MSDS for 2-Bromobutane

Section 1 - Chemical Product and Company Identification

MSDS Name: 2-Bromobutane
Catalog Numbers: 10678-0000, 10678-0050, 10678-1000, 10678-5000
Synonyms: sec-Butyl bromide

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticalalaan 3a
2440 Geel, Belgium

Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS# Chemical Name: % EINECS#
78-76-2 2-Bromobutane 99+% 201-140-7

Hazard Symbols: XI

Risk Phrases: 10 36/37/38 52/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable. Irritating to eyes, respiratory system and skin. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential Health Effects

Eye: Causes eye irritation.
Skin: Causes skin irritation. May be harmful if absorbed through the skin.
Ingestion: May cause irritation of the digestive tract. May be harmful if swallowed.
Inhalation: Causes respiratory tract irritation. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. May be harmful if inhaled.

Chronic:

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes
while removing contaminated clothing and shoes.

**Ingestion:** Get medical aid. Wash mouth out with water.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable liquid and vapor.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. Do not let this chemical enter the environment.

### Section 7 - Handling and Storage

**Handling:** Use spark-proof tools and explosion proof equipment. Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes. Take precautionary measures against static discharges. Avoid ingestion and inhalation.

**Storage:** Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

**Exposure Limits**

CAS# 78-76-2:

<table>
<thead>
<tr>
<th>Personal Protective Equipment</th>
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</thead>
<tbody>
<tr>
<td><strong>Eyes:</strong></td>
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<tr>
<td><strong>Skin:</strong></td>
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<tr>
<td><strong>Clothing:</strong></td>
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<tr>
<td><strong>Respirators:</strong></td>
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</tbody>
</table>

### Section 9 - Physical and Chemical Properties

**Physical State:** Clear liquid

**Color:** colorless to yellow brown

**Odor:** pleasant odor

**pH:** Not available

**Vapor Pressure:** 70mbar @20deg C

**Viscosity:** Not available

**Boiling Point:** 91deg C @760mmHg (195.80癋)
Freezing/Melting Point: -112 deg C ( -169.60 °F)
Autoignition Temperature: 265 deg C ( 509.00 deg F)
Flash Point: 21 deg C ( 69.80 deg F)
Explosion Limits: Lower: 2.6 Vol %
Explosion Limits: Upper: 6.6 Vol %
Decomposition Temperature: Not available
Solubility in water: Insoluble
Specific Gravity/Density: 1.250
Molecular Formula: C4H9Br
Molecular Weight: 137.02

Section 10 - Stability and Reactivity

Chemical Stability: Not available
Conditions to Avoid: Incompatible materials, ignition sources.
Incompatibilities with Other Materials: Strong oxidizing agents, strong bases, magnesium, potassium, sodium.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, hydrogen bromide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 78-76-2: EJ6228000
LD50/LC50: RTECS: Not available.
Carcinogenicity: 2-Bromobutane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Other: Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

IATA 2-BROMOBUTANE 2-BROMOBUTANE 2-BROMOBUTANE
IMO 3 3 3
UN Number: 2339 2339 2339
Packing Group: II II II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XI
Risk Phrases:
R 10 Flammable.
R 36/37/38 Irritating to eyes, respiratory system and skin.
R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Phrases:
S 16 Keep away from sources of ignition - No smoking.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37/39 Wear suitable gloves and eye/face protection.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)
CAS# 78-76-2: Not available

Canada
CAS# 78-76-2 is listed on Canada’s DSL List

US Federal
TSCA
CAS# 78-76-2 is listed on the TSCA Inventory.

Section 16 - Other Information
MSDS Creation Date: 7/16/1996
Revision #2 Date 3/28/2008
Revisions were made in Sections: 1, 2, 3, 5, 6, 8, 9, 14

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