Material Safety Data Sheet

**Section 1. Chemical Product and Company Identification**

<table>
<thead>
<tr>
<th>Common Name/Trade Name</th>
<th>Bromochloromethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Methane, bromochloro-</td>
</tr>
<tr>
<td>Chemical Family</td>
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</tr>
<tr>
<td>Chemical Formula</td>
<td>Br-CH2-Cl</td>
</tr>
<tr>
<td>Supplier</td>
<td>SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS#</th>
<th>74-97-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTECS</td>
<td>PA5250000</td>
</tr>
<tr>
<td>TSCA</td>
<td>TSCA 8(b) inventory: Bromochloromethane</td>
</tr>
<tr>
<td>CI#</td>
<td>Not available.</td>
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</table>

**Section 2. Composition and Information on Ingredients**

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Bromochloromethane</td>
<td>74-97-5</td>
<td>200</td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Toxicological Data on Ingredients**

- **ORAL (LD50):** Acute: 5000 mg/kg [Rat]. 4300 mg/kg [Mouse].
- **DERMAL (LD50):** Acute: >20000 mg/kg [Rabbit].

**Section 3. Hazards Identification**

- **Potential Acute Health Effects:** Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of skin contact (permeator), of ingestion, ...
- **Potential Chronic Health Effects:**
  - CARCINOGENIC EFFECTS: Not available.
  - MUTAGENIC EFFECTS: Not available.
  - TERATOGENIC EFFECTS: Not available.
  - DEVELOPMENTAL TOXICITY: Not available.
  - The substance may be toxic to kidneys, lungs, liver, upper respiratory tract, skin, eyes, central nervous system (CNS).
  - Repeated or prolonged exposure to the substance can produce target organs damage.

**Continued on Next Page**
### Section 4. First Aid Measures

| Eye Contact | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention. |
| Skin Contact | In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention. |
| Serious Skin Contact | Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention. |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| Serious Inhalation | Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention. |
| Ingestion | Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear. |
| Serious Ingestion | Not available. |

### Section 5. Fire and Explosion Data

| Flammability of the Product | May be combustible at high temperature. |
| Auto-Ignition Temperature | Not available. |
| Flash Points | Not available. |
| Flammable Limits | Not available. |
| Products of Combustion | These products are carbon oxides (CO, CO2), halogenated compounds. |
| Fire Hazards in Presence of Various Substances | Slightly flammable to flammable in presence of open flames and sparks, of heat. |
| Fire Fighting Media and Instructions | SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet. |
| Special Remarks on Fire Hazards | When heated to decomposition it emits toxic fumes hydrogen chloride, phosgene, carbon monoxide, hydrogen bromide, bromine. |
| Special Remarks on Explosion Hazards | Not available. |

### Section 6. Accidental Release Measures

| Small Spill | Absorb with an inert material and put the spilled material in an appropriate waste disposal. |
| Large Spill | Absorb with an inert material and put the spilled material in an appropriate waste disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities. |
Section 7. Handling and Storage

Precautions
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, alkanes.

Storage
Keep container tightly closed. Keep container in a cool, well-ventilated area. Sensitive to light. Store in light-resistant containers.

Section 8. Exposure Controls/Personal Protection

Engineering Controls
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.

Exposure Limits
- TWA: 200 (ppm) from ACGIH (TLV) [United States]
- TWA: 1050 (mg/m^3) from ACGIH (TLV) [United States]
- TWA: 200 from NIOSH [United States]
- TWA: 1050 (mg/m^3) from NIOSH [United States]
- TWA: 200 (mg/m^3) from OSHA (PEL) [United States]
- TWA: 1050 (mg/m^3) from OSHA (PEL) [United States]
- TWA: 200 STEL: 250 (ppm) [United Kingdom (UK)]
- TWA: 1080 (mg/m^3) [United Kingdom (UK)]

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance
Liquid.

Molecular Weight
129.39 g/mole

pH (1% soln/water)
Not available.

Boiling Point
68°C (154.4°F)

Melting Point
-87.9 (-126.2°F)

Critical Temperature
Not available.

Specific Gravity
1.931 - 1.991 (Water = 1)

Vapor Pressure
15.6 kPa (@ 20°C)

Vapor Density
4.5 (Air = 1)

Volatility
Not available.

Odor Threshold
210 - 400 ppm

Water/Oil Dist. Coeff.
The product is more soluble in oil; log(oil/water) = 1.4

Ionicity in Water
Not available.

Dispersion Properties
See solubility in water, diethyl ether, acetone.

Solubility
Soluble in diethyl ether, acetone. Very slightly soluble in cold water. Soluble in ethanol. Miscible with carbon tetrachloride, chloroform, methanol. Solubility in Water: 0.9 part in 100 parts water; 10.73 g/l @ 20 deg. C; 16.7 g/l @ 25 deg. C. Solubility in Benzene: >10%
### Section 10. Stability and Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>The product is stable.</th>
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<tbody>
<tr>
<td>Instability Temperature</td>
<td>Not available.</td>
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<tr>
<td>Conditions of Instability</td>
<td>Excess heat, incompatible materials, light</td>
</tr>
<tr>
<td>Incompatibility with various substances</td>
<td>Reactive with oxidizing agents, metals, alkalis.</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**Special Remarks on Reactivity**
- Incompatible with chemically active metals such as calcium, powdered aluminum, zinc, magnesium.
- Sensitive to light.

**Special Remarks on Corrosivity**
- Not available.

**Polymerization**
- Will not occur.

### Section 11. Toxicological Information

#### Routes of Entry
- Absorbed through skin. Eye contact. Inhalation.

#### Toxicity to Animals
- Acute oral toxicity (LD50): 4300 mg/kg [Mouse].
- Acute dermal toxicity (LD50): >20000 mg/kg [Rabbit].
- Acute toxicity of the gas (LC50): 12030 mg/m³ 7 hours [Mouse].

#### Chronic Effects on Humans
- May cause damage to the following organs: kidneys, lungs, liver, upper respiratory tract, skin, eyes, central nervous system (CNS).

#### Other Toxic Effects on Humans
- Hazardous in case of skin contact (irritant), of inhalation (lung irritant).
- Slightly hazardous in case of skin contact (permeator), of ingestion, .

#### Special Remarks on Toxicity to Animals
- Lowest Published Lethal Dose/Conc;
- LDL [Rat] - Route: Inhalation; Dose: 28800 ppm/15Minutes
- May affect genetic material (mutagenic)

#### Special Remarks on Chronic Effects on Humans
- Acute Potential Health Effects:
  - Skin: Causes skin irritation. It may be absorbed through the skin.
  - Eyes: Causes eye irritation with burning sensation in the eyes. Can cause conjunctivitis with hyperemia and swelling, and photophobia which gradually subside. Can cause transient corneal injury with partial loss of corneal epithelium with deeper layers of cornea remaining clear.
  - Inhalation: Causes respiratory tract irritation with coughing and difficulty breathing. Inhalation of a high concentration of vapors can affect behavior/central nervous system and cause headache, general anesthetic effects, dizziness, confusion, lightheadedness, tremor, memory impairment, muscle weakness, unconsciousness. It may also cause gastric upset with anorexia, abdominal pain, nausea, vomiting, diarrhea, and pulmonary edema (a build-up of fluid in the lungs), and suffocation.
  - Ingestion: Causes gastrointestinal tract upset with abdominal pain, nausea, vomiting, diarrhea. It may also affect the nervous system with symptoms similar to that of acute inhalation.

#### Chronic Potential Health Effects:
- Skin: Prolonged or repeated skin contact may cause dermatitis with rash, drying and cracking of the skin.
- Inhalation: Prolonged or repeated exposure can irritate the lungs and may cause bronchitis to develop with cough, phlegm, and/or shortness of breath. It may also cause weight loss, and affect the liver (fatty liver degeneration), bladder and kidneys, and produce a narcotic effect (central nervous system effect).
- Ingestion: Prolonged or repeated ingestion may cause liver and kidney damage.
Section 12. Ecological Information

Ecotoxicity
Not available.

BOD5 and COD
Not available.

Products of Biodegradation
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation
The products of degradation are as toxic as the product itself.

Special Remarks on the Products of Biodegradation
Not available.

Section 13. Disposal Considerations

Waste Disposal
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification
CLASS 6.1: Poisonous material.

Identification
:Bromochloromethane UNNA: 1887 PG: III

Special Provisions for Transport
Not available.

DOT (Pictograms)

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations
Connecticut hazardous material survey: Bromochloromethane
Illinois toxic substances disclosure to employee act: Bromochloromethane
New York release reporting list: Bromochloromethane
Rhode Island RTK hazardous substances: Bromochloromethane
Pennsylvania RTK: Bromochloromethane
Minnesota: Bromochloromethane
Massachusetts RTK: Bromochloromethane
New Jersey: Bromochloromethane
California Director's List of Hazardous Substances: Bromochloromethane
TSCA 8(b) inventory: Bromochloromethane
TSCA 4(a) proposed test rules: Bromochloromethane
TSCA 8(a) PAIR: Bromochloromethane
TSCA 8(d) H and S data reporting: Bromochloromethane: Effective date: 6/1/87; Sunset date: 12/19/95

California Proposition 65 Warning
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

Other Regulations
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 200-826-3).
Canada: Listed on Canadian Domestic Substance List (DSL).
China: Listed on National Inventory.
Japan: Listed on National Inventory (ENCS).
Korea: Listed on National Inventory (KECI).
Philippines: Listed on National Inventory (PICCS).

Continued on Next Page
Bromochloromethane

Australia: Listed on AICS.

<table>
<thead>
<tr>
<th>Other Classifications</th>
<th>WHMIS (Canada)</th>
<th>DSCL (EEC)</th>
<th>Other Classifications WHMIS (Canada) DSCL (EEC)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).</td>
<td>R36/37/38- Irritating to eyes, respiratory system and skin.</td>
<td>S06- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37/39- Wear suitable gloves and eye/face protection.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS (U.S.A.)</th>
<th>National Fire Protection Association (U.S.A.)</th>
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<tbody>
<tr>
<td>Health Hazard</td>
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<tr>
<td>Fire Hazard</td>
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<tr>
<td>Reactivity</td>
<td>0</td>
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<tr>
<td>Personal Protection</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloves.</td>
</tr>
<tr>
<td>Lab coat.</td>
</tr>
<tr>
<td>Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.</td>
</tr>
<tr>
<td>Splash goggles.</td>
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### Section 16. Other Information

<table>
<thead>
<tr>
<th>MSDS Code</th>
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<tbody>
<tr>
<td>References</td>
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<tr>
<td>Other Special Considerations</td>
<td>Not available.</td>
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</tbody>
</table>

Verified by Sonia Owen.  

CALL (310) 516-8000

### Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user’s responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.