

Material Safety Data Sheet

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Version 1.2

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

| | |
|-------------------|--|
| Product Name | 2-BROMOPROPANE, 99% |
| Product Number | B78114 |
| Company | Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia |
| Technical Phone # | +61 2 9841 0555 (1800 800 097) |
| Fax | +61 2 9841 0500 (1800 800 096) |
| Emergency Phone # | +44 8701906777 (1800 448 465) |

2 - Composition/Information on Ingredients

| Product Name | CAS # | EC no | Annex I Index Number |
|------------------|--|-----------|-------------------------|
| 2-BROMOPROPANE | 75-26-3 | 200-855-1 | 602-085-00-5 |
| Formula | C3H7Br | | |
| Molecular Weight | 123 AMU | | |
| Synonyms | 2-Bromopropane * Isopropyl bromide * sec-Propyl bromide | | |

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

May impair fertility. Highly flammable. Also harmful: danger of serious damage to health by prolonged exposure through inhalation. Repeated exposure may cause skin dryness or cracking.
Repr. Cat.1

4 - First Aid Measures

AFTER INHALATION

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

AFTER SKIN CONTACT

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

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable: Carbon Dioxide, dry chemical powder, or appropriate foam. Water can be applied as a spray or fog and if properly applied is capable of extinguishing the fire by sweeping the flames off the surface of the burning liquid.

SPECIAL RISKS

Specific Hazard(s): Vapor may travel considerable distance to source of ignition and flash back. Emits toxic fumes under fire conditions.

Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions. Forms explosive mixtures in air.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

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

SPECIFIC METHOD(S) OF FIRE FIGHTING

Use water spray to cool fire-exposed containers.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with an activated carbon adsorbent, take up and place in closed containers. Transport outdoors. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep container closed. Keep away from heat, sparks, and open flame.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Use only in a chemical fume hood.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Remove and wash contaminated

clothing promptly.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

| | | |
|-----------------------|---|----------------------------|
| Appearance | Physical State: Liquid | |
| Property | Value | At Temperature or Pressure |
| pH | N/A | |
| BP/BP Range | 58 - 60 °C | |
| MP/MP Range | -89 °C | |
| Flash Point | 19 °C | Method: closed cup |
| Flammability | N/A | |
| Autoignition Temp | N/A | |
| Oxidizing Properties | N/A | |
| Explosive Properties | N/A | |
| Explosion Limits | N/A | |
| Vapor Pressure | 240 mmHg | 20 °C |
| SG/Density | 1.311 g/cm3 | 25 °C |
| Partition Coefficient | Log Kow: 1.9 | |
| Viscosity | 1.001 Pas | -23.15 °C |
| Vapor Density | 4.27 g/l | |
| Saturated Vapor Conc. | N/A | |
| Evaporation Rate | N/A | |
| Bulk Density | N/A | |
| Decomposition Temp. | N/A | |
| Solvent Content | N/A | |
| Water Content | N/A | |
| Surface Tension | N/A | |
| Conductivity | N/A | |
| Miscellaneous Data | N/A | |
| Solubility | Other Solvents: WATER (3G/L), ETHANOL DIETHYLETHER | |

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen bromide gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: TX4111000

ACUTE TOXICITY

LC50
Inhalation
Mouse
31,171 ppm

4H

Remarks: Behavioral:Aggression. Nutritional and Gross
Metabolic:Weight loss or decreased weight gain.

LD50

Intraperitoneal

Mouse

4837 MG/KG

LC50

Inhalation

Mammal

36,000 mg/m3

SIGNS AND SYMPTOMS OF EXPOSURE

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

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Material may be irritating to mucous membranes and
upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

TARGET ORGAN INFORMATION

Central nervous system. Heart. Liver. Kidneys.

CONDITIONS AGGRAVATED BY EXPOSURE

May cause nervous system disturbances.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat

Dose: 1000 PPM/6H

Route of Application: Inhalation

Exposure Time: (2W MALE/2W PRE-3W PREG)

Result: Effects on Fertility: Litter size (e.g.; # fetuses per
litter; measured before birth).

Species: Rat

Dose: 18900 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (14D PRE/7D PREG)

Result: Maternal Effects: Ovaries, fallopian tubes. Maternal
Effects: Menstrual cycle changes or disorders.

Species: Rat

Dose: 6775 MG/KG

Route of Application: Subcutaneous

Exposure Time: (5D MALE)

Result: Paternal Effects: Spermatogenesis (including genetic
material, sperm morphology,motility, and count).

Species: Rat

Dose: 5 GM/KG

Route of Application: Subcutaneous

Exposure Time: (5W MALE)

Result: Paternal Effects: Spermatogenesis (including genetic
material, sperm morphology,motility, and count).

12 - Ecological Information

ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish
Species: Carassius auratus (Goldfish)
Time: 24 h
Value: 150 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 2344
Class: 3
PG: II
Proper Shipping Name: Bromopropanes

IMDG

UN#: 2344
Class: 3
PG: II
Proper Shipping Name: Bromopropanes
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 2344
Class: 3
PG: II
Proper Shipping Name: Bromopropanes
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 602-085-00-5

NOTA: E

INDICATION OF DANGER: F T

Highly Flammable. Toxic.

R-PHRASES: 60 11 48/20 66

May impair fertility. Highly flammable. Also harmful: danger of serious damage to health by prolonged exposure through inhalation. Repeated exposure may cause skin dryness or cracking.

S-PHRASES: 53 16 45

Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. Keep away from sources of ignition - no smoking. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

16 - Other Information

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 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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