

ALFAAA14696

4-Chlorobenzyl chloride

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明: 4-氯苄氯, 98+%
Product Description: 4-Chlorobenzyl chloride

Cat No. : A14696
Synonyms PCBC
CAS No 104-83-6
Molecular Formula C7 H6 Cl2

Supplier Avocado Research Chemicals Ltd.
(Part of Thermo Fisher Scientific)
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Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.
Uses advised against No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State
Solid

Appearance
White

Odor
Odorless

Emergency Overview

Harmful if swallowed. Harmful in contact with skin. May cause an allergic skin reaction. Harmful if inhaled. Toxic to aquatic life with long lasting effects. Moisture sensitive. Lachrymator (substance which increases the flow of tears).

Classification of the substance or mixture

| | |
|---|------------|
| Acute Oral Toxicity | Category 4 |
| Acute Dermal Toxicity | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists | Category 4 |
| Skin Sensitization | Category 1 |
| Chronic aquatic toxicity | Category 2 |

Label Elements



4-Chlorobenzyl chloride

Signal Word

Warning

Hazard Statements

H317 - May cause an allergic skin reaction

H411 - Toxic to aquatic life with long lasting effects

H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled

Precautionary Statements

Prevention

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P272 - Contaminated work clothing should not be allowed out of the workplace

P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P312 - Call a POISON CENTER or doctor if you feel unwell

P330 - Rinse mouth

P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

P403 - Store in a well-ventilated place

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards

None identified.

Health Hazards

Harmful if swallowed. Harmful in contact with skin. May cause an allergic skin reaction. Harmful if inhaled.

Environmental hazards

Toxic to aquatic life with long lasting effects. Is not likely mobile in the environment due its low water solubility. Spillage unlikely to penetrate soil. The product evaporates slowly.

Other Hazards

Lachrymator (substance which increases the flow of tears)

This product does not contain any known or suspected endocrine disruptors.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight % |
|-------------------------|----------|----------|
| p-Chlorobenzyl chloride | 104-83-6 | > 99 |

SECTION 4. FIRST AID MEASURES

Eye Contact

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

Inhalation

Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.

Ingestion

Do NOT induce vomiting. Call a physician immediately.

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Most important symptoms and effects

Causes burns by all exposure routes. . May cause allergic skin reaction.

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Carbon dioxide (CO₂). Dry chemical. Chemical foam.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES**Personal Precautions**

Ensure adequate ventilation.

Environmental Precautions

Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Do not let this chemical enter the environment.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE**Handling**

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Handle product only in closed system or provide appropriate exhaust ventilation.

Storage

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Corrosives area.

Specific Use(s)

Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control Parameters**

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Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust MDHS70 General methods for sampling airborne gases and vapours

Exposure Controls**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Nitrile rubber | See manufacturers | - | EN 374 | (minimum requirement) |
| Neoprene | recommendations | | | |
| Natural rubber | | | | |
| PVC | | | | |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Recommended half mask:- Particle filtering: EN149:2001
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance White
Physical State Solid

Odor Odorless
Odor Threshold No data available
pH No information available

4-Chlorobenzyl chloride

| | | |
|---|--------------------------------|-----------------------------------|
| Melting Point/Range | 27 - 28 °C / 80.6 - 82.4 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | 221 °C / 429.8 °F | @ 760 mmHg |
| Flash Point | 107 °C / 224.6 °F | Method - No information available |
| Evaporation Rate | Not applicable | Solid |
| Flammability (solid,gas) | No information available | |
| Explosion Limits | Lower 2 Vol% Upper 8.6 Vol% | |
| Vapor Pressure | No data available | |
| Vapor Density | Not applicable | Solid |
| Specific Gravity / Density | No data available | |
| Bulk Density | No data available | |
| Water Solubility | Insoluble | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Component | log Pow | |
| p-Chlorobenzyl chloride | 3.18 | |
| Autoignition Temperature | 650 °C / 1202 °F | |
| Decomposition Temperature | No data available | |
| Viscosity | Not applicable | Solid |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |
| Molecular Formula | C7 H6 Cl2 | |
| Molecular Weight | 161.03 | |

SECTION 10. STABILITY AND REACTIVITY

| | |
|--------------------------|---|
| Stability | Moisture sensitive. |
| Hazardous Reactions | No information available. |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Conditions to Avoid | Excess heat. Incompatible products. Exposure to moist air or water. |
| Materials to avoid | Bases. Strong oxidizing agents. Alcohols. Amines. Finely powdered metals. Metals. |

Hazardous Decomposition Products Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride gas.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information

| | |
|--|---|
| (a) acute toxicity; | |
| (b) skin corrosion/irritation; | No data available |
| (c) serious eye damage/irritation; | No data available |
| (d) respiratory or skin sensitization; | |
| Respiratory | No data available |
| Skin | Category 1 |
| | May cause sensitization by skin contact |
| (e) germ cell mutagenicity; | No data available |

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| | |
|--|---|
| (f) carcinogenicity; | No data available There are no known carcinogenic chemicals in this product |
| (g) reproductive toxicity; | No data available |
| (h) STOT-single exposure; | No data available |
| (i) STOT-repeated exposure; | No data available |
| Target Organs | No information available. |
| (j) aspiration hazard; | Not applicable Solid |
| Other Adverse Effects | The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information |
| Symptoms / effects, both acute and delayed | No information available |

SECTION 12. ECOLOGICAL INFORMATION

| | |
|---------------------|--|
| Ecotoxicity effects | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. |
|---------------------|--|

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|-------------------------|-----------------|------------|------------------|--|
| p-Chlorobenzyl chloride | | | | EC50 = 0.51 mg/L 5 min EC50 = 0.60 mg/L 15 min EC50 = 0.64 mg/L 30 min |

| | |
|---------------------------------------|---|
| Persistence and Degradability | |
| Persistence | Insoluble in water, May persist, based on information available. |
| Degradation in sewage treatment plant | Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants. |

| | |
|---------------------------|--|
| Bioaccumulative Potential | May have some potential to bioaccumulate |
|---------------------------|--|

| Component | log Pow | Bioconcentration factor (BCF) |
|-------------------------|---------|-------------------------------|
| p-Chlorobenzyl chloride | 3.18 | No data available |

| | |
|------------------|--|
| Mobility in soil | Spillage unlikely to penetrate soil The product evaporates slowly Is not likely mobile in the environment due its low water solubility Spillage unlikely to penetrate soil |
|------------------|--|

| | |
|---------------------------------|---|
| Endocrine Disruptor Information | This product does not contain any known or suspected endocrine disruptors |
| Persistent Organic Pollutant | This product does not contain any known or suspected substance |
| Ozone Depletion Potential | This product does not contain any known or suspected substance |

SECTION 13. DISPOSAL CONSIDERATIONS

| | |
|----------------------------|---|
| Waste from Residues/Unused | Waste is classified as hazardous. Dispose of in accordance with the European Directives |
|----------------------------|---|

SAFETY DATA SHEET

4-Chlorobenzyl chloride

| | |
|------------------------|--|
| Products | on waste and hazardous waste. Dispose of in accordance with local regulations. |
| Contaminated Packaging | Dispose of this container to hazardous or special waste collection point. |
| Other Information | Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment. |

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport

| | |
|----------------------|-------------------------------|
| UN-No | UN3427 |
| Proper Shipping Name | CHLOROBENZYL CHLORIDES, SOLID |
| Hazard Class | 6.1 |
| Packing Group | III |

IMDG/IMO

| | |
|----------------------|-------------------------------|
| UN-No | UN3427 |
| Proper Shipping Name | CHLOROBENZYL CHLORIDES, SOLID |
| Hazard Class | 6.1 |
| Packing Group | III |

IATA

| | |
|----------------------|-------------------------------|
| UN-No | UN3427 |
| Proper Shipping Name | CHLOROBENZYL CHLORIDES, SOLID |
| Hazard Class | 6.1 |
| Packing Group | III |

Special Precautions for User No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

| Component | The Inventory of Hazardous Chemicals (2015 Edition) | List of dangerous goods GB 12268 - 2012 | TCSI | IECSC | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL |
|-------------------------|---|---|------|-------|-----------|------|-----|-------|------|------|------|----------|
| p-Chlorobenzyl chloride | X | X | X | X | 203-242-7 | X | - | X | X | X | X | KE-05571 |

National Regulations

SECTION 16. OTHER INFORMATION

| | |
|------------------|--|
| Prepared By | Health, Safety and Environmental Department |
| Revision Date | 30-Apr-2024 |
| Revision Summary | New emergency telephone response service provider. |

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Training Advice

Chemical incident response training.

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet