



## Material Safety Data Sheet

### N-BUTYRYL CHLORIDE

#### **Section 1 – Product and Company Information**

Substance : Butyryl Chloride  
Trade Name : Butyryl Chloride  
Chemical Family : Acid Chloride  
Company : Shiva Pharmachem Pvt. Ltd.  
Plot No. 588,  
Village Luna – 391140  
Taluka: Padra  
District: Vadodara, Gujarat  
India  
Phone No. : + 91 2262 221021 / 224360  
Fax No. : + 91 2662 223314

#### **Section 2 – Composition / Information on Ingredients**

Product Name	CAS No.	EC No.	Mol. Formula	Mol Weight
Butyryl Chloride	141-75-3	205-498-5	C <sub>4</sub> H <sub>7</sub> ClO	106.55 g/mol

#### **Section 3 – Hazards Identification**

##### **SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT**

Highly Flammable.  
Causes burns.

#### **Section 4 – First Aid Measures**

##### **INHALATION**

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

##### **EYE CONTACT**

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

#### **Section 5 – Fire Fighting Measures**

##### **CONDITIONS OF FLAMMABILITY**

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.

Unsuitable: Do not use water.

##### **SPECIAL RISKS**

**Specific Hazard(s):** Flammable liquid. Vapor may travel considerable distance to source of ignition and flash back. Emits toxic fumes under fire conditions.

**Explosion Hazards:** Vapor may travel considerable distance to source of ignition and flash back.



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### **SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS**

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

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### **Section 6 – Accidental Release Measures**

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

Evacuate area. Shut down all sources of ignition.

#### **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 or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

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### **Section 7 – Handling and Storage**

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#### **HANDLING**

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

#### **STORAGE**

**Conditions of Storage:** Keep tightly closed. Store in a cool dark & dry place. Incompatible Materials: Do not allow contact with water

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### **Section 8 - Exposure Controls / Personal Protection**

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#### **ENGINEERING CONTROLS**

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

#### **GENERAL HYGIENE MEASURES**

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

#### **PERSONAL PROTECTIVE EQUIPMENT**

Special Protective Measures: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

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### **Section 9 - Physical and Chemical Properties**

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Appearance Color	: Colorless
Form	: Clear liquid
Property	: Value            at temperature or Pressure
PH	: N/A
BP/BP Range	: 98.0 - 102.0 °C
MP/MP Range	: -89.0 °C
Flash Point	: 18 °C Method: closed cup



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Flammability	: N/A
Autoignition Temp	: 280 °C
Oxidizing Properties	: N/A
Explosive Properties	: N/A
Explosion Limits Lower	: 2.5 %
Upper	: 7.3 %
Vapor Pressure	: 39 mmHg 20 °C
SG/Density	: 1.018 g/cm <sup>3</sup> at 25°C
Partition Coefficient	: N/A
Viscosity	: N/A
Vapor Density	: 3.7 g/l
Saturated Vapor Conc.	: N/A
Evaporation Rate	: N/A
Bulk Density	: N/A
Decomposition Temp.	: N/A
Solvent Content	: N/A
Water Content	: N/A
Surface Tension	: N/A
Conductivity	: N/A
Miscellaneous Data	: N/A
Solubility Other Solvents	: Miscible With Ether

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### **Section 10 - Stability and Reactivity**

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#### **STABILITY**

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

#### **HAZARDOUS DECOMPOSITION PRODUCTS**

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

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### **Section 11 - Toxicological Information**

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#### **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**

Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin.  
Causes burns.

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### **Section 12 - Ecological Information**

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#### **ECOTOXICOLOGICAL EFFECTS**

Test Type : LC50 Fish  
Species : Brachydanio rerio



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Time : 96 h  
Value : 215.0 - 464.0 mg/l

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### Section 13 - Disposal Considerations

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#### **SUBSTANCE DISPOSAL**

Contact a licensed professional waste disposal service to dispose off this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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### Section 14 - Transport Information

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#### **RID/ADR**

UN No. : 2353  
Hazard Class : 3  
PG : II  
Subrisk : 8  
Proper Shipping Name : Butyryl chloride

#### **IMDG**

UN No . : 2353  
Hazard Class : 3  
PG : II  
Subrisk : 8  
Proper Shipping Name : Butyryl chloride  
Marine Pollutant : No  
Severe Marine Pollutant : No

#### **IATA**

UN No . : 2353  
Hazard Class : 3  
PG : II  
Subrisk : 8  
Proper Shipping Name : Butyryl chloride  
Inhalation Packing Group I : No

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### Section 15 - Regulatory Information

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#### **CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES**

**INDICATION OF DANGER:** F-C  
Highly Flammable. Corrosive.

**R-PHRASES:** 11-34  
Highly flammable. Causes burns.

**S-PHRASES:** 16-23-26-36-45

Keep away from sources of ignition - no smoking. Do not breathe vapor. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. In case of accident or if you feel unwell, seek medical advice immediately.



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### COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

Self-Classification

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### **Section 16 – Additional Information**

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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 Pvt. 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 Pvt. Ltd has been advised of the possibility of such damages.