

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

MSDS Name: Cyclobutylamine
Synonyms: Aminocyclobutane
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-15786
CAS Number: 2516-34-9
MDL number: MFCD00001328
EC/EG Number: 219-736-0
Purity: 98%

Section 3 - Physical and Chemical Properties

Physical state: Liquid
Color: Clear colorless to light yellow
Molecular Formula: $C_4H_7NH_2$
Molecular Weight: 71.12
Freezing/Melting Point: Undetermined
Boiling Point: 81.5 °C (178.7 °F) at 1,003 hPa (752 mmHg) - lit.
Flash Point: -4 °C (25 °F) - closed cup
Autoignition Temperature: Undetermined
Refractive Index (nD20): Undetermined
Density: 0.833 g/cm³ at 25 °C (77 °F)
Decomposition Temperature: Undetermined
Solubility: Slightly soluble

Section 4 - Hazards Identification

Eye: Causes eye irritation.
Skin: Causes skin irritation. Harmful if absorbed through the skin.
Ingestion: May be harmful if swallowed.
Inhalation: May be 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:** Air sensitive. Hygroscopic: absorbs moisture or water from the air.
- Materials to avoid:** Strong oxidizing agents, acids, acid chlorides, acid anhydrides.
- Conditions to avoid:** Incompatible materials, exposure to air, exposure to moist air or water.
- Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, nitrogen oxides (NO_x) and Ammonia.
- Polymerization:** Will not occur.

Section 7 - Handling and Storage

- Handling:** Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Keep away from heat, sparks and flame. Do not ingest or inhale. Wear suitable protective clothing. Use only in a chemical fume hood.
- Storage:** Keep away from heat, sparks, and flame. Keep refrigerated. (Store below 4°C/39°F.) Keep container tightly closed in a dry, cool 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, 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# 2516-34-9: None listed

LD50/LC50: RTECS: Not available.

Carcinogenicity: Cyclobutylamine - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: The toxicological properties have not been fully investigated.

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	IMO	RID/ADR
Shipping Name:	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.*	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
Hazard Class:	3 (6.1)	3 (6.1)	3 (6.1)
UN Number:	3286/2733	3286/2733	3286/2733
Packing Group:	II	II	II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: F C

Risk Phrases:

R 11 Highly flammable.

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 34 Causes burns.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

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

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 (show the label where possible).

WGK (Water Danger/Protection)

CAS# 2516-34-9: Not available

Canada

US Federal

TSCA

CAS# 2516-34-9 is not listed on the TSCA Inventory. It is for research and development use only.

Section 16 - Additional Information

MSDS Creation Date: 15 March, 2008

Update: 8 February, 2012

The above information is believed to be accurate and represents the best knowledge available to us currently. 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 way shall PI Chemicals, be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, even if PI Chemicals has been advised of the possibility of such damages.

For R&D Use Only.