

MATERIAL SAFETY DATA SHEET (SDS/MSDS)

BENZYL CHLORIDE 99% EXTRA PURE

CAS-No.: 100-44-7

Product Code: 00400

Molecular Formula: $C_6H_5CH_2Cl$

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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	:	Benzyl Chloride 99% Extra Pure
EC-No.	:	202-853-6
CAS No	:	100-44-7

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

1.2.1. Relevant identified uses

Industrial/Professional use spec :	Industrial For professional use only
Use of the substance/mixture :	Laboratory chemicals

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
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1.4. Emergency telephone number

Emergency number :	+ 91 7400096089 (9:00am – 6:00 pm)
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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	
Skin corrosion/irritation,	H315
Category 2	
Serious eye damage/eye	H318
irritation, Category 1	
Germ cell mutagenicity,	H340
Category 1B	
Carcinogenicity, Category	H350
1B	
Specific target organ	H335
toxicity – Single	
exposure, Category 3,	
Respiratory tract irritation	

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Specific target organ
toxicity – Repeated
exposure, Category 2

H373

Full text of H statements : see section 16

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

Carc.Cat.2; R45

Muta.Cat.1; R46

T; R23

Xn; R22

Xn; R48/22

Xi; R41

Xi; R37

Xi; R38

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



GHS05



GHS07



GHS08

Signal word (CLP)

:

Danger

Hazard statements (CLP)

:

H226 – Flammable liquid and vapour.

H302 – Harmful if swallowed.

H315 – Causes skin irritation.

H318 – Causes serious eye damage.

H335 – May cause respiratory irritation.

H340 – May cause genetic defects.

H350 – May cause cancer.

H373 – May cause damage to organs through prolonged or repeated exposure.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

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CAS-No.: 100-44-7

3.1. Substance

Name	:	Benzyl Chloride 99% Extra Pure
CAS No	:	100-44-7
EC-No.	:	202-853-6

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.
First-aid measures after skin contact	:	Wash with plenty of water/.... Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label).
First-aid measures after eye contact	:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
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	:	May cause cancer. Causes damage to organs. May cause genetic defects.
Symptoms/effects after inhalation	:	May cause respiratory irritation.
Symptoms/effects after skin contact	:	Causes skin irritation.
Symptoms/effects after eye contact	:	Causes serious eye damage.
Symptoms/effects after ingestion	:	Harmful if swallowed.

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	:	dry chemical powder, alcohol-resistant foam, carbon dioxide (Co2).
Unsuitable extinguishing media	:	Do not use extinguishing media containing water.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighter

Protection during firefighting	:	Do not attempt to take action without suitable protective equipment.
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SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****6.1.1. For non-emergency personnel**

Emergency procedures : Avoid contact with skin and eyes.

6.1.2. For emergency responders

Emergency procedures : Stop release.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Shovel or sweep up and put in a closed container for disposal. Clean contaminated surfaces with an excess of water. Clean up immediately by sweeping or vacuum.

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 : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed. Store in a well-ventilated place. Keep cool.

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 : Wear respiratory protection.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state : Liquid

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CAS-No.: 100-44-7

Molecular mass	:	126.59 g/mol
Colour	:	Clear Colorless.
Odour	:	pungent odour.
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	-43 °C
Freezing point	:	No data available
Boiling point	:	177 - 181
Flash point	:	60 °C
Auto-ignition temperature	:	6270 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	1.6 at 20C
Relative vapour density at 20 °C	:	4.36
Relative density	:	No data available
Density	:	1.1 g/cm ³
Solubility	:	Water: Insoluble in water
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

Direct sunlight. Open flame. Overheating. Sparks.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Oral: Harmful if swallowed.
Skin corrosion/irritation	:	Causes skin irritation.
Serious eye damage/irritation	:	Causes serious eye damage.
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	May cause genetic defects.
Carcinogenicity	:	May cause cancer.
Reproductive toxicity	:	Not classified
STOT-single exposure	:	May cause respiratory irritation.
STOT-repeated exposure	:	May cause damage to organs through prolonged or repeated exposure.
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

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.
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SECTION 14: Transport information

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

14.1. UN number

MATERIAL SAFETY DATA SHEET (SDS/MSDS)**BENZYL CHLORIDE 99% EXTRA PURE****CAS-No.: 100-44-7**

UN-No. (ADR)	:	1738
UN-No. (IMDG)	:	1738
UN-No.(IATA)	:	1738
UN-No.(AND)	:	1738
UN-No. (RID)	:	1738

14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	BENZYL CHLORIDE
Proper Shipping Name (IMDG)	:	BENZYL CHLORIDE
Proper Shipping Name (IATA)	:	BENZYL CHLORIDE
Proper Shipping Name (ADN)	:	BENZYL CHLORIDE
Proper Shipping Name (RID)	:	BENZYL CHLORIDE
Transport document description (ADR):		UN 1738 BENZYL CHLORIDE, 6.1 (8), II, (D/E)
Transport document description (IMDG)		UN 1738 BENZYL CHLORIDE, 6.1 (8), II
Transport document description (IATA) :		UN 1738 BENZYL CHLORIDE, 6.1, II
Transport document description (ADN) :		UN 1738 BENZYL CHLORIDE, 6.1 (8), II
Transport document description (RID) :		UN 1738 BENZYL CHLORIDE, 6.1 (8), II

14.3. Transport hazard class(es)**ADR**

Transport hazard class(es) (ADR)	:	6.1 (8)
Danger labels (ADR)	:	6.1, 8
	:	

**IMDG**

Transport hazard class(es) (IMDG)	:	6.1 (8)
Danger labels (IMDG)	:	6.1, 8
	:	

**IATA**

MATERIAL SAFETY DATA SHEET (SDS/MSDS)**BENZYL CHLORIDE 99% EXTRA PURE****CAS-No.: 100-44-7**

Transport hazard class(es) (IATA) : 6.1 (8)
Hazard labels (IATA) : 6.1, 8



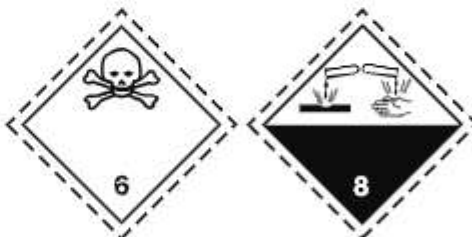
AND

Transport hazard class(es) (ADN) : 6.1 (8)
Danger labels (ADN) : 6.1, 8



RID

Transport hazard class(es) (RID) : 6.1 (8)
Danger labels (RID) : 6.1, 8

**14.4. Packing group**

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

14.5. Environmental hazards

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

MATERIAL SAFETY DATA SHEET (SDS/MSDS)**BENZYL CHLORIDE 99% EXTRA PURE****CAS-No.: 100-44-7****14.6. Special precautions for user**

– Overland transport

Classification code (ADR)	:	Tc1
Limited quantities (ADR)	:	0
Excepted quantities (ADR)	:	E4
Packing instructions (ADR)	:	P001, IBC02
Mixed packing provisions (ADR)	:	Mp15
Portable tank and bulk container instructions (ADR)	:	T8

Portable tank and bulk container special

provisions (ADR)	:	Tp2
Tank code (ADR)	:	L4BH
Tank special provisions (ADR)	:	TU15, Te19
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	2

Special provisions for carriage – Loading, unloading and handling (ADR) : CV13, Cv28 |Special provisions for carriage – Operation (ADR) : S9, S19 |Hazard identification number : 68 |(Kemler No.) |Orange plates : **68** |**1738**Tunnel restriction code (ADR) : D/E |EAC code : 2X |– Transport by sea |

Packing instructions (IMDG)	:	P001
IBC packing instructions (IMDG)	:	IBC02
IBC special provisions (IMDG)	:	B20
Tank instructions (IMDG)	:	T8
Tank special provisions (IMDG)	:	TP2, Tp13
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-B
Stowage category (IMDG)	:	D
Stowage and handling (IMDG)	:	SW2, H1

Properties and observations (IMDG) : Colourless liquid with a pungent odour. Causes tears. Immiscible with water, but hydrolyses slowly in contact with it. In the presence of moisture, corrosive to most metals. Toxic if swallowed, by skin contact or by vapour inhalation. Causes burns to skin, eyes and mucous membranes.

MFAG-No : 156 |

MATERIAL SAFETY DATA SHEET (SDS/MSDS)**BENZYL CHLORIDE 99% EXTRA PURE****CAS-No.: 100-44-7****- Air transport**

PCA Excepted quantities (IATA)	:	E4
PCA Limited quantities (IATA)	:	Forbidden
PCA limited quantity max net quantity (IATA)	:	Forbidden
PCA packing instructions (IATA)	:	653
PCA max net quantity (IATA)	:	1L
CAO packing instructions (IATA)	:	660
CAO max net quantity (IATA)	:	30L
ERG code (IATA)	:	6C

- Inland waterway transport

Classification code (ADN)	:	Tc1
Special provisions (ADN)	:	802
Limited quantities (AND)	:	0
Excepted quantities (ADN)	:	E4
Carriage permitted (AND)	:	T
Equipment required (ADN)	:	PP, EP, TOX, A
Ventilation (ADN)	:	Ve02
Number of blue cones/lights (ADN)	:	2

- Rail transport

Classification code (RID)	:	Tc1
Limited quantities (RID)	:	0
Excepted quantities (RID)	:	E4
Packing instructions (RID)	:	P001, IBC02
Mixed packing provisions (RID)	:	Mp15
Portable tank and bulk container instructions (RID)	:	T8
Portable tank and bulk container special provisions (RID)	:	Tp2
Tank codes for RID tanks (RID)	:	L4BH
Special provisions for RID tanks (RID)	:	Tu15
Transport category (RID)	:	2
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW13, CW28, Cw31
Colis express (express parcels) (RID)	:	Ce5
Hazard identification number (RID)	:	68

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

Benzyl Chloride 99% Extra Pure is not on the REACH Candidate List

Benzyl Chloride 99% Extra Pure is not on the REACH Annex XIV List

15.1.2. National regulations**Germany**

Reference to AwSV : Water hazard class (WGK) 3, severe hazard to water
(Classification according to AwSV; ID No. 33)

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

Benzyl Chloride Extra Pure is 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 III-1

Store unit :

50 liter

Classification remarks :

Flammable according to the Danish Ministry of Justice; 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 .

Pregnant/breastfeeding women working with the product must not be in direct contact with the product

The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

MATERIAL SAFETY DATA SHEET (SDS/MSDS)**BENZYL CHLORIDE 99% EXTRA PURE****CAS-No.: 100-44-7**

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

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Carc. 1B	Carcinogenicity, Category 1B
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Muta. 1B	Germ cell mutagenicity, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
R22	Harmful if swallowed
R23	Toxic by inhalation
R37	Irritating to respiratory system
R38	Irritating to skin
R41	Risk of serious damage to eyes
R45	May cause cancer
R46	May cause heritable genetic damage
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed
T	Toxic
Xi	Irritant
Xn	Harmful

MATERIAL SAFETY DATA SHEET (SDS/MSDS)**BENZYL CHLORIDE 99% EXTRA PURE****CAS-No.: 100-44-7****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.

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