



MATERIAL SAFETY DATA SHEET - SDS / MSDS

N butyl bromide

CAS No: 109-65-9

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product Name : 1-bromobutane

CAS No. : 109-65-9

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Industrial & for professional use only

1.3 Details of the supplier of the safety data sheet

Company : Krishna Solvechem Ltd.
Corp. Off.: B/503, Shayog, S. V. Road,
Kandivali (West), Mumbai – 400067. India.

Telephone : +91-22-6123 0222

Email : atul.vora@kscl.co.in

1.4 Emergency telephone number

Emergency Phone : +91-22-6123 0222 (9.00am – 6.00pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids (Category 2)

Skin corrosion/irritation (Category 2)

Serious eye damage/eye irritation (Category 2)

2.2 Label elements

Pictogram :





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Signal word	Danger
Hazard statement (s)	Highly flammable liquid and vapor Causes skin irritation Causes serious eye irritation
Precautionary statement (s)	Wash face, hands and any exposed skin thoroughly after handling Keep away from heat/sparks/open flames/hot surfaces. - No smoking Keep container tightly closed Wear protective gloves/protective clothing/eye protection/face protection Ground/bond container and receiving equipment Use explosion-proof electrical/ventilating/lighting equipment Use only non-sparking tools Take precautionary measures against static discharge
Eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention
Skin	IF ON SKIN(or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention
Fire	In case of fire: Use CO ₂ , dry chemical, or foam for extinction
Storage	Store in a well-ventilated place. Keep cool.
disposal	Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC)

None identified.

SECTION 3: Composition/information on ingredients

3.1 Substances

Component :	Butyl bromide
CAS-No. :	109-65-9
Concentration :	>95%



SECTION 4: First aid measures

4.1 Description of first aid measures

- If inhaled :** Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.
- In case of skin contact :** Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
- In case of eye contact :** Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If swallowed :** Do NOT induce vomiting. Get medical attention.

- 4.2 Most important symptoms and effects, both acute and delayed:** Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

- 4.3 Notes to physician :** Treat symptomatically

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media :** Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

- 5.2 Special hazards arising from the substance or mixture :** Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Vapors may form explosive mixtures with air.

- 5.3 Advice for firefighters :** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health: 2

Flammability: 3

Instability: 0

Physical hazards: N/A

- 5.4 Hazardous combustion products :** Carbon dioxide, carbon monoxide, hydrogen halides.



SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes or clothing.

6.2 Environmental precautions

Avoid release to the environment. See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment.

SECTION 7: Handling and storage

7.1 Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

7.2 Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Flammables area. Incompatible Materials. Strong oxidizing agents. Strong bases. Metals.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment -

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by



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OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

No protective equipment is needed under normal use conditions.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid Color: light yellow
b) Odour	Strong
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point / freezing point	-112 °C / -169.6 °F
f) Initial boiling point and boiling range	100 - 104 °C / 212 - 219.2 °F @ 760 mmHg
g) Flash point	10 °C / 50 °F
h) Evaporation rate	No data available
i) flammability(solid gas)	Not applicable
j) flammability or explosive limits	Upper : 7.0 vol % Lower : 2.6 vol %
k) Vapour pressure	34 mmHg @ 20 °C
l) Specific gravity	1.270
m) vapor density	4.72
n) Water solubility	No data available
o) decomposition temperature	No data available
p) viscosity	No data available
q) molecular formula	C4H9Br
r) molecular weight	137.02



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SECTION 10: Stability and Reactivity

- 10.1 Reactivity :** None known based on information available
- 10.2 Chemical stability :** Stable under recommended storage conditions.
- 10.3 Possibility of hazardous reactions :** None under normal processing.
- 10.4 Conditions to avoid :** Keep away from open flames, hot surfaces and sources of ignition. Incompatible products.
- 10.5 Incompatible materials:** Strong oxidizing agents, Strong bases, Metals
- 10.6 Hazardous decomposition products :** Carbon dioxide, carbon monoxide, hydrogen halides.

SECTION 11: Toxicological information

11. Information on toxicological effects

1

Acute toxicity:

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Butyl bromide	LD50 = 2761 mg/kg (Rat)	LD50 > 2000 mg/kg (Rat)	LC50 = 37.06 mg/L (Rat) 4 h

irritation : Irritating to eyes and skin

sensitization : No data available

Germ cell mutagenicity: No data available

Carcinogenicity : The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CA S No	IAR C	NT P	ACGI H	OSH A	Mexico
Butyl bromide	109-65-9	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure : None known

Specific target organ toxicity - repeated exposure : None known



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Aspiration hazard :	No data available
Symptoms/effects both acute and delayed:	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
Other adverse effects:	The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Ecotoxicity	This product contains the following substance(s) which are hazardous for the environment. Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment. Fresh water algae : not listed Freshwater fish : LC50 = 36.7mg/L, 96h flow-through (Pimephales, promelas) Microtox : not listed Water flea : not listed
12.2 Persistence and degradability	Persistence is unlikely .
12.3 Bioaccumulative potential :	No data available
12.4 Mobility in soil :	Will likely be mobile in the environment due to its water solubility Log Pow : 2.75

SECTION 13: Disposal considerations

13.1 Waste treatment methods	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
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SECTION 14: Transport information

14.1 IMDG/IMO :	UN No: UN1126 Proper shipping name: 1-BROMOBUTANE Hazard class: 3
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14.2 TDG :	Packing group: II UN No: UN1126 Proper shipping name: 1-BROMOBUTANE Hazard class: 3 Packing group: II
14.3 IATA	UN No: UN1126 Proper shipping name: 1-BROMOBUTANE Hazard class: 3 Packing group: II
14.4 DOT:	UN No: UN1126 Proper shipping name: 1-BROMOBUTANE Hazard class: 3 Packing group: II

SECTION 15: Regulatory information

15.1 United States of America Inventory:

Component	CAS No	TSCA	TSCA Inventory notification -Active-Inactive	TSCA - EPA Regulatory Flags
Butyl bromide	109-65-9	X	ACTIVE	-

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - - Not listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Butyl bromide	109-65-9	X	-	203-691-9	X	X	X	X	X	-

U.S. Federal Regulations

SARA 313

Not applicable

SARA 311/312 Hazard Categories See section 2 for more information



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CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Butyl bromide	X	X	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Butyl bromide	109-65-9	Listed	Not applicable	Not applicable	Not applicable

Seveso III Directive (2012/18/EC) -Qualifying Quantities for Major Accident Notification

Not applicable

Seveso III Directive (2012/18/EC) -Qualifying Quantities for Safety Report Requirements

Not applicable

Rotterdam Convention (PIC)

Not applicable

Basel convention (Hazardous Waste)

Not applicable

SECTION 16: Other information

16.1 Further information:

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. Krishna Solvechem Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.kscl.co.in for additional terms and conditions of sale.