

MATERIAL SAFETY DATA SHEET (SDS/MSDS)

1-BROMO -3-CHLOROPROPANE 99% FOR SYNTHESIS

CAS-No.: 109-70-6

Product Code: 00494

Molecular Formula: $\text{Cl}(\text{CH}_2)_3\text{Br}$

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	1-Bromo -3-Chloropropane 99% For Synthesis
EC-No.	:	203-697-1
CAS No	:	109-70-6

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Company : Chemnovo Synthesis Pvt Ltd.
N-226 Near Kumbhavali Naka
Tarapur MIDC, Boisar-401 506
Palghar, Maharashtra
Telephone : +91 7400096089
Email: export@chemnovo.in

1.4. Emergency telephone number

Emergency number : + 91 7400096089 (9:00am – 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids,	H226
Category 3	
Acute toxicity (oral),	H302
Category 4	
Acute toxicity (inhal.),	H331
Category 3	

Full text of H statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xn; R20
Xn; R22
R10

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS06

Signal word (CLP)	:	Danger
Hazard statements (CLP)	:	H226 - Flammable liquid and vapour. H302 - Harmful if swallowed. H331 - Toxic if inhaled.
Precautionary statements (CLP)	:	P261 - Avoid breathing vapours, dust, fume, gas. P311 - Call a POISON CENTER or doctor.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name	:	1-Bromo -3-Chloropropane 99% For Synthesis
CAS No	:	109-70-6
EC-No.	:	203-697-1

Full text of R- and H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	:	Assure fresh air breathing. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
First-aid measures after skin contact	:	Take off immediately all contaminated clothing. Wash skin with plenty of water. Get immediate medical advice/attention.
First-aid measures after eye contact	:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	:	Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.

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

Symptoms/effects after inhalation	:	Toxic if inhaled.
Symptoms/effects after ingestion	:	Harmful if swallowed.

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4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Carbon dioxide. Dry powder. Foam. Water spray.
Unsuitable extinguishing media	:	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	:	Flammable liquid and vapour
Explosion hazard	:	May form flammable/explosive vapour-air mixture.

5.3. Advice for firefighter

Protection during firefighting	:	Do not enter fire area without proper protective equipment, including respiratory protection.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.
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6.1.1. For non-emergency personnel

Emergency procedures	:	Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	:	Use personal protective equipment as required.
Emergency procedures	:	Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	:	On land, sweep or shovel into suitable containers. Collect spillage.
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6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Avoid contact with skin and eyes. Take precautionary measures against static discharge. Use only non-sparking tools. Provide good ventilation in process area to prevent formation of vapour. Keep away from sources of ignition – No smoking.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Proper grounding procedures to avoid static electricity should be followed.
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Storage conditions : Keep container tightly closed. Keep in fireproof place.
Incompatible materials : Heat sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Hand protection : Protective gloves
Eye protection : Chemical goggles or safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : [In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Molecular mass : 157.44 g/mol
Colour : Clear colourless.
Odour : No data available
Odour threshold : No data available
pH : No data available
Relative evaporation rate (butylacetate=1) : No data available
Melting point : -59 °C
Freezing point : No data available
Boiling point : 144 - 145 °C
Flash point : 45 °C
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Flammable liquid and vapour
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : No data available
Density : 1.592 g/cm³ at 20°C
Solubility : Water: Insoluble
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Open flame. Heat. Sparks.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Oral: Harmful if swallowed. Inhalation: Toxic if inhaled.
Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified
Potential adverse human health effects and symptoms	:	Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

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12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	:	Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Additional information	:	Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA /AND

14.1. UN number

UN-No. (ADR)	:	2688
UN-No. (IMDG)	:	2688
UN-No.(IATA)	:	2688
UN-No.(AND)	:	2688
UN-No. (RID)	:	2688

14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	1-BROMO-3-CHLOROPROPANE
Proper Shipping Name (IMDG)	:	1-BROMO-3-CHLOROPROPANE
Proper Shipping Name (IATA)	:	1-Bromo-3-chloropropane
Proper Shipping Name (ADN)	:	1-BROMO-3-CHLOROPROPANE
Proper Shipping Name (RID)	:	1-BROMO-3-CHLOROPROPANE
Transport document description (ADR) :		UN 2688 1-BROMO-3-CHLOROPROPANE, 6.1, III, (E)
Transport document description (IMDG) :		UN 2688 1-BROMO-3-CHLOROPROPANE, 6.1, III
Transport document description (IATA) :		UN 2688 1-Bromo-3-chloropropane, 6.1, III
Transport document description (ADN) :		UN 2688 1-BROMO-3-CHLOROPROPANE, 6.1, III
Transport document description (RID) :		UN 2688 1-BROMO-3-CHLOROPROPANE, 6.1, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	:	6.1
Danger labels (ADR)	:	6.1



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IMDG

Transport hazard class(es) (IMDG) : 6.1
Danger labels (IMDG) : 6.1
:



IATA

Transport hazard class(es) (IATA) : 6.1
Hazard labels (IATA) : 6.1
:



AND

Transport hazard class(es) (ADN) : 6.1
Danger labels (ADN) : 6.1
:



RID

Transport hazard class(es) (RID) : 6.1
Danger labels (RID) : 6.1
:



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Packing group (ADR)	:	III
Packing group (IMDG)	:	III
Packing group (IATA)	:	III
Packing group (ADN)	:	III
Packing group (RID)	:	III

14.5. Environmental hazards

Dangerous for the environment	:	No
Marine pollutant	:	No
Other information	:	No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	:	T1
Limited quantities (ADR)	:	5I
Excepted quantities (ADR)	:	E1
Packing instructions (ADR)	:	P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	:	Mp19
Portable tank and bulk container	:	T4

instructions (ADR)

Portable tank and bulk container special

provisions (ADR)	:	Tp1
Tank code (ADR)	:	L4BH
Tank special provisions (ADR)	:	TU15, Te19
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	2

Special provisions for carriage - Packages (ADR)

V12

Special provisions for carriage - Loading, unloading and handling (ADR)

CV13, Cv28

Special provisions for carriage - Operation (ADR)

S9

Hazard identification number (Kemler No.)

60

Orange plates

60

2688

Tunnel restriction code (ADR)	:	E
EAC code	:	2X

- Transport by sea

Packing instructions (IMDG)	:	P001, Lp01
IBC packing instructions (IMDG)	:	IBC03

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Tank instructions (IMDG)	:	T4
Tank special provisions (IMDG)	:	Tp1
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-A
Stowage category (IMDG)	:	A
Properties and observations (IMDG)	:	Colourless liquid. Immiscible with water. Decomposes when heated, evolving highly toxic fumes. Toxic if swallowed, by skin contact or by inhalation.
MFAG-No	:	159
- Air transport		
PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y642
PCA limited quantity max net quantity (IATA)	:	2L
PCA packing instructions (IATA)	:	655
PCA max net quantity (IATA)	:	60L
CAO packing instructions (IATA)	:	663
CAO max net quantity (IATA)	:	220L
ERG code (IATA)	:	6L
- Inland waterway transport		
Classification code (ADN)	:	T1
Special provisions (ADN)	:	802
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E1
Equipment required (ADN)	:	PP, EP, TOX, A
Ventilation (ADN)	:	Ve02
Number of blue cones/lights (ADN)	:	0
- Rail transport		
Classification code (RID)	:	T1
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P001, IBC03, LP01, R001
Mixed packing provisions (RID)	:	Mp19
Portable tank and bulk container instructions (RID)	:	T4
Portable tank and bulk container special provisions (RID)	:	Tp1
Tank codes for RID tanks (RID)	:	L4BH
Special provisions for RID tanks (RID)	:	Tu15
Transport category (RID)	:	2
Special provisions for carriage – Packages (RID)	:	W12
Special provisions for carriage – Loading, unloading and handling (RID)	:	CW13, CW28, Cw31
Colis express (express parcels) (RID)	:	Ce8

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Hazard identification number (RID) : 60

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

1-Bromo -3-Chloropropane 99% For Synthesis on the REACH Candidate List

1-Bromo -3-Chloropropane 99% For Synthesis on the REACH Annex XIV List

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 2, significant hazard to water (Classification according to AwSV; ID No. 920)

12th Ordinance Implementing the Federal

Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de : The substance is not listed

voortplanting giftige stoffen – Borstvoeding

NIET-limitatieve lijst van voor de : The substance is not listed

voortplanting giftige stoffen –

Vruchtbaarheid

NIET-limitatieve lijst van voor de : The substance is not listed

voortplanting giftige stoffen – Ontwikkeling

Denmark

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H226;H302;H331>; Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product .

15.2. Chemical safety assessment

No additional information available

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Full text of R-, H- and EUH-statements:

Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Flam. Liq. 3	Flammable liquids, Category 3
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H331	Toxic if inhaled.
R10	Flammable
R20	Harmful by inhalation
R22	Harmful if swallowed
Xn	Harmful

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. Chemnovo Synthesis Pvt Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.chemnovo.in for additional terms and conditions of sale.

Version: 2.0
Revision Date: 27 January 2026