# Safety Data Sheet

## Section 1. Product and Company Identification

<table>
<thead>
<tr>
<th><strong>Product Name</strong></th>
<th>Mechlorethamine Hydrochloride</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product ID</strong></td>
<td>C2942</td>
</tr>
<tr>
<td><strong>Chemical Name</strong></td>
<td>Nitrogen mustard, Bis(2-Chloroethyl)methylamine</td>
</tr>
<tr>
<td><strong>Supplier</strong></td>
<td>LKT Laboratories, Inc</td>
</tr>
<tr>
<td><strong>Address</strong></td>
<td>545 Phalen Blvd.</td>
</tr>
<tr>
<td></td>
<td>St. Paul, MN 55130 USA</td>
</tr>
<tr>
<td><strong>Emergency Phone #</strong></td>
<td>1-800-424-9300</td>
</tr>
</tbody>
</table>

## Section 2. Hazards Identification

### GHS Classification
- Acute toxicity, Oral (Category 2), H300
- Acute toxicity, Dermal (Category 1), H310
- Skin corrosion (Category 1B), H314
- Serious eye damage (Category 1), H318
- Germ cell mutagenicity (Category 1B), H340
- Carcinogenicity (Category 1B), H350
- Reproductive toxicity (Category 1B), H360

### GHS Label elements including precautionary statements

#### Pictogram

#### Signal word
Danger

#### Hazard and precautionary statements
- **Hazard statements**
  - H300 + H310 - Fatal if swallowed or in contact with skin.
  - H314 - Causes severe skin burns and eye damage.
  - H340 - May cause genetic defects.
  - H350 - May cause cancer.
  - H360 - May damage fertility or the unborn child.
- **Precautionary statements**
  - P201 - Obtain special instructions before use.
  - P202 - Do not handle until all safety precautions have been read and understood.
  - P260 - Do not breathe dust or mist.
  - P262 - Do not get in eyes, on skin, or on clothing.
  - P264 - Wash skin thoroughly after handling.
  - P270 - Do not eat, drink or smoke when using this product.
  - P280 - Wear protective gloves, protective clothing, eye protection and face protection.
  - P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
  - P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
  - P303 + P361 + P353 - IF ON SKIN (or hair): Remove or 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.
  - P310 - Immediately call a POISON CENTER or doctor/physician.
  - P322 - Specific measures (see supplemental first aid instruction on this label).
  - P361 - Remove or take off immediately all contaminated clothing.
  - P363 - Wash contaminated clothing before reuse.
  - P405 - Store locked up.
  - P501 - Dispose of contents/container to an approved waste disposal plant.

### HMIS Classification
- Health hazard: 4
- Chronic health hazard: *
- Flammability: 0
- Physical hazard: 0

### NFPA Rating
- Health hazard: 4
- Fire hazard: 0
- Reactivity hazard: 0

### Potential Health Effects
- Inhalation - May be harmful if inhaled. May cause respiratory tract irritation.
- Skin - Acute toxicity. Fatal in contact with skin. May cause skin irritation.
- Eyes - Causes serious eye damage. Causes severe skin burns.
Ingestion - Acute toxicity. Fatal if swallowed. Carcinogenicity - May cause genetic defects. May cause cancer.

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>C₅H₁₁Cl₂N • HCl</td>
<td>Formula Wt.</td>
</tr>
<tr>
<td>CAS No.</td>
<td>55-86-7</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
Flush eyes thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to the 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
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
Carbon oxides, nitrogen oxides (NOx), and hydrogen chloride gas.

Section 6. Accidental Release Measures

Personal Precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing dust, vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe 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
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. 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: +4°C

Hazardous Decomposition Products
Not available.

Other Remarks
This product is hygroscopic.
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:** 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. Full and Splash contact - Material: Nitrile rubber. Minimum layer thickness: 0.11mm, Break through time: 480 min, Material tested: Dermatril® (KCL 740 / Aldrich Z677272, 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).

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Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Solid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>White crystal powder.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Volatility</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting Point</td>
<td>108-111 °C</td>
</tr>
<tr>
<td>Density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>Not available.</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</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.

**Hazardous Decomposition Products**

Not available.
### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th><strong>Oral LD50</strong></th>
<th><strong>Skin corrosion/irritation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse - 20 mg/kg</td>
<td>Not available.</td>
</tr>
<tr>
<td>Rat - 10 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Inhalation LC50</strong></th>
<th><strong>Serious eye damage/irritation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Dermal LD50</strong></th>
<th><strong>Respiratory or skin sensitization</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Other information on acute toxicity</strong></th>
<th><strong>Germ cell mutagenicity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>In vivo tests showed mutagenic effects.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Reproductive Toxicity</strong></th>
<th><strong>Aspiration Hazard</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory experiments have shown teratogenic effects. Presumed human reproductive toxicant. May damage the unborn child.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Specific organ toxicity single exposure (GHS)</strong></th>
<th><strong>Synergistic effects</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Specific organ toxicity repeated exposure (GHS)</strong></th>
<th><strong>Additional Information</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>RTECS: IA2100000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Teratogenicity</strong></th>
<th><strong>Signs and symptoms of exposure</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Cough, shortness of breath, headache, nausea and vomiting. Stomach - irregularities - Based on human evidence.</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Potential Health Effects</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Carcinogenicity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP or EPA classification. Possible human carcinogen. 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: Reasonably anticipated to be a human carcinogen (Mechlorethamine Hydrochloride). 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.</td>
</tr>
</tbody>
</table>

### Section 12. Ecological Information

<table>
<thead>
<tr>
<th><strong>Toxicity</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Mobility in soil</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>PBT and vPvB assessment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>PBT/vPvB assessment not available as chemical safety assessment not required/not</td>
</tr>
</tbody>
</table>
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. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of as unused product.

Persistence and degradability
Not available.

Bioaccumulative potential
Not available.

Section 14. Transport Information

DOT (US)
UN number: 2928
Class: 6.1 (8)
Packing group: II
Proper shipping name: Toxic solids, corrosive, organic, n.o.s. (Mechlorethamine Hydrochloride)
Reportable Quantity (RQ): No
Poison inhalation hazard: No

IATA
UN number: 2928
Class: 6.1 (8)
Packing group: II
Proper shipping name: Toxic solids, corrosive, organic, n.o.s. (Mechlorethamine Hydrochloride)

IMDG
UN number: 2928
Class: 6.1 (8)
Packing group: II
EMS No: F-A, S-B
Proper shipping name: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (Mechlorethamine Hydrochloride)
Marine pollutant: No

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
Acute health hazard, chronic health hazard.

Massachusetts Right To Know Components
Mechlorethamine Hydrochloride
CAS #: 55-86-7
Revision Date: 1993-04-24

Pennsylvania Right To Know Components
Mechlorethamine Hydrochloride
CAS #: 55-86-7
Revision Date: 1993-04-24

New Jersey Right To Know Components
Mechlorethamine Hydrochloride
CAS #: 55-86-7
Revision Date: 1993-04-24

California Prop 65 Components
WARNING! This product contains a chemical known to the State of California to cause cancer.
Mechlorethamine Hydrochloride
CAS #: 55-86-7
Revision Date: 2007-09-28

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Mechlorethamine Hydrochloride
CAS #: 55-86-7
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.