strong oxidizing agents, strong bases.

**Hazardous Decomposition Products**

Not available.
Section 11. Toxicological Information

Oral LD50  Rat - 2,980 mg/kg

Inhalation LC50  Not available.

Dermal LD50  Rabbit - > 5,000 mg/kg

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  Hamster, ovary, cytogenetic analysis. Hamster, ovary, sister chromatid exchange.

Reproductive Toxicity  Not available.

Aspiration Hazard  Not available.

Specific organ toxicity single exposure (GHS)  Inhalation - May cause respiratory irritation.

Synergistic effects  Not available.

Specific organ toxicity repeated exposure (GHS)  Not available.

Additional Information  RTECS: BC4900000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Teratogenicity  Not available.

Signs and symptoms of exposure  Not available.

Potential Health Effects  Inhalation - May be harmful if inhaled. May cause respiratory tract irritation. Skin - May be harmful if absorbed through skin. Causes skin irritation. Eyes - Causes serious eye irritation. Ingestion - May be 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

Toxicity  Not available.

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 this material as unused product. Burn in a chemical incinerator equipped with an afterburner and scrubber, but exert extra care in igniting as this material is highly flammable.

Section 14. Transport Information

**DOT (US)**
- UN number: 1993
- Class: 3
- Packing group: III
- Proper shipping name: Flammable liquids, n.o.s. (Diallyl sulfide)
- Reportable quantity (RQ): Poison inhalation hazard: No.

**IATA**
- UN number: 1993
- Class: 3
- Packing group: III
- Proper shipping name: Flammable liquids, n.o.s. (Diallyl sulfide)

**IMDG**
- UN number: 1993
- Class: 3
- Packing group: III
- EMS NO.: F-E, S-E
- Proper shipping name: FLAMMABLE LIQUID, N.O.S. (Diallyl sulfide)

Further Information

Section 15. Regulatory Information

**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**
Fire hazard, acute health hazard.

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

**Pennsylvania Right To Know Components**
- Diallyl Sulfide CAS #: 592-88-1

**New Jersey Right To Know Components**
- Diallyl Sulfide CAS #: 592-88-1

**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.