2-Bromoethanol-1,1,2,2-d₄

Section 1. Chemical product and company identifications

Product code: D-1913
Chemical formula: C₂H₄D₄BrO
CAS: 81764-55-8
CAS (unlabelled): 540-51-2
Synonyms: Ethylene Bromohydrin

Supplier / Manufacturer:
C/D/N Isotopes Inc.
88 Leacock Street
Pointe-Claire (Québec) H9R 1H1
Phone: 514-697-6254
Toll-Free (Canada & USA): 1-800-565-4696
Fax: 514-697-6148
Website: www.cdnisotopes.com

In case of emergency:
TOXYSCAN HOTLINE: 1-855-780-0599

Section 2. Hazards identifications

Physical state: Liquid
Warning: Toxic if swallowed, in contact with skin or inhaled. Causes severe skin burns and eye damage.
Routes of entry: Inhalation, ingestion, skin and eyes

GHS (Globally Harmonized System of Classification and Labelling of Chemicals):

GHS Classification:
- Acute toxicity, Oral (Category 3)
- Acute toxicity, Inhalation (Category 3)
- Acute toxicity, Dermal (Category 3)
- Skin corrosion (Category 1B)
- Serious eye damage (Category 1)

GHS Label elements:
- Pictograms: 
- Signal word: Danger

Hazards statement:
- H301 + H311 + H331 Toxic if swallowed, in contact with skin or inhaled.
- H314 Causes severe skin burns and eye damage.

Precautionary statement:
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 IF INHALED: Remove person to fresh air and keep 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.
- P316 Get emergency medical help immediately.

Section 3. Composition and information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS</th>
<th>Concentration %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Bromoethanol-1,1,2,2-d₄</td>
<td>81764-55-8</td>
<td>&gt; 97</td>
</tr>
</tbody>
</table>
Section 4. First aid measures

**Eye contact:** Rinse thoroughly 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.

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Section 5. Firefighting measures

**Flammability of the product:** Not flammable or combustible.

**Lower explosion limit:** No data available.

**Upper explosion limit:** No data available.

**Auto-ignition temperature:** No data available.

**Flash point:** > 110 °C (> 230 °F)

**Products of combustion:** Hazardous decomposition products formed under fire conditions: Carbon oxides, hydrogen bromide gas.

**Firefighting media and instructions:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

Section 6. Accidental release measures

**Personal precautions:** Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

**Environmental precautions:** Do not let product enter drains

**Methods for cleaning up:** Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Section 7. Handling and storage

**Handling:** Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Provide appropriate exhaust ventilation.

**Storage:** STORE REFRIGERATED. Adequate ventilation. Protect from moisture.

Section 8. Exposure Controls, Personal Protections

**Engineering controls:** Use mechanical exhaust or laboratory fume hood to avoid exposure.

**Eyes:** Safety glasses with side-shields conforming to NIOSH (US) or EN 166 (EU).

**Respiratory:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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).

**Hands:** Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Skin/body:** Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Section 9. Physical and chemical properties (unlabelled)

**Molecular weight:** 124.96 g/mol

**Physical status:** Liquid

**Color:** Colorless to yellow

**Odour:** No data available

**Density:** 1.763 g/mL

**Melting point:** -80 °C (-112 °F)

**Boiling point:** 149 - 150 °C (300 - 302 °F)

**Vapour pressure:** 3.2 hPa (2 mmHg) at 20 ºC (68 ºF)

**Vapour density:** 4.31 (Air = 1)

**Partition coefficient (octanol/water):** log Pow: 0.23

**Water solubility:** Soluble
Section 10. Stability and reactivity

Stability and reactivity: Stable under recommended storage conditions.
Incompatibility: Strong oxidizing agents, strong bases.
Products of combustion: Hazardous decomposition products formed under fire conditions: Carbon oxides, hydrogen bromide gas.
Reactivity conditions: Avoid moisture.

Section 11. Toxicological information (unlabelled)

Toxicological data: 2-Bromoethanol

Information on ingredients:

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Bromoethanol</td>
<td>540-51-2</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Potential acute effects
- Eyes: Causes severe eye damage.
- Skin: Toxic if absorbed through skin. Causes severe skin burns.
- Inhalation: Toxic if inhaled. May cause respiratory tract irritation.
- Ingestion: Toxic if swallowed.

Potential chronic effects
- Carcinogenic effects: 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.
- Teratogenic effects: No data available.
- Medical conditions aggravated by overexposure: No data available.

Section 12. Ecological information

Ecological data:

<table>
<thead>
<tr>
<th>Name</th>
<th>Results</th>
<th>Species</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Bromoethanol</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Effects on environment: No data available.
Mobility: No data available.
Environmental precautions: No data available.
Persistence and degradability: No data available.
Bioaccumulative potential: No data available.

Section 13. Disposal considerations

Waste disposal: Contact a licensed professional waste disposal service to dispose of this material.

Section 14. Transportation information

Classification DOT/IMDG/IATA label:
Shipping name: Toxic liquid, corrosive, organic, n.o.s. (2-Bromoethanol)
UN number: UN2927
Class: 6.1 (8)
Packaging group: II

Additional information: None
Section 15. Regulatory information

UNITED STATES:
NFPA classification

Legend: 4: Severe, 3: High, 2: Moderate, 1: Slightly, 0: Not hazardous

Health: 3
Flammable: 1
Reactivity: 0
Special conditions: None

U.S. Federal regulations:

TSCA 8(b) inventory: 2-Bromoethanol
SARA 302/304/311/312 extremely hazardous substances: Not Listed
SARA 302/304 emergency planning and notification: Not Listed
SARA 302/304/311/312 hazardous chemicals: Not Listed
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Fire hazard, Immediate (acute)
health hazard, Delayed (chronic) health hazard: Not Listed
CWA (Clean Water Act) 307: Not Listed
CWA (Clean Water Act) 311: Not Listed
CAA (Clean Air Act) 112 accidental release prevention: Not Listed
CAA (Clean Air Act) 112 regulated flammable substances: Not Listed
CAA (Clean Air Act) 112 regulated toxic substances: Not Listed

State regulations:

DEA List I Chemicals (Precursor Chemicals): Not Listed
DEA List II Chemicals (Essential Chemicals): Not Listed
Substances in Massachusetts: Not Listed
New York – Dangerous substances with acute effects: Not Listed
Dangerous substances in Pennsylvania – right to know: Not Listed

WHMIS (Canada):

- D1B - Toxic material causing immediate and serious toxic effects
- E - Corrosive material

Section 16. Additional information

References:
- Manufacturer's Material Safety Data Sheet.
- 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. -Canada
- Federal act on the controlled products
- Toxicological repertory, HSC.
- Material safety data sheet from the components.

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Elaborated by: Toxyscan Inc., 1-866-780-0599

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