

## Material Safety Data Sheet

### Section 1 – Chemical Product and Company Identification

**MSDS Name:** 4-Bromo-2-chlorofluorobenzene  
**Synonyms:**  
**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-31243  
**CAS #:** 60811-21-4  
**Purity:** 98.0%  
**EINECS#** 405-580-2

### Section 3 – Physical and Chemical Properties

**Appearance:** Yellow liquid  
**Odor:** Aromatic odor  
**Molecular Formula:**  $C_6H_3BrClF$   
**Molecular Weight:** 209.44  
**Freezing/Melting Point:** Not available  
**Boiling Point:** 194°C (760mmHg)  
**Flash Point:** 88°C  
**Refractive Index (n<sub>D</sub>20):** 1.552-1.554  
**Density:** 1.72  
**Decomposition Temperature:** Not available  
**Solubility:** Not available

### Section 4 – Hazards Identification

**Eye:** Causes eye irritation.  
**Skin:** Causes skin irritation. Harmful if absorbed through the skin.

**Ingestion:** May cause irritation of the digestive tract. Toxic if swallowed.

**Inhalation:** Harmful if inhaled. Causes respiratory tract irritation.

## 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:** Stable under normal temperatures and pressures.

**Materials to avoid:** Strong oxidizing agents, strong reducing agents, strong acids, strong bases.

**Conditions to Avoid:** Incompatible materials.

**Hazardous Decomposition Products:** Hydrogen chloride, carbon monoxide, carbon dioxide, hydrogen fluoride gas, hydrogen bromide.

**Hazardous Polymerization:** Will not occur.

## 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.

## 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# 60811-21-4: Unlisted

**LD50/LC50:** RTECS: Not available

**Carcinogenicity:** 4-Bromo-2-chlorofluorobenzene - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

## Section 12 – Environmental information

Do not empty into drains.

## 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>	9	9	9
<b>UN Number:</b>	3082	3082	3082
<b>Packing Group:</b>	III	III	III

## Section 15 – Regulatory Information

### European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN N

Risk Phrases:

R 22 Harmful if swallowed.

R 38 Irritating to skin.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety Phrases:

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

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

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets

WGK (Water Danger/Protection)

CAS# 60811-21-4: Not available

### US Federal

#### TSCA

CAS# 60811-21-4 is not listed on the TSCA Inventory. It is for research and development use only.

## Section 16 – Additional Information

**MSDS Creation Date:** 2/21/2007

**Update:** Original

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