

Material Safety Data sheet

4-CHLOROBUTYRYL CHLORIDE

Section 1 – Product and Company Information

Substance	: 4-Chlorobutyryl Chloride
Trade Name	: 4-Chlorobutyryl Chloride
Chemical Family	: Acid Chloride
Company	: Shiva Pharmachem Ltd. Plot No 588, Village: Luna – 391440 Taluka: Padra District: Vadodara, Gujarat India
Phone No.	: + 91 2662 221021 / 224360
Fax No.	: + 91 2662 223314

Section 2 - Hazards identification

2.1 Classification of the substances or mixture

Classification according to regulations (EC) no 1272 / 2008

Acute toxicity, oral, (category 4), Skin Corrosion, (Category 1A), Acute toxicity, inhalation, (category 2),

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

Harmful if swallowed, Causes severe burn. Toxic by inhaled.

2.2 Labeling elements

Labeling according to EC 1272 / 2008 (CLP)

Pictogram



Single word Hazard Elements

Danger

H302	Harmful if swallowed
H314	Causes severe skin burn and eye damage.
H330	Fatal if inhaled.

Precautionary statements

P260	Do not breathe dust/fume/gas/vapours/mist/spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection
P305 + P351 + P338	IF IN EYES: Rinse cautiously for several minutes.
P310	Immediately call physician.

Supplemental Hazard Statements None

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According to EU directives 67/548/EEC as amended

Hazard symbol(s)



R PHRASE (s)

R10

Flammable.

R20

Harmful by inhalation.

R34

Causes burn.

S28

After contact with skin, wash immediately with plenty of water.

S36/37/39

Wear suitable protective clothing, gloves and eye/face protection.

S45

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

S PHRASE (s)

S26

In case of contact with eyes rinse immediately with plenty of water and seek medical advice.

S36/37/39

Wear suitable protective clothing, gloves and eye/face protection.

S45

In case of accident or you feel unwell, seek medical advice. (Show the label where possible)

2.3 Other hazard

Lachrymator

Section 3 – Composition / Information on Ingredients

Product Name	CAS No.	EC No.	Mol. Formula	Mol. Weight
4-Chlorobutyl Chloride	4635-59-0	225-059-1	C ₄ H ₆ Cl ₂ O	141.0 g/mol

Section 4 – First Aid Measures

Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes, Assure adequate flushing of the eyes by separating the eyelids with fingers. Call the physician

Skin Contact

Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION

Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult give oxygen.

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Section 5 - Fire Fighting Measures

GENERAL INFORMATION: Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas

EXTINGUISHING MEDIA: **Suitable:** Carbon dioxide. Dry chemical powder.
Unsuitable: Do not use water.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions. Combustible liquid.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Section 6 – Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 – Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed. Keep away from heat and open flame. Store in a cool dark and dry place.

SPECIAL REQUIREMENTS: Moisture sensitive.

Section 8 – Exposure Control / Personal Protection

ENGINEERING CONTROLS

Use only in a chemical fume hood.
Safety shower and eye bath.

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GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

Special Protective Measures: Face shield (8-inch minimum).

Section 9 – Physical and Chemical Properties

Appearance Physical State	: Liquid
Odor	: Unpleasant odor.
pH	: Acidic
BP/BP Range	: 68.0 - 70.0 °C 12 mmHg
MP/MP Range	: -49 °C
Flash Point	: 85 °C
Method	: Closed cup
Flammability	: Nonflammable
Auto ignition Temp	: 440 °C
Explosion Limits Lower	: 5.5 %
Upper	: 11.7 %
Vapor Pressure	: N/A
SG/Density	: 1.257 g/cm ³ at 20 °C
Solvent Content	: Nil
Water Content	: Not applicable, reacts with water
Solubility	: Miscible with most aromatic hydrocarbons.

Section 10 – Stability and Reactivity

STABILITY

Stable: Stable.

Conditions of Instability: May decompose on exposure to moist air or water.

Materials to Avoid: Strong bases, Alcohols, Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride gas, Phosgene gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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Section 11 – Toxicological Information

RTECS NUMBER: EM1406000

ACUTE TOXICITY

LD50 Oral

Rat

1,350 mg/kg

LC50

Inhalation

Rat

650 mg/m3

4H

Remarks: Nutritional and Gross Metabolic: Weight loss or decreased weight gain. Skin and Appendages: Other: Hair. Lungs, Thorax, or Respiration: Respiratory depression.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

ROUTE OF EXPOSURE

Skin Contact: Causes burns. Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes burns. Lachrymator.

Inhalation: Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

Section 12 – Ecological Information

Environmental fate and Transport

Biodegradation:

Test method: OECD 301 A (new version) (aerobic), activated sludge, domestic

Method of analysis: DOC reduction

Degree of elimination: 90 - 100 % (14 d)

Evaluation: Readily biodegradable (according to OECD criteria).

The product is unstable in water. The elimination data also refer to products of hydrolysis.

Bioaccumulation:

No significant accumulation in organisms is expected as a result of the distribution coefficient of octanol/water (log Pow).

The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

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Environmental toxicity

Acute and prolonged toxicity to fish:

DIN 38412 Part 15 static

golden orfe/LC50 (96 h): > 46 - < 100 mg/l

The details of the toxic effect relate to the nominal concentration. The product may hydrolyze. The test result maybe partially due to degradation products. The product will cause changes in the pH value of the test system. The result refers to an un-neutralized sample. After neutralization, it is no longer toxic.

Toxicity to microorganisms:

DIN/EN/ISO 8192-OECD 209-88/302/EEC, P. C aerobic activated sludge, and domestic/EC20: > 1,000 mg/l

The details of the toxic effect relate to the nominal concentration. The product may hydrolyze. The test result maybe partially due to degradation products.

Other ecotoxicological advice:

Do not release untreated into natural waters.

Section 13 – Disposal Considerations

SUBSTANCE DISPOSAL

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 – Transport Information

RID/ADR

UN# : 3390
Class : 6.1
Packing Group : I
Subrisk : 8

Proper Shipping Name : Toxic by inhalation liquid, corrosive, n.o.s.

IMDG

UN# : 3390
Class : 6.1
Packing Group : I
Subrisk : 8
Proper Shipping Name : Toxic by inhalation liquid, corrosive, n.o.s.
Marine Pollutant : No
Severe Marine Pollutant : No
Technical Name : Required

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IATA

UN# : 3390

Class : 6.1

Packing Group : I

Subrisk : 8

Proper Shipping Name: Toxic by inhalation liquid, corrosive, n.o.s.

Inhalation Packing Group I: Yes

Technical Name: Required

Section 15 – Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: T

Toxic.

Section 16 – Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Shiva Pharmachem Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incident, consequential or exemplary damages, howsoever arising, even if Shiva Pharmachem Ltd has been advised of the possibility of such damages.