# Material Safety Data Sheet

## Section 1. Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Common Name/Trade Name</th>
<th>Ethyl bromide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248</td>
</tr>
<tr>
<td>Commercial Name(s)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Synonym</td>
<td>Monobromoethane</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Bromoethane</td>
</tr>
<tr>
<td>Chemical Family</td>
<td>Aliphatic halogenated compound. (Aliphatic.)</td>
</tr>
<tr>
<td>Chemical Formula</td>
<td>CH₃CH₂Br</td>
</tr>
<tr>
<td>Supplier</td>
<td>SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog Number(s)</th>
<th>E1035</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS#</td>
<td>74-96-4</td>
</tr>
<tr>
<td>RTECS</td>
<td>KH6475000</td>
</tr>
<tr>
<td>TSCA</td>
<td>TSCA 8(b) inventory: Ethyl bromide</td>
</tr>
</tbody>
</table>

## Section 2. Composition and Information on Ingredients

### Exposure Limits

<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) Ethyl bromide</td>
<td>74-96-4</td>
<td>250</td>
<td>250</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

### Toxicological Data on Ingredients

**ORAL (LD₅₀):** Acute: 1350 mg/kg [Rat].

**VAPOR (LC₅₀):** Acute: 13490 ppm 4 hour(s) [Rat]. 8115 ppm 4 hour(s) [Mouse].

## Section 3. Hazards Identification

### Potential Acute Health Effects

Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion. Slightly hazardous in case of inhalation.

### Potential Chronic Health Effects

Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion. Slightly hazardous in case of inhalation.

**CARCINOGENIC EFFECTS:** Classified A2 (Suspected for human.) by ACGIH.

**MUTAGENIC EFFECTS:** Not available.

**TERATOGENIC EFFECTS:** Not available.

**DEVELOPMENTAL TOXICITY:** Not available.

The substance is toxic to blood, kidneys, the nervous system, liver.

Repeated or prolonged exposure to the substance can produce target organs damage.

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**IN CASE OF EMERGENCY**

CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000
Section 4. First Aid Measures

Eye Contact
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation
Allow the victim to rest in a well ventilated area. Seek immediate 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. Seek medical attention.

Ingestion
Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion
Not available.

Section 5. Fire and Explosion Data

Flammability of the Product
Flammable.

Auto-Ignition Temperature
511.2°C (952.2°F)

Flash Points
CLOSED CUP: -10°C (14°F).

Flammable Limits
LOWER: 6.75%  UPPER: 11.25%

Products of Combustion
These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances
Flammable in presence of open flames and sparks, of heat, of oxidizing materials.

Explosion Hazards in Presence of Various Substances
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions
Flammable liquid, soluble or dispersed in water.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards
When heated to decomposition it emits toxic fumes.

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
Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Continued on Next Page
### 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/vapour/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, alkalis, moisture.

**Storage**
- Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

### 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 CEIL: 250 (ppm)
- TWA: 250 CEIL: 1110 (mg/m³)

Consult local authorities for acceptable exposure limits.

### Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state and appearance</strong></td>
<td>Liquid (Liquid.)</td>
</tr>
<tr>
<td><strong>Molecular Weight</strong></td>
<td>108.97 g/mole</td>
</tr>
<tr>
<td><strong>pH (1% soln/water)</strong></td>
<td>7 [Neutral.]</td>
</tr>
<tr>
<td><strong>Boiling Point</strong></td>
<td>38.04°C (100.5°F)</td>
</tr>
<tr>
<td><strong>Melting Point</strong></td>
<td>-118.09°C (-180.6°F)</td>
</tr>
<tr>
<td><strong>Critical Temperature</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>1.45 (Water = 1)</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>375 mm of Hg (@ 20°C)</td>
</tr>
<tr>
<td><strong>Vapor Density</strong></td>
<td>3.76 (Air = 1)</td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Water/Oil Dist. Coeff.</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Ionicity (in Water)</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Dispersion Properties</strong></td>
<td>See solubility in water, methanol, diethyl ether.</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Partially soluble in methanol, diethyl ether. Very slightly soluble in cold water, hot water.</td>
</tr>
</tbody>
</table>

*Continued on Next Page*
### Section 10. Stability and Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instability Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Conditions of Instability</td>
<td>Not available.</td>
</tr>
<tr>
<td>Incompatibility with various substances</td>
<td>Highly reactive with oxidizing agents, metals, alkalis. Reactive with moisture.</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>Non-corrosive in presence of glass.</td>
</tr>
</tbody>
</table>

**Special Remarks on Reactivity**
Reacts with water and steam to produce toxic and corrosive fumes.

**Special Remarks on Corrosivity**
Not available.

**Polymerization**
No.

### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Routes of Entry</th>
<th>Dermal contact. Eye contact. Ingestion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to Animals</td>
<td>WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 1350 mg/kg [Rat]. Acute toxicity of the vapor (LC50): 8115 ppm 4 hour(s) [Mouse].</td>
</tr>
<tr>
<td>Chronic Effects on Humans</td>
<td>CARCINOGENIC EFFECTS: Classified A2 (Suspected for human.) by ACGIH. The substance is toxic to blood, kidneys, the nervous system, liver.</td>
</tr>
<tr>
<td>Other Toxic Effects on Humans</td>
<td>Hazardous in case of skin contact (irritant, permeator), of ingestion. Slightly hazardous in case of inhalation.</td>
</tr>
</tbody>
</table>

**Special Remarks on Toxicity to Animals**
Not available.

**Special Remarks on Chronic Effects on Humans**
Narcotic effect; may cause nervous system disturbances.

**Special Remarks on other Toxic Effects on Humans**
Material is irritating to mucous membranes and upper respiratory tract.

### Section 12. Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5 and COD</td>
<td>Not available.</td>
</tr>
<tr>
<td>Products of Biodegradation</td>
<td>Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.</td>
</tr>
<tr>
<td>Toxicity of the Products of Biodegradation</td>
<td>The products of degradation are more toxic.</td>
</tr>
</tbody>
</table>

**Special Remarks on the Products of Biodegradation**
Not available.
Section 13. Disposal Considerations

Waste Disposal

Section 14. Transport Information

DOT Classification
CLASS 6.1: Poisonous material.

Identification
: Ethyl bromide : UN1891 PG: II

Special Provisions for Transport
Not available.

DOT (Pictograms)

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations
Pennsylvania RTK: Ethyl bromide
Massachusetts RTK: Ethyl bromide
TSCA 8(b) inventory: Ethyl bromide

California Proposition 65
Warnings

Other Regulations
WHMIS (Canada) CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC) R11- Highly flammable.
R36/38- Irritating to eyes and skin.
R45- May cause cancer.
R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.

HMIS (U.S.A.)
Health Hazard 2
Fire Hazard 3
Reactivity 2
Personal Protection

National Fire Protection Association (U.S.A.)

Flammability
Reactivity
Specific hazard

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

Continued on Next Page
### Protective Equipment
- Gloves.
- Lab coat.
- Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Splash goggles.

### Section 16. Other Information

<table>
<thead>
<tr>
<th>MSDS Code</th>
<th>E3310</th>
</tr>
</thead>
</table>

**References**
- The Sigma-Aldrich Library of Chemical Safety Data, Edition II.

**Other Special Considerations**
Not available.

Verified by Sonia Owen.
Printed 9/12/2006.

**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.