



# Materials Safety Data Sheet

## BENZYL CHLORIDE

### Section 1 - Chemical Product and Company Identification

MSDS Name: Benzyl Chloride

CAS No.: 100-44-7

Details of the supplier:

Manufacturer/Supplier: Wuhan Biet Co., Ltd  
Room 1004, Block V, Wuhan Furniture Plaza, Qiaokou District,  
Wuhan, Hubei, China 430000

For information, call: +86 27 8369 8488

For technical support, call: +86 27 8369 8488

For emergencies in China, call: 112

### Section 2 - Composition, Information on Ingredients

(Typical composition is given, and it may vary. A certificate of analysis can be provided, if available.)

CAS#	Chemical Name	Percent	EINECS#
59502-05-5	BENZYL CHLORIDE	99.5% min	261-790-2

Text for R-phrases: See Section 16

Hazard Symbols: T

Risk Phrases: 22 23 37/38 41 45 48/22

### Section 3 - Hazards Identification

**Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP] [EU-GHS/CLP]**

Hazard Class: Carc.1B; Acute Tox. 3\*; Acute Tox. 4; STOT RE 2\*; STOT SE 3; Skin Irrit. 2; Eye Dam 1.

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

May cause cancer. Toxic by inhalation. Harmful if swallowed. Harmful danger of serious damage to health by prolonged exposure if swallowed. Irritating to respiratory



system and skin. Risk of serious damage to eyes.

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



**Pictograms:**

**Signal word:** Danger

**Hazard Statement(s):**

- H315 Causes skin irritation.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- H331 Toxic if inhaled.
- H335 May cause respiratory irritation.
- H350 May cause cancer.

**Precautionary statement(s)**

- P201 Obtain special instructions before use.
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P280 Wear protective gloves/ eye protection/ face protection.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.

According to European Directive 67/548/EEC as amended.



**Hazard symbol(s) :**

**R-phrase(s)**

- R45 May cause cancer.
- R22 Also harmful if swallowed.
- R23 Also toxic by inhalation.
- R48/22 Also harmful: danger of serious damage to health by prolonged exposure if swallowed.
- R37/38 Irritating to respiratory system and skin.
- R41 Risk of serious damage to eyes.

**S-phrase(s)**

- S53 Avoid exposure - obtain special instructions before use.
- S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Restricted to professional users.

## Section 4 - First Aid Measures

**General Advice :** Consult a physician. Show this safety data sheet to the doctor in attendance.



**If Swallowed** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**If in Eyes** : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If on Skin**: Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**If Inhaled** : If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

## Section 5 - Fire Fighting Measures

**Extinction**: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

**Special hazards arising from the substance** : Carbon oxides, Hydrogen chloride gas

**Special Protective Equipment for Fire-fighters** : Wear self contained breathing apparatus for fire fighting if necessary.

**Further Information** : Use water spray to cool unopened containers.

## Section 6 - Accidental Release Measures

**Personal Precautions** : Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**Environmental Precautions** : Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Spill/Leak(s)**: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

## Section 7 - Handling and Storage

**Precautions for Safe Handling** : Wash thoroughly after handling. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat and flame. Do not breathe vapor or mist. Keep dry and use promptly.

Handle only in corrosion resistant equipment avoiding iron, aluminum, and brass.



**Conditions for Safe Storage :** Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Storage for long periods is not recommended. Store protected from moisture. Vent periodically. Keep away from oxidizing agents.

## Section 8 - Exposure Controls, Personal Protection

**Country specific exposure limits have not been established or are not applicable unless listed below.**

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

**Eye/face protection :** Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection :** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Body Protection:** Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection :** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## Section 9 - Physical and Chemical Properties

<b>Physical State/Appearance:</b>	Colourless liquid
<b>Relative density(water=1):</b>	1.1 g/cm <sup>3</sup> at 25 °C
<b>Vapor Pressure:</b>	120 Pa at 20°C
<b>Vapor Density(Air=1):</b>	4.4
<b>Flash Point:</b>	NO
<b>Auto Ignition Temperature:</b>	N/A
<b>Boiling Point:</b>	179°C
<b>Melting Point:</b>	-43°C



<b>Octanol/water partition coefficient as log pow:</b>	2.3
<b>Solubility in Water g/100ml at 20°C:</b>	None(<0.1g/100ml)
<b>Auto- ignition Temperature:</b>	585°C
<b>Upper explosion limit:</b>	14%(V)
<b>Lower explosion limit:</b>	1.1%(V)

## Section 10 - Stability and Reactivity

**Chemical stability :** Unstabilized benzyl chloride undergoes a self-condensation reaction in the presence of all common metals (except nickel and lead) with the liberation of heat and hydrogen chloride. Decomposition and polymerization reactions are inhibited to a limited extent by addition of triethylamine, propylene oxide, or sodium carbonate. Inhibition decreases during storage. Do not store for extended period of time.

**Stable hazardous polymerization :** May occur.

**Incompatible materials :** Contact with common metals (except nickel and lead) or moisture produces a Friedel-Crafts, condensation-type reaction with the liberation of heat and formation of toxic and corrosive hydrogen chloride. Hydrolyzes very slowly to form hydrogen chloride and benzyl alcohol. This product is not sensitive to physical impact. When stabilized with propylene oxide, the possibility of a Friedel-Crafts type reaction is minimized. Depletion of the stabilizer increases the possibility of condensation reactions, Oxidizing agents, Iron and iron salts., Brass, Aluminum.

**Hazardous decomposition products :** Hydrogen chloride, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

**Conditions to Avoid:** Heat, flames and sparks .

## Section 11 - Toxicological Information

### Acute toxicity

LD50 Oral - rat - 1.231 mg/kg

LC50 Inhalation - rat - 4 h - 0,74 mg/l

Remarks: Irritating to respiratory system.

### Carcinogenicity

This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Possible human carcinogen

**IARC: 2A - Group 2A:** Probably carcinogenic to humans (Benzyl chloride)

**Reproductive toxicity:** No data available

Specific target organ toxicity - single exposure

May cause damage to organs.

May cause respiratory irritation.



**Specific target organ toxicity -repeated exposure** : No data available

Aspiration hazard : No data available

Potential health effects

**Inhalation** : May be fatal if inhaled. Causes respiratory tract irritation.

**Ingestion** : Harmful if swallowed.

**Skin**: Harmful if absorbed through skin. Causes skin irritation.

**Eyes** : Causes eye burns.

**Signs and Symptoms of Exposure** : Burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: XS8925000

## Section 12 - Ecological Information

### Toxicity

#### Toxicity to fish :

LC50 - Danio rerio (zebra fish) - 4 mg/l - 96 h

#### Toxicity to daphnia and other aquatic invertebrates :

EC50 - Daphnia magna (Water flea) - 6,1 mg/l - 48 h

#### Biodegradability :

Biotic/Aerobic

Result: 80 % - Readily biodegradable.

## Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

## Section 14 - Transport Information

**Important Note:Shipping description may vary based on mode of transport, transport, quantities,package size, and/or origin and destination.Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.**

UN-Number

ADR/RID: 1738

IMDG: 1738

IATA: 1738

UN proper shipping name

ADR/RID: BENZYL CHLORIDE

IMDG: BENZYL CHLORIDE

IATA: Benzyl chloride

Transport hazard class(es) :

ADR/RID: 6.1 (8)

IMDG: 6.1 (8)

IATA: 6.1 (8)

Packaging group

ADR/RID: II

IMDG: II

IATA: II



## Section 15 - Regulatory Information

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols : T

#### Risk Phrases:

R 45 May cause cancer.

R 22 Harmful if swallowed.

R 23 Toxic by inhalation.

R 37/38 Irritating to respiratory system and skin.

R 41 Risk of serious damage to eyes.

R 48/22 Harmful : danger of serious damage to health by prolonged exposure if swallowed.

#### Safety Phrases:

S 53 Avoid exposure - obtain special instructions before use.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 100-44-7: 3

CAS# 59502-05-5: No information available.

#### Canada

CAS# 100-44-7 is listed on Canada's DSL List.

CAS# 100-44-7 is listed on Canada's Ingredient Disclosure List.

CAS# 59502-05-5 is not listed on Canada's Ingredient Disclosure List.

#### US FEDERAL

#### TSCA

CAS# 100-44-7 is listed on the TSCA inventory.

CAS# 59502-05-5 is not listed on the TSCA inventory.

It is for research and development use only.

## Section 16 - Additional Information

#### Disclaimer:

The information above is believed to be correct but does not purport to be all inclusive and shall be used 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.