1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Bromobenzene
Product Number: 16350
Brand: Aldrich
Supplier: Sigma-Aldrich
3950 Burco Street
SAINT LOUIS MO 63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052
Emergency Phone # (For both supplier and manufacturer): (314) 776-6555
Preparation Information: Sigma Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Combustible Liquid, Irritant

Target Organs
Liver, Kidney

GHS Classification
Flammable liquids (Category 3)
Acute toxicity, Oral (Category 5)
Acute toxicity, Inhalation (Category 4)
Skin irritation (Category 2)
Acute aquatic toxicity (Category 2)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Warning

Hazard statement(s)
H226 Flammable liquid and vapour.
H303 May be harmful if swallowed.
H340 Harmful if inhaled.
H401 Toxic to aquatic life.

Precautionary statement(s)

HMIS Classification
Health hazard: 1
Chronic Health Hazard: -
Flammability: 2

Physical hazards: 0
NFPA Rating
Health hazard: 2
Fire: 2
Reactivity Hazard: 0

Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Skin: May be harmful if absorbed through skin. May cause skin irritation.
Eyes: May cause eye irritation.
Ingestion: May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula: C_{8}H_{8}Br
Molecular Weight: 197.31 g/mol

Component

<table>
<thead>
<tr>
<th>Concentration</th>
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<tr>
<td>Bromobenzene</td>
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4. FIRST AID MEASURES

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

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability
Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat sparks/open flames/hot surfaces. No smoking.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self-contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions: - Carbon oxides, Hydrogen bromide gas

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES
Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment:
Respiratory protection
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) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Immersion protection
Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Breakthrough time: > 480 min
Material tested: Vitoject® (Abraloch Z677698, Size M)

Splash protection
Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Breakthrough time: > 30 min
Material tested: Vitoject® (Abraloch Z677698, Size M)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form: liquid, clear
Colour: colourless

Safety data
pH: no data available
Melting point/freezing point: Melting point/range: -31 °C (24 °F) - lit.
Boiling point: 156 °C (313 °F) - lit.
Flash point: 51.0 °C (123.8 °F) - closed cup
Ignition temperature: 568 °C (1051 °F)
Autoignition temperature: 568.0 °C (1050.8 °F)
Lower explosion limit: 0 % (V)
Upper explosion limit: 36.5 % (V)
Vapour pressure: 13.3 hPa (10.0 mmHg) at 40.0 °C (104.0 °F)
5.3 hPa (4.0 mmHg) at 25.0 °C (77.0 °F)
Density: 1.491 g/mL at 25 °C (77 °F)
Water solubility: no data available
Partition coefficient: log Pow: 2.99
Octanol/water: log Pow: 5
Relative vapour density: no data available
Odour: no data available
Odour Threshold: no data available
Evaporation rate: no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
Heat, flames and sparks.

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen bromide gas
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Aclidrin - 16350
Delivery 084507555-000010 Purchase Order PRSMEC0202013
Acute toxicity
Oral LD50
LD50 Oral - rat - 2,383 mg/kg
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste); Eye; Chromodacryorhea; Diarrhoea; Nutritional and Gross Metabolic; Weight loss or decreased weight gain.

Inhalation LC50
LC50 Inhalation - mouse - 2 h - 21,000 mg/m3
Remarks: Behavioral; Somnolence (general depressed activity); Behavioral; Muscle contraction or spasticity.

Dermal LD50
no data available

Other information on acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
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.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Teratogenicity
no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects
no data available

Additional Information
RTECS: CY9000000

12. ECOCLOGICAL INFORMATION

Toxicity
Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 35.7 mg/l - 96.0 h
Toxicity to daphnia Immobilization EC50 - Daphnia magna (Water flea) - 1.6 mg/l - 24 h and other aquatic invertebrates

Persistence and degradability
no data available

Bioaccumulative potential
Bioaccumulation Leuciscus idus (Golden orfe) - 3 d
Bioconcentration factor (BCF): 48

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 2514 Class: 3
Proper shipping name: Bromobenzene
Marine pollutant: No
Packing group: III

IMDG
UN number: 2514 Class: 3
Proper shipping name: BROMOBENZENE
Marine pollutant: Marine pollutant
Packing group: III

IATA
UN number: 2514 Class: 3
Proper shipping name: Bromobenzene
Packing group: III

15. REGULATORY INFORMATION
OSHA Hazards
Combustible Liquid, Irritant

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Fire Hazard, Acute Health Hazard

Massachusetts Right To Know Components

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Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information
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