Section 1. Product and Company Identification

Product Name: Vinblastine Sulfate
Product ID: V3253
Chemical Name (Synonyms): Exal, Velban, Velbe
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
- Skin irritation (Category 2) H315
- Serious eye damage (Category 1) H318
- Specific target organ toxicity - single exposure (Category 3) Respiratory system, H335

GHS Label elements including precautionary statements

Pictogram
Signal word: Danger
Hazard and precautionary statements

Hazard statements
- H302 - Harmful if swallowed.
- H315 - Causes skin irritation.
- H318 - Causes serious eye damage.
- H335 - May cause respiratory irritation.

Precautionary statements
- 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.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves, eye protection, face protection.
- P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
- P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
- P332 + P313 - If skin irritation occurs: Get medical advice/attention.
- 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: *
- Flammability: 0
- Physical hazard: 0

NFPA Rating
- Health hazard: 2
- Fire hazard: 0
- 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 - Acute toxicity - Harmful if swallowed. Specific target organ toxicity - single exposure - May cause respiratory irritation.

Section 3. Composition/Information on Ingredients
Substances
Ingredient: Title Compound Percent: 100
Formula
C_{46}H_{58}N_{4}O_{9}S \cdot H_{2}SO_{4} Formula Wt. 909.07
CAS No. 143-67-9 EC No.

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

Section 5. Firefighting Measures
Flash Point
Not available.

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
Not available.

Section 6. Accidental Release Measures
Personal Precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing dust, 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
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage
Handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed.

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20°C

Hazardous Decomposition Products
Hazardous decomposition products formed under fire conditions. Carbon oxides, nitrogen oxides (NOx), sulfur oxides.

Other Remarks
Section 8. Exposure Controls/Personal Protection

**Personal protective equipment**
- **EXPOSURE CONTROLS**: Contains no substances with occupational exposure limit values. Hazardous components without workplace control parameters. 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 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>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>White crystal powder</td>
</tr>
<tr>
<td><strong>Boiling Point</strong></td>
<td>Not available</td>
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<tr>
<td><strong>Melting Point</strong></td>
<td>267°C</td>
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<tr>
<td><strong>Solubility</strong></td>
<td>Slightly soluble in ethanol or water (10 parts). Practically insoluble in ether.</td>
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<tr>
<td><strong>Flash Point</strong></td>
<td>Not available</td>
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<tr>
<td><strong>Lower explosion limit</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Upper explosion limit</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>Slightly soluble in water (10 parts).</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Relative vapor density</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available</td>
</tr>
</tbody>
</table>

Section 10. Stability and Reactivity

- **Stability**: Stable under recommended storage conditions.
- **Materials To Avoid**: Strong oxidizing agents.
- **Hazardous Decomposition Products**: Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), sulfur oxides.
Section 11. Toxicological Information

**Oral LD50** Rat - 305 mg/kg.

**Skin corrosion/irritation** Not available.

**Inhalation LC50** Not available.

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

**Dermal LD50** Not available.

**Respiratory or skin sensitization** Not available.

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

**Germ cell mutagenicity** Laboratorie experiments have shown mutagenic effects.

**Reproductive Toxicity** Laboratories experiments have shown teratogenic effects.

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

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

**Aspiration Hazard** Not available.

**Synergistic effects** Not available.

**Additional Information** RTECS: Not available.

**Signs and symptoms of exposure** Stomach - irregularities - based on human evidence. Prolonged or repeated exposure can cause: Vomiting, diarrhea.

**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 - Acute toxicity - Harmful if swallowed. Specific target organ toxicity - single exposure - May cause respiratory irritation.

**Carcinogenicity** This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, NTP, or EPA classification.

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.

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 possible.
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. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Section 14. Transport Information

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

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 Acute health hazard, chronic health hazard.

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

Pennsylvania Right To Know Components Vinblastine Sulfate CAS #: 143-67-9 Revision Date:

New Jersey Right To Know Components Vinblastine Sulfate CAS #: 143-67-9 Revision Date:

California Prop 65 Components WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Vinblastine Sulfate CAS #: 143-67-9 Revision Date: 2007-09-28

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.