

# MATERIAL SAFETY DATA SHEET (SDS/MSDS)

## 1-BROMOPENTANE 98% FOR SYNTHESIS

CAS-No.: 110-53-2

Product Code: 00508

Molecular Formula:  $\text{CH}_3(\text{CH}_2)_4\text{Br}$

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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-Bromopentane 98% For Synthesis
EC no	:	203-776-0
CAS No	:	110-53-2
Synonyms	:	Pentyl bromide/ n-Amyl bromide

#### 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

Serious eye damage/eye H319

irritation, Category 2

Skin corrosion/irritation, H315

Category 2

Specific target organ H335

toxicity – Single

exposure, Category 3,

Respiratory tract irritation

Full text of H statements : see section 16

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

Xi; R36/37/38

R10

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Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS07

Signal word (CLP)	:	Warning
Hazard statements (CLP)	:	H226 - Flammable liquid and vapour. H315 - Causes skin irritation. H319 - Causes serious eye irritation. H335 - May cause respiratory irritation.
Precautionary statements (CLP)	:	P261 - Avoid breathing vapours, dust, fume, gas. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.advice/attention.

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name	:	1-Bromopentane 98% For Synthesis
CAS-No.	:	110-53-2
EC-No.	:	203-776-0

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	:	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
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First-aid measures after skin contact	:	Wash with plenty of water/.... Wash contaminated clothing before reuse. Get 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. Do not induce vomiting.

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

Symptoms/effects after inhalation	:	May cause respiratory irritation.
Symptoms/effects after skin contact	:	Causes skin irritation.
Symptoms/effects after eye contact	:	Causes serious eye irritation.

### 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	:	Highly 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



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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed	:	Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling	:	Avoid contact with skin and eyes. Take precautionary measures against static discharge. Use only non-sparking tools. Do not breathe dust. Use only outdoors or in a well-ventilated area. 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. Ground/bond container and receiving equipment.
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	:	151.04 g/mol
Colour	:	colorless to light yellow.
Odour	:	No data available
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	-95 °C
Freezing point	:	No data available
Boiling point	:	130 °C
Flash point	:	32 °C
Auto-ignition temperature	:	No data available

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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	:	1.218 g/ml at 25°C
Solubility	:	No data available
Log Pow	:	No data available
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

## 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	:	Not classified
Skin corrosion/irritation	:	Causes skin irritation.
Serious eye damage/irritation	:	Causes serious eye irritation.
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
STOT-single exposure	:	May cause respiratory irritation.
STOT-repeated exposure	:	Not classified

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Aspiration hazard : Not classified

### 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

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal : Dispose in a safe manner in accordance with local/national recommendations : regulations. 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)	:	1993
UN-No. (IMDG)	:	1993
UN-No.(IATA)	:	1993
UN-No.(AND)	:	1993
UN-No. (RID)	:	1993

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IMDG)	:	FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IATA)	:	Flammable liquid, n.o.s.
Proper Shipping Name (ADN)	:	FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (RID)	:	FLAMMABLE LIQUID, N.O.S.
Transport document description (ADR) :		UN 1993 FLAMMABLE LIQUID, N.O.S., 3, III, (D/E)
Transport document description (IMDG)		UN 1993 FLAMMABLE LIQUID, N.O.S., 3, III
Transport document description (IATA) :		UN 1993 Flammable liquid, n.o.s., 3, III



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Transport document description (ADN) : UN 1993 FLAMMABLE LIQUID, N.O.S., 3, III

Transport document description (RID) : UN 1993 FLAMMABLE LIQUID, N.O.S., 3, III

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 3

Danger labels (ADR) : 3

:



#### IMDG

Transport hazard class(es) (IMDG) : 3

Danger labels (IMDG) : 3

:



#### IATA

Transport hazard class(es) (IATA) : 3

Hazard labels (IATA) : 3

:



#### AND

Transport hazard class(es) (AND) : 3

Danger labels (AND) : 3



**MATERIAL SAFETY DATA SHEET (SDS/MSDS)****1-BROMOPENTANE 98% FOR SYNTHESIS****CAS-No.: 110-53-2**

RID

Transport hazard class(es) (RID) : 3

Danger labels (RID) : 3

**14.4. Packing group**

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) : F1

Special provisions (ADR) : 274, 601

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, Tp29

Tank code (ADR) : LGBF

Vehicle for tank carriage : FL

Transport category (ADR) : 3

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## Special provisions for carriage – Packages

(ADR) : V12

## Special provisions for carriage – Operation

(ADR) : S2

Hazard identification number : 30

(Kemler No.)

Orange plates : 

<b>30</b>
<b>1993</b>

Tunnel restriction code (ADR) : D/E

EAC code : •3YE

## – Transport by sea

Special provisions (IMDG) : 223, 274, 955

Limited quantities (IMDG) : 5 L

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : LP01, P001

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T4

Tank special provisions (IMDG) : TP1, Tp29

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-E

Stowage category (IMDG) : A

MFAG-No : 127;128

## – Air transport

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y344

PCA limited quantity max net quantity : 10L  
(IATA)

PCA packing instructions (IATA) : 355

PCA max net quantity (IATA) : 60L

CAO packing instructions (IATA) : 366

CAO max net quantity (IATA) : 220L

Special provisions (IATA) : A3

ERG code (IATA) : 3L

## – Inland waterway transport

Classification code (ADN) : F1

Special provisions (ADN) : 274, 601

Limited quantities (ADN) : 5 L

Excepted quantities (ADN) : E1

Carriage permitted (AND) : T

Equipment required (ADN) : PP, EX, A

Ventilation (ADN) : Ve01

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Number of blue cones/lights (ADN)	:	0
- Rail transport		
Classification code (RID)	:	F1
Special provisions (RID)	:	274, 601
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, Tp29
Tank codes for RID tanks (RID)	:	LGBF
Transport category (RID)	:	3
Special provisions for carriage – Packages (RID)	:	W12
Colis express (express parcels) (RID)	:	Ce4
Hazard identification number (RID)	:	30

### 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-Bromopentane For Synthesis is not on the REACH Candidate List

1-Bromopentane For Synthesis is not 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. 2344)

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



**MATERIAL SAFETY DATA SHEET (SDS/MSDS)****1-BROMOPENTANE 98% FOR SYNTHESIS****CAS-No.: 110-53-2****Denmark**

Class for fire hazard	:	Class II-1
Store unit	:	5 liter
Classification remarks	:	R10 <H226;H315;H319;H335>; 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 chemical safety assessment has been carried out

**SECTION 16: Other information**

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

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
R10	Flammable
R36/37/38	Irritating to eyes, respiratory system and skin
Xi	Irritant

**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](http://www.chemnovo.in) for additional terms and conditions of sale.

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