

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

MSDS Name: Cyclohexanecarboxaldehyde
Synonyms: Hexahydrobenzaldehyde
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-11615
CAS Number: 2043-61-0
MDL Number: MFCD00001457
EC Number: 218-057-7
Purity: 98%

Section 3 - Physical and Chemical Properties

Form: Colorless to yellowish liquid
Molecular Formula: $C_7H_{12}O$
Molecular Weight: 112.17
Freezing/Melting Point: Not available
Boiling Point: 161 - 163 °C (322 - 325 °F) - lit.
Flash Point: 41 °C (106 °F) - closed cup
Autoignition Temperature: Not available
Refractive Index (nD20): Not available
Density: 0.926 g/cm³ at 25 °C (77 °F)
Decomposition Temperature: Not available
Solubility: Not available

Section 4 - Hazards Identification

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Cause eye irritation.
Ingestion: May be harmful if swallowed.

Section 5 - First Aid Measures

General advice:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled:	If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.
In case of skin contact:	Wash off with soap and plenty of water. Consult a physician.
In case of eye contact:	Wash off with soap and plenty of water. Consult a physician.
If swallowed:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 6 - Stability and Reactivity

Chemical Stability:	Stable under recommended storage conditions.
Conditions to avoid:	Heat, flames and sparks.
Materials to avoid:	Strong bases, Strong oxidizing agents, Strong reducing agents.
Hazardous Decomposition Products:	Carbon oxides.

Section 7 - Handling and Storage

Handling:	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
Storage:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place. Handle and store under inert gas.

Section 8 - Personal Protection

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection:	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Eye protection:	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN

166(EU).

Skin and body protection: Impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9 - Fire and Explosion Hazard Data

Suitable extinguishing media: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters: Wear self contained breathing apparatus for fire fighting if necessary.

Further information: Use water spray to cool unopened containers.

Section 10 - Accidental Release Measures

Personal precautions: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

Section 11 - Toxicological Information

RTECS#: CAS# 2043-61-0: Not available.

LD50/LC50: RTECS: Not available.

Carcinogenicity: Cyclohexanecarboxaldehyde
–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

Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

Section 14 - Transport Information

IATA: UN-Number: 1989 Class: 3 Packing group: III.

IMO: UN-Number: 1989 Class: 3 Packing group: III.

RID/ADR: UN-Number: 1989 Class: 3 Packing group: III.

Section 15 - Regulatory Information

Hazard Symbols: Xi

Indication of Danger: Irritant

Risk Phrases:

R 10: Flammable.

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

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: Wear suitable protective clothing.

WGK (Water Danger/Protection)

CAS#2043-61-0: 3.

Section 16 - Additional Information

MSDS Creation Date: March 8, 2008

Update: May 24, 2011

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.