

# Safety Data Sheet

## 1. IDENTIFICATION

<b>Product Name:</b>	<b>Methyl Cyclohexane</b>
<b>Other Names:</b>	-
<b>Recommended Use:</b>	Used as an organic solvent, with properties similar to related saturated hydrocarbons such as heptane. It is also a solvent in many types of correction fluids.
<b>Supplier:</b>	Global Chemie ASCC Limited
<b>Street Address:</b>	88/123 Moo 2 Bangpoo Industrial Estate (North), Phraek Sa Mai, Mueang Samutprakan, Samutprakan 10280
<b>Telephone:</b>	+66 2324 6888
<b>Fax:</b>	+66 2324 6898-99
<b>Emergency phone:</b>	+66 2324 6888 ext.320

## 2. HAZARDS IDENTIFICATION

### Health Hazard Classification

This product is classified as hazardous under GHS criteria

### Hazardous Categories

Flammable Liquids: Category 2

Skin Corrosion/Irritation : Category 2

Specific Target Organ Toxicity (Single Exposure) : Category 3

Aspiration hazard : Category 1

Hazardous To the Aquatic Environment - Long-Term (Chronic) Hazard: Category 2

### Hazardous Statement

Highly Flammable liquid

### GHS Pictograms



### Hazard Statements

H225: Highly flammable liquid and vapour.

H304: May be fatal if swallowed and enters airways.

H315: Causes skin irritation.

H336: May cause drowsiness or dizziness.

H411: Toxic to aquatic life with long lasting effects.

### Precautionary Statements

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233: May cause respiratory irritation.

P240: Heating may cause an explosion.

P241: Heating may cause a fire or explosion.

P242: Heating may cause a fire.

- P243: Contains gas under pressure; may explode if heated.
- P261: In contact with water releases flammable gas.
- P264: Wash manufacturer/supplier or the competent authority to be washed after handling.
- P271: May cause fire or explosion; strong Oxidizer.
- P273: Avoid release to the environment.
- P280: Contains gas under pressure; may explode if heated.

## Response

- P319: Get medical help if you feel unwell.
- P321: Handle and store contents under inert gas.
- P331: Do NOT induce vomiting.
- P391: Collect spillage.
- P301+P316: IF SWALLOWED: Get emergency medical help.
- P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P332+P317: If skin irritation occurs; Get medical help.
- P362+P364: Take off contaminated clothing and wash it before reuse.
- P370+P378: Take off contaminated clothing and wash it before reuse.
- P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].

## Storage

- P405: Store locked up.
- P403+P233: Store in a well-ventilated place. Keep container tightly closed.
- P403+P235: Store in a well-ventilated place. Keep cool.

## Disposal

- P501: Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied.

## Signal Word Danger

### 3. COMPOSITION: Information on Ingredients

Chemical Ingredient	CAS No.	UN No.	Proportion (%v/v)
Methyl Cyclohexane	108-87-2	2296	99.0

Molecular Formular:  $C_7H_{14}$

Molecular Weight: 98 g/mol

### 4. FIRST AID MEASURES

**For advice, contact Ramathibodi Poison Center (Phone: 1367) or a doctor.**

#### Ingestion

Do not induce vomiting; Do not eat milk and castor oil, transport to nearest medical facility for additional treatment.

#### Eye Contact

Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.

#### Skin Contact

Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes and follow by washing with soap and water if available.

#### Inhalation

Remove to fresh air. If the victim has difficulty breathing or tightness of the chest, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

#### First Aid facilities

Provide eye baths and safety showers.

## **Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling.

## **Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

Symptoms may be delayed.

## **5. FIRE FIGHTING MEASURES**

Shut off product that may 'fuel' a fire if safe to do so. Allow trained personnel to attend a fire in progress, providing firefighters with this Safety Data Sheet. Prevent extinguishing media from escaping to drains and waterways.

### **Suitable extinguishing media**

Dry chemical powder, Alcohol-resistant foam and Carbon dioxide.

### **Hazards from combustion products**

May produce toxic fumes of carbon monoxide, carbondioxide if burning.

### **Precautions for fire fighters and special protective equipment**

Keep adjacent containers cool by spraying with water. Wear full protective clothing and self-contained breathing apparatus.

### **Specific Hazard Arising from the substance or Mixture**

- Will form explosive mixture with air.
- Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/or vapour concentration.
- Vapours may travel to source of ignition and flash back.
- Container may explode when heated.
- Fire exposed containers may vent contents through pressure relief valves.
- May expand or decompose explosively when heated or involved in fire.

### **Advice for Firefighters**

- As in any fire wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
- Fight from a safe distance, with adequate cover.
- Prevent fire extinguishing water from contaminating surface water or the ground water system.

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment and Emergency Procedures**

- Avoid breathing vapors and contacting with skin and eye.
- Beware of vapours accumulating to form explosive concentrations.
- Vapours can accumulate in low areas.
- Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
- Ensure adequate ventilation. Remove all sources of ignition.
- Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
- Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

### **Environmental Precautions**

- Prevent further leakage or spillage if safe to do so.
- Discharge into the environment must be avoided.

### **Methods and Materials for Containment and Cleaning Up**

- Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.

- Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
- Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## 7. HANDLING AND STORAGE

### Precautions for Handling

- Avoid inhalation of vapors.
- Use only non-sparking tools.
- To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
- Use explosion proof equipment.
- Handling is performed in a well-ventilated place.
- Wear suitable protective equipment.
- Avoid contact with skin and eyes.
- Keep away from heat/sparks/open flames/ hot surfaces.
- Take precautionary measures against static discharges.

### Precautions for Storage

1. Keep containers tightly closed.
2. Keep containers in a dry, cool and well-ventilated place.
3. Keep away from heat/sparks/open flames/ hot surfaces.
4. Store away from incompatible materials and foodstuff containers.

## 8. EXPOSURE CONTROLS: PERSONAL PROTECTION

### Control Parameters

#### Occupational Exposure Limit Values

Component	Country/Region	Limit Value - Eight Hours		Limit Value - Short Term	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Methyl Cyclohexane 108-87-2	USA - OSHA	500	2000	-	-
	South Korea	400	1600	-	-
	Ireland	400	1600	-	-
	Germany (AGS)	200	810	400	1620
	Denmark	200	805	400	1610
	Australia	400	1610	-	-

### Biological Limit Values

No information available

### Monitoring Methods

1. EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2. GBZ/T 160 Determination of toxic substances in workplace air (Series effective standard) and GBZ/T 300 Determination of toxic substances in workplace air (Series standard).

### Personal Protective Equipment

**Respiratory Protection:** If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.

**Eye Protection:** Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US)).

**Skin/ Body Protection:** Wear fire/flame resistant/retardant clothing and antistatic boots

**Hand Protection:** Wear protective gloves (such as butyl rubber), passing the tests according to EN 374(EU), US F739 or AS/NZS 2161.1 standard.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Unit of Measurement	Typical Value
Appearance	-	Colorless Liquid
Odour	-	No data available
pH	-	No data available
Boiling point	°C	101
Melting point	°C	-126.7
Flash point	°C	-4
Autoignition Temperature	°C	260
Decomposition Temperature	°C	No data available
Lower/Upper Flammability Limits	%V	1.2-6.7
Density @ 20°C	g/cm <sup>3</sup>	0.770
Specific Gravity @ 20°C	-	0.771
Viscosity @ 20°C	mm <sup>2</sup> /s	No data available
Vapor pressure	kPa	5.73
Vapor density	kPa (Air = 1)	3.4
Evaporation Rate	(n-Butyl acetate = 1)	No data available
Water Solubility	-	Insoluble
Solubility in other solvents Partition coefficient	(n-octanol/water)	No data available
Coefficient of Thermal Expansion	per Deg °C	No data available

The values listed are indicative of this product's physical and chemical properties. For a full product specification, please consult the Product Data Sheet.

## 10. STABILITY AND REACTIVITY

### Reactivity

Contact with incompatible substances can cause decomposition or other chemical reactions

### Chemical Stability

Stable under proper operation and storage conditions.

### Conditions to avoid

Incompatible materials, heat, flame and spark.

### Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### Hazardous reactions

No data available

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	CAS no.	LD <sub>50</sub> (Oral)	LD <sub>50</sub> (Dermal)	LD <sub>50</sub> (Inhalation, 4h)
Methyl Cyclohexane	108-87-2	> 3200 mg/kg(rat)	No data available	No data available

# METHYL CYCLOHEXANE

# Safety Data Sheet

**Skin Corrosion/Irritation:** Causes skin irritation (Category 2)

**Serious Eye Damage/Irritation:** No data available

**Skin Sensitization:** No data available

**Respiratory Sensitization:** No data available

**Germ Cell Mutagenicity:** No data available

**Carcinogenicity**

ID	CAS no.	Component	IARC	NTP
1	108-87-2	Methyl Cyclohexane	Not Listed	Not Listed

**Reproductive Toxicity:** No data available

**Reproductive Toxicity (Additional):** No data available

**STOT-Single Exposure:** May cause drowsiness or dizziness (Category 3) (Methyl Cyclohexane)

**STOT-Repeated Exposure:** No data available

**Aspiration Hazard:** May be fatal if swallowed and enters airways (Category 1)(Methyl Cyclohexane)

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Acute Toxicity

Component	CAS no.	Fish	Crustaceans	Algae
Methyl Cyclohexane	108-87-2	EC <sub>50</sub> : 2.1mg/L 96hr.	EC <sub>50</sub> : 0.33mg/L 48hr.	EC <sub>50</sub> : 0.34mg/L 72hr.

#### Chronic Aquatic Toxicity

Component	CAS no.	Fish	Crustaceans	Algae
Methyl Cyclohexane	108-87-2	No data available	No data available	NOEC: 0.067mg/L

### Others

#### Persistence and Degradability

No data available

#### Bioaccumulate Potential

No data available

#### Mobility in Soil

No data available

#### Results of PBT and vPvB Assessment

Methyl Cyclohexane does not meet the criteria for PBT and vPvB according to Regulation (EC) No 1907/2006, annex XIII.

## 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

**Waste Chemicals:** Before disposal should refer to the relevant national and local laws and Recommendations regulation. Recommend the use of incineration disposal.

**Contaminated Packaging Disposal:** Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.

## 14. TRANSPORT INFORMATION

Road and Rail Transport		Marine Transport		Air Transport	
UN No.	2296	UN No.	2296	UN No.	2296
Class/Item	3	Class/Item	3	Class/Item	3
Hazard Symbol	Flammable Liquid	Hazard Symbol	Flammable Liquid	Hazard Symbol	Flammable Liquid
Proper Shipping Name	Methyl Cyclohexane	Proper Shipping Name	Methyl Cyclohexane	Proper Shipping Name	Methyl Cyclohexane
Packing Group	II	Packing Group	II	Packing Group	II

Road and Rail Transport		Marine Transport		Air Transport	
		Marine Pollutant	Yes, Marine Pollutant Marks required		

## Dangerous Goods Segregation

This product is classed as Dangerous Goods Class 3, packing group II. Please consult the Australian Dangerous Goods Code for Transport by Road and Rail for information.

## 15. REGULATORY INFORMATION

EC No.: 203-624-3

(EINECS) European Inventory of Existing Commercial Chemical Substances.

(TSCA) United States Toxic Substances Control Act Inventory.

(DSL) Canadian Domestic Substances List.

(IECSC) China Inventory of Existing Chemical Substances.

(NZIOC) New Zealand Inventory of Chemicals.

(PICCS) Philippines Inventory of Chemicals and Chemical Substances.

(KECI) Existing and Evaluated Chemical Substances.

(AICS) Australia Inventory of Chemical Substances.

(ENCS) Existing and New Chemical Substances.

## 16. OTHER INFORMATION

National Fire Protection Association (USA) : No data available

SDS Distribution : The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty of guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

Prepared By : Quality Control Department / Global Chemie ASCC Limited

### Abbreviations:

AICS: Australian Inventory of Chemical Substances

CAS Number: Chemical Abstracts Number

IARC: International Agency for Research on Cancer

N/A: not available

NOHSC: National Occupational Health and Safety Council

GHS: Global Harmonized System

### References:

- Supplier Material Safety Data Sheets
- <http://chem.sis.nlm.nih.gov/chemidplus> (October 18)
- <http://hsis.ascc.gov.au/SearchHS.aspx> (October 18)
- Ecotoxicology data: [http://cfpub.epa.gov/ecotox/quick\\_query.htm](http://cfpub.epa.gov/ecotox/quick_query.htm) (October 18)
- *Sax's Dangerous Properties of Industrial Materials*, Richard J. Lewis Snr., pub. Canada (2000)

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