

# Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company  
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,  
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)  
Tel : + 91 98200 41841 Email : [info@ottokemi.com](mailto:info@ottokemi.com) Web : [www.ottokemi.com](http://www.ottokemi.com)

## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1: Product identifiers

Product Name : Butyl bromide, 99%  
Product Code : B 2366  
CAS No: 109-65-9

1.2. Relevant identified uses of the substance or mixture and uses advised against  
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification  
OTTO CHEMIE PVT LTD  
No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,  
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

1.4. Emergency telephone number

Phone no. : + 91 98200 41841 (10 : 00 am – 06 : 00 pm)

### SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Flammable liquids, (Category 2)

Skin irritation, (Category 2)

Carcinogenicity, (Category 2)

Reproductive toxicity, (Category

1B) damage the unborn child.

Specific target organ toxicity -

single exposure, (Category 3),

Respiratory system

Specific target organ toxicity -

repeated exposure, (Category 2),

Liver.

Long-term (chronic) aquatic

hazard, (Category 2)

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word

Hazard Statements

H225

H315

H335

H351

H360FD

H373

H411

Precautionary Statements

P202

P210

P233

P273

P303 + P361 + P353

P308 + P313

H225: Highly flammable liquid and vapor.

H315: Causes skin irritation.

H351: Suspected of causing cancer.

H360FD: May damage fertility. May

H335: May cause respiratory irritation

H373: May cause damage to organs  
through prolonged or repeated exposure if  
inhaled

H411: Toxic to aquatic life with long lasting  
effects.

Danger

Highly flammable liquid and vapor.

Causes skin irritation.

May cause respiratory irritation.

Suspected of causing cancer.

May damage fertility. May damage the unborn child.

May cause damage to organs (Liver) through prolonged or  
repeated exposure if inhaled.

Toxic to aquatic life with long lasting effects.

Do not handle until all safety precautions have been read and  
understood.

Keep away from heat, hot surfaces, sparks, open flames and  
other ignition sources. No smoking.

Keep container tightly closed.

Avoid release to the environment.

IF ON SKIN (or hair): Take off immediately all contaminated  
clothing. Rinse skin with water.

IF exposed or concerned: Get medical advice/ attention.

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Supplemental Hazard Statements  
Reduced Labeling (<= 125 ml)  
Pictogram  
Signal Word  
Hazard Statements  
H351  
H360FD  
Precautionary Statements  
P202

none  
  
Danger  
  
Suspected of causing cancer.  
May damage fertility. May damage the unborn child.  
  
Do not handle until all safety precautions have been read and understood.  
IF exposed or concerned: Get medical advice/ attention.

P308 + P313  
Supplemental Hazard Statements  
2.3 Other hazards

none

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula : C4H9Br  
Molecular weight : 137,03 g/mol  
CAS-No. : 109-65-9  
EC-No. : 203-691-9

Component	Classification	Concentration
1-bromobutane		
CAS-No. 109-65-9 EC-No. 203-691-9	Flam. Liq. 2; Skin Irrit. 2; Carc. 2; Repr. 1B; STOT SE 3; STOT RE 2; Aquatic Chronic 2; H225, H315, H351, H360FD, H335, H373, H411	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

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The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11  
4.3 Indication of any immediate medical attention and special treatment needed  
No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides

Hydrogen bromide gas

Combustible.

Fire may cause evolution of:

hydrogen bromide

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Protected from light. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Recommended storage temperature see product label.

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Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Viton®

Minimum layer thickness: 0,7 mm

Break through time: 480 min

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm

Break through time: 60 min

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

## SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state	liquid
b) Color	colorless
c) Odor	No data available
d) Melting point/freezing point	Melting point/ range: -112 °C
e) Initial boiling point and boiling range	99 - 101 °C at 1.013 hPa
f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	Upper explosion limit: 6,6 %(V) Lower explosion limit: 2,8 %(V)
h) Flash point	10 °C - closed cup
i) Autoignition temperature	265 °C
j) Decomposition	No data available

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temperature	
k) pH	No data available
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	0,869 g/l at 25 °C - partly soluble
n) Partition coefficient: n-octanol/water	log Pow: 2,75 - Bioaccumulation is not expected., (ECHA)
o) Vapor pressure	200 hPa at 50 °C 53 hPa at 25 °C
p) Density	1,273 g/cm <sup>3</sup> at 25 °C
Relative density	No data available
q) Relative vapor density	No data available
r) Particle characteristics	No data available
s) Explosive properties	No data available
t) Oxidizing properties	none
9.2 Other safety information	
Surface tension	25,9 mN/m at 25 °C
Relative vapor density	4,73 - (Air = 1.0)

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapors may form explosive mixture with air.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### 10.3 Possibility of hazardous reactions

peroxi compounds

Alkali metals

Alkaline earth metals

Powdered metals

Strong oxidizing agents

fats

various plastics

Exothermic reaction with:

### 10.4 Conditions to avoid

Warming.

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg

Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity

to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 24,3 mg/l - 96 h (1-bromobutane)

(OECD Test Guideline 203)

Toxicity to daphnia

and other aquatic

invertebrates

static test EC50 - Daphnia magna (Water flea) - 99,3 mg/l - 48 h (1-bromobutane)

(OECD Test Guideline 202)

Toxicity to algae ErC50 - Pseudokirchneriella subcapitata (green algae) - 9,98 mg/l -

72 h (1-bromobutane)

(OECD Test Guideline 201)

Toxicity to bacteria static test EC50 - activated sludge - 270 mg/l - 5 min (1-bromobutane)

Remarks: (ECHA)

### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d (1-bromobutane)

Result: 19,2 % - Not readily biodegradable.

(OECD Test Guideline 301D)

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Endocrine disrupting properties

Product:

Assessment :

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

Discharge into the environment must be avoided.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

No data available

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1126

IMDG: 1126

IATA: 1126

### 14.2 UN proper shipping name

ADR/RID: 1-BROMOBUTANE

IMDG: 1-BROMOBUTANE

IATA: 1-BROMOBUTANE

### 14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

### 14.6 Special precautions for user

Tunnel restriction code : (D/E)

Further information : No data available

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## SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards

P5c FLAMMABLE LIQUIDS

involving dangerous substances.

E2 ENVIRONMENTAL HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

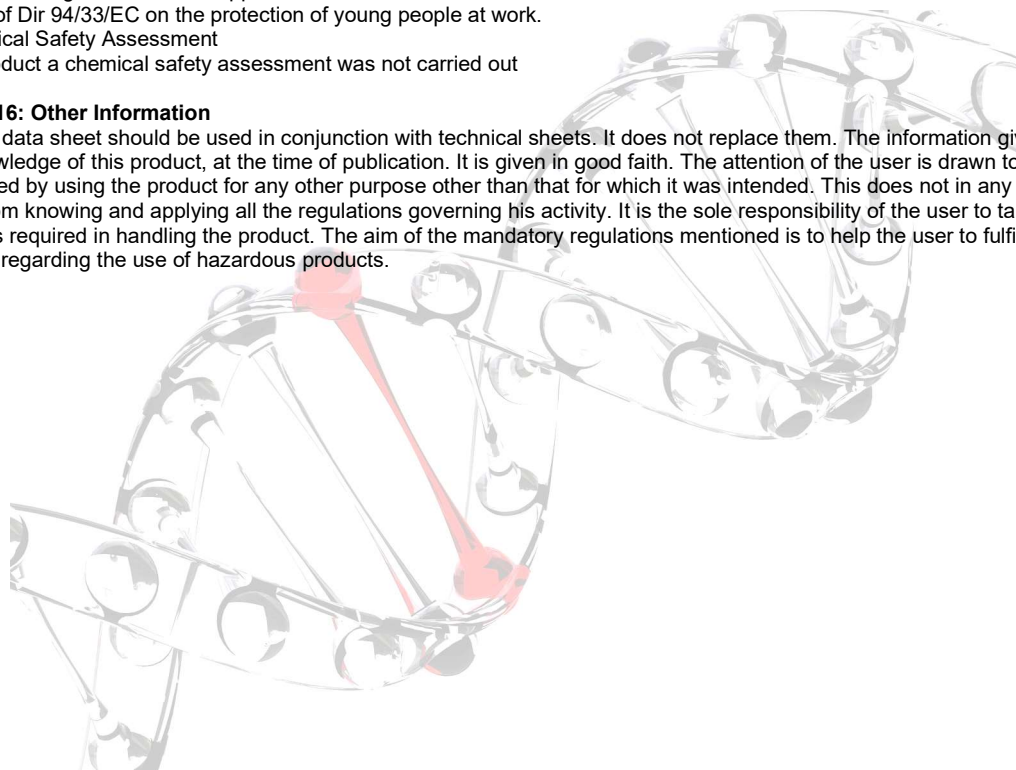
Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

## SECTION 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.



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