

## Material Safety Data Sheet

### Section 1 – Chemical Product and Company Identification

**MSDS Name:** 4-Fluorobenzyl chloride  
**Synonyms:** alpha-Chloro-p-fluorotoluene  
**Company Identification:** Shanghai PI Chemicals Ltd.  
Room 6-306, Building 2  
1341 Pudong South Road  
Pudong New Area, Shanghai 200212, China  
**Telephone Number:** 86-21-51389368  
**Fax Number:** 86-21-51389367  
**Emergency Number:** 86-21-51389369

### Section 2 – Product Information

**Catalog Number:** PI-31364  
**CAS #:** 352-11-4  
**MDL #:** MFCD00000913  
**Purity:** 98.0%  
**EINECS#** 206-516-4

### Section 3 – Physical and Chemical Properties

**Appearance:** Colorless clarity liquid  
**Odor:** Pungent odor  
**Molecular Formula:**  $C_7H_6ClF$   
**Molecular Weight:** 144.58  
**Freezing/Melting Point:**  $-18^{\circ}C$   
**Boiling Point:**  $181-182^{\circ}C$   
**Flash Point:**  $60^{\circ}C$   
**Autoignition Temperature:**  $590^{\circ}C$   
**Refractive Index (nD20):** 1.512-1.514  
**Density:**  $1.207g/cm^3$   
**Decomposition Temperature:** Not available  
**Solubility:** Decomposes in water

### Section 4 – Hazards Identification

- Eye:** Causes eye burns. Lachrymator (substance which increases the flow of tears).
- Skin:** Causes skin burns. Harmful if absorbed through the skin.
- Ingestion:** Harmful if swallowed. Causes gastrointestinal tract burns.
- Inhalation:** Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. May cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

## Section 5 – First Aid Measures

- Eye:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
- Skin:** Get medical aid. Flush skin with plenty of water and soap for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops and persists.
- Ingestion:** Get medical aid immediately. Wash mouth out with water.
- Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

## Section 6 – Stability and Reactivity

- Chemical Stability:** Not available
- Materials to avoid:** Strong oxidizing agents, bases, alcohols, amines, steel.
- Conditions to Avoid:** Incompatible materials, ignition sources, exposure to moist air or water.
- Hazardous Decomposition Products:** Hydrogen chloride, carbon monoxide, carbon dioxide, hydrogen fluoride gas.
- Hazardous Polymerization:** Has not been reported.

## Section 7 – Handling and Storage

- Handling:** Avoid breathing dust, vapor, mist, or gas. Keep container tightly closed. Avoid contact with skin and eyes. Wash thoroughly after handling. Mechanical exhaust required.
- Storage:** Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Corrosives area.

## Section 8 – Personal Protection

- Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

- Skin:** Wear appropriate protective gloves to prevent skin exposure.
- Clothing:** Wear appropriate protective clothing to prevent skin exposure.
- Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 – Fire and Explosion Hazard Data

- General Information:** As in any fire, wear a self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and protective clothing to prevent contact with skin and eyes.
- Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or appropriate foam.

## Section 10 – Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container.

## Section 11 – Toxicological Information

- RTECS#:** CAS# 352-11-4: None listed.
- LD50/LC50:** RTECS: Not available, Oral, rat LD50: 750 mg/kg.
- Carcinogenicity:** 4-Fluorobenzyl chloride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

## Section 12 – Environmental information

Avoid entering into waters or underground water.

## Section 13 – Disposal Consideration

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.

## Section 14 – Transport Information

	IATA	IMO	RID/ADR
<b>Shipping Name:</b>	TOXIC SOLID, ORGANIC, N.O.S.*	TOXIC SOLID, ORGANIC, N.O.S.	TOXIC SOLID, ORGANIC, N.O.S.
<b>Hazard Class:</b>	8 (3)	8 (3)	8 (3)
<b>UN Number:</b>	2920	2920	2920
<b>Packing Group:</b>	II	II	II

## Section 15 – Regulatory Information

### European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 22 Harmful if swallowed.

R 34 Causes burns.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable gloves and eye/face protection.

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# 352-11-4: 2

Canada

CAS# 352-11-4 is listed on Canada's NDSL List

### US Federal

#### TSCA

CAS# 352-11-4 is listed on the TSCA Inventory.

## Section 16 – Additional Information

**MSDS Creation Date:** 2/22/2007

**Update:** Original

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