Benzyl bromide, reagent grade, 98%

Aldrich Chemical

3300 Spruce Street
SAINT LOUIS, MO 63103 US

800-325-5832
314-776-6555

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SAPA 313</th>
<th>EC no</th>
<th>Annex I Index Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>BENZYL BROMIDE</td>
<td>100-39-0</td>
<td>No</td>
<td>202-847-3</td>
<td>602-057-00-2</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

Emergency Overview

HMIS Rating
Health: 2* Flammability: 2 Reactivity: 1

NFPA Rating
Health: 2 Flammability: 2 Reactivity: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician. Do not induce vomiting.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Section 5 - Fire Fighting Measures

Conditions of Flammability
Water hydrolyzes material. Violating liquid may be flammable and/or explosive hydrogen gas.

Flash Point: 166.8 °C

Autoignition Temp: N/A

Extinguishing Media
Suitable
Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable
Do not use water.

Firefighting Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)
Combustible liquid. Exits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill
Evacuate area. Shut off all sources of ignition.

Procedure(s) of Personal Protection(s)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material cleanup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Keep away from heat and open flame. Store in a cool dry place.

Special Requirements
Light sensitive. Moisture sensitive.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Use only in a chemical fume hood.

Personal Protective Equipment
Respiratory
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose.

Sigma-Aldrich Corporation
www.sigma-aldrich.com
Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
</tr>
<tr>
<td>Physical State</td>
<td>Clear liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly brown-yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Unpleasant odor</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>171.04 AMU</td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
</tr>
<tr>
<td>BP/Temp Range</td>
<td>106 - 108 °C</td>
</tr>
<tr>
<td>MP/Temp Range</td>
<td>-3 - 1 °C</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>5.8 g/L</td>
</tr>
<tr>
<td>Saturated Vapor Conc.</td>
<td>N/A</td>
</tr>
<tr>
<td>SG/Density</td>
<td>1.44 g/cm³</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>N/A</td>
</tr>
<tr>
<td>Viscosity</td>
<td>N/A</td>
</tr>
<tr>
<td>Water Content</td>
<td>N/A</td>
</tr>
<tr>
<td>Solvent Content</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>N/A</td>
</tr>
<tr>
<td>Viscosity</td>
<td>N/A</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>N/A</td>
</tr>
<tr>
<td>Decomposition Temp.</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash Point °F</td>
<td>166.8 °F</td>
</tr>
<tr>
<td>Flash Point °C</td>
<td>96 °C</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Flammability</td>
<td>N/A</td>
</tr>
<tr>
<td>Autoignition Temp.</td>
<td>N/A</td>
</tr>
<tr>
<td>Refractive Index</td>
<td>1.576</td>
</tr>
<tr>
<td>Solubility</td>
<td>N/A</td>
</tr>
<tr>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

N/A = not available

Section 10 - Stability and Reactivity

Stability: Stable.

Conditions of Instability: Light sensitive. Moisture sensitive.

Section 11 - Toxicological Information

Route of Exposure
- Skin Contact: May be harmful if absorbed through the skin.
- Skin Absorption: May be harmful if inhaled.
- Eye Contact: May be harmful if inhaled.
- Inhalation: May be harmful if inhaled.
- Ingestion: May be harmful if swallowed.

Target Organ(s) or System(s): Central nervous system.

Signs and Symptoms of Exposure: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled.

RTECS Number: XS7966000

Chronic Exposure - Mutagen
- Species: Mouse
- Dose: 30 µM/L
- Effect: Sister chromatid exchange

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation: Consult a licensed professional waste disposal service to dispose of this material.

Section 14 - Transport Information

DOT
- Proper Shipping Name: Benzyl bromide
- UN#: 1737
- Class: 6.1
- Packing Group: Packing Group II
- Hazard Label: Toxic substance.
- Hazard Label: Corrosive
- PH: Not PH
IATA
Proper Shipping Name: Benzyl bromide
IATA UN Number: 1737
Hazard Class: 5.1
Packing Group: II

Section 15 - Regulatory Information

EU Directives Classification
Symbol of Danger: X
Indication of Danger
Irritant.
Risk Statements: R: 36/37/38
Irritating to eyes, respiratory system and skin.
Safety Statements: S: 39
Wear eye/face protection.

US Classification and Label Text
Indication of Danger
Corrosive, Harmful.
Risk Statements
Causes burns. Harmful if swallowed.
Safety Statements
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
US Statements
Lachrymator; Combustible. Target organ(s): Central nervous system. Unpleasant odor.

United States Regulatory Information
SARA Listed: No
TSCA Inventory Item: Yes

Canada Regulatory Information
WHMIS Classification
This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other uses.

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.