

## Material Safety Data Sheet

### Section 1 - Chemical Product and Company Identification

*MSDS Name:* Methyl 4-fluoro-3-nitrobenzoate  
*Synonyms:* 2-Fluoro-5-(methoxycarbonyl) nitrobenzene  
*Company Identification:* PI Chemicals Ltd.  
Building B, 633 E Shan Road, Pudong New Area  
Shanghai 200127, China  
*Telephone Number:* 86-21-58953700  
*Fax Number:* 86-21-58953701

### Section 2 - Product Information

*Catalog Number:* PI-18471  
*CAS Number:* 329-59-9  
*MDL Number:* MFCD00196161  
*EC Number:* Not available  
*Purity:* 98.0%

### Section 3 - Physical and Chemical Properties

*Physical state:* Liquid  
*Color:* colorless to light yellow  
*Molecular Formula:* C<sub>8</sub>H<sub>6</sub>FNO<sub>4</sub>  
*Molecular Weight:* 199.14  
*Freezing/Melting Point:* 56 -59 °C  
*Boiling Point:* 109°C @ 1 mmHg  
*Flash Point:* Undetermined  
*Autoignition Temperature:* Undetermined  
*Refractive Index (n<sub>D</sub>20):* Undetermined  
*Density:* Undetermined  
*Decomposition Temperature:* Undetermined  
*Solubility:* Undetermined

### 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. Harmful if swallowed.  
*Inhalation:* May be harmful if inhaled. Cause 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 recommended storage conditions.
- Materials to avoid:* Strong oxidizing agents.
- Conditions to Avoid:* Has not been reported.
- Hazardous Decomposition Products:* Carbon oxides, Nitrogen oxides(NO<sub>x</sub>), Hydrogen fluoride.
- 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. Keep away from sources of ignition - No smoking.
- Storage:* Keep container tightly closed in a dry and well-ventilated place.

## ***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, alcohol-resistant foam, dry chemical or carbon dioxide.

## ***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# 329-59-9: Not available.

*LD50/LC50:* Not available.

*Carcinogenicity:* Methyl 4-fluoro-3-nitrobenzoate - Not listed as a carcinogen by ACGIH, IARC, NTP, or OSHA.

### ***Section 12 - Environmental information***

Not available

### ***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:* Not dangerous goods.

*IMO:* Not dangerous goods.

*RID/ADR:* Not dangerous goods.

### ***Section 15 - Regulatory Information***

#### *European/International Regulations*

European Labeling in Accordance with EC Directives

Signal word: Warning

Hazard statement(s)

H302 Harmful if swallowed.

Risk Phrases:

R 36/37/38: Irritating to eyes, respiratory system and skin

Safety Phrases:

S 22: Do not breathe dust.

S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection

S 45: In case of accident or if you feel unwell, seek medical advice immediately

WGK (Water Danger/Protection)

CAS# 329-59-9: 3

Canada

CAS# 329-59-9: Not available

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US Federal

TSCA

CAS# 329-59-9 is not listed on the TSCA Inventory. It is for research and development use only.

**Section 16 - Additional Information**

MSDS Creation Date: Mar.15, 2008  
Update: Mar. 29, 2012

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