



## Material Safety Data Sheet

### ISOBUTYRYL CHLORIDE

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

Substance : Isobutyryl Chloride  
Trade Name : Isobutyryl Chloride  
Chemical family : Acid Chloride  
Company : Shiva Pharmachem Pvt. 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 – Composition / Information on Ingredients**

Product Name	CAS No.	EC NO.	Mol. Formula	Mol. Weight.
Isobutyryl Chloride	79-30-1	201-194-1	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 severe 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.

##### **Skin Contact**

In Case of skin contact, flush with copious amounts of water for at least 15 minute.  
Remove contaminated clothing and shoes. Call a Physician.

##### **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.

##### **Ingestion**

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



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

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#### **Extinguishing Media**

Suitable: For Small Fires, Use media such as “alcohol resistant” 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 Risks**

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire condition.

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

Container explosion may occur under fire conditions.

#### **Special Protective equipment for Fire Fighters**

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 off all sources of ignition. Use non sparking tools.

#### **Procedures(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. Keep away from heat and open flame. Store in a cool dark & dry place.

#### **Special Requirements**

Moisture Sensitive

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### **Section 8 – Exposure Controls / Personal protection**

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#### **Engineering Controls**

Safety Shower and eye bath.

Use non sparking Tools

Use only in a Chemical fume hood



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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).

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## Section 9 – Physical and Chemical Properties

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Appearance Physical State	: Liquid
Color	: Colorless
Odor	: Stench
Property	: Value at Temperature or Pressure
PH	: N/A
BP/BP Range	: 91.0-93.0 °C
MP/MP Range	: -90.0 °C
Flash Point	: 8 °C Method: closed cup
Flammability	: N/A
Autoignition Temp	: 325 °C
Oxidizing Properties	: N/A
Explosive Properties	: N/A
Explosion Limits Lower	: 2.1 %
Upper	: 8.2 %
Vapor Pressure	: 53.2 mmHg at 20 °C
SG/Density	: 1.02 g/cm <sup>3</sup> at 20 °C
Partition Coefficient	: N/A
Viscosity	: 0.55 Pas at 20 °C
Vapor Density	: N/A
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	: N/A



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### **Section 10 – Stability and reactivity**

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#### **STABILITY**

Stable: Stable.

Conditions to Avoid: Moisture.

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

#### **HAZARDOUS DECOMPOSITION PRODUCTS**

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

#### **HAZARDOUS POLYMERIZATION**

Hazardous Polymerization: Will not occur

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### **Section 11 – Toxicological Information**

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#### **IRRITATION DATA**

Eyes

Rabbit

0.1 ml

24H

Remarks: Severe irritation effect

#### **SIGNS AND SYMPTOMS OF EXPOSURE**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

#### **ROUTE OF EXPOSURE**

##### **Skin Contact**

Causes burns.

##### **Skin Absorption**

May be harmful if absorbed through the skin.

##### **Eye Contact**

Causes burns. Lachrymator.

##### **Inhalation**

Material is extremely destructive to the tissue of the Mucous membranes and upper respiratory tract. May be harmful if inhaled

##### **Ingestion**

May be harmful if swallowed.



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### Section 12 - Ecological Information

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#### ECOTOXICOLOGICAL EFFECTS

Test Type : LC50 Fish  
Species : Brachydanio rerio  
Time : 96 h  
Value : 214.0 - 464.0 mg/l

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### Section 13 – Disposal Considerations

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#### SUBSTANCE DISPOSAL

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

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### Section 14 – Transport Information

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#### RID/ADR

UN No. : 2395  
Class : 3  
PG : II  
Subrisk : 8  
Proper Shipping Name : Isobutyryl chloride

#### IMDG

UN No. : 2395  
Class : 3  
PG : II  
Subrisk : 8  
  
Proper Shipping Name : Isobutyryl chloride  
Marine Pollutant : No  
Severe Marine Pollutant : No

#### IATA

UN No. : 2395  
Class : 3  
PG : II  
Subrisk : 8  
Proper Shipping Name : Isobutyryl 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.



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**R-PHRASES:** 11-35  
Highly flammable. Causes severe 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 (show the label where possible).

### **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