

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

MSDS Name:	Carbocysteine
Synonyms:	3-Carboxymethylthio-L-alanine
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-12973
CAS Number:	638-23-3
MDL Number:	MFC00002614
EC Number:	211-327-5
Purity:	99%

Section 3 - Physical and Chemical Properties

Physical state:	Crystalline powder
Color:	White or off-white
Molecular Formula:	C ₅ H ₉ NO ₄ S
Molecular Weight:	179.2
Freezing/Melting Point:	208-213 °C (dec.)
Boiling Point:	Undetermined
Flash Point:	Undetermined
Autoignition Temperature:	Undetermined
Refractive Index (n_D20):	Undetermined
Density:	Undetermined
Decomposition Temperature:	Undetermined
Solubility:	Soluble in cold water

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:	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:** Stable under recommended temperatures and pressures.
- Materials to avoid:** Strong oxidizing agents.
- Hazardous Decomposition Products:** Carbon oxides, nitrogen oxides(Nox), sulphur oxides.
- 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 container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: 2-8 °C.

Section 8 - Personal Protection

- Eyes:** Wear appropriate protective eyeglasses.
- Skin:** Wear appropriate protective gloves to prevent skin exposure.
- Clothing:** Wear appropriate protective clothing to prevent skin exposure.
- Respirators:** Use an 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# 638-23-3: AY4342000.

LD50/LC50: RTECS: AY4342000.

Carcinogenicity: Carbocysteine –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

Hazard Symbols: Xi

Indication of Danger: Irritant

Risk Phrases:

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

Safety Phrases:

S 24/25: Avoid contact with skin and eyes

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

S 36: Wear suitable protective clothing.

WGK (Water Danger/Protection)

CAS#638-23-3: 2

US Federal

TSCA

CAS# 638-23-3 is not listed on the TSCA Inventory. It is for research and development use only.

Section 16 - Additional Information

MSDS Creation Date: 13 August, 2007

Update: 8 August, 2011

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