



METHYLCYCLOHEXANE

1. Product Identification

Synonyms: Cyclohexane, methyl; Cyclohexylmethane; Hexahydrotoluene

CAS No.: 108-87-2

Molecular Weight: 98.19

Chemical Formula: C₇H₁₄

Product Codes: 9317

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Methylcyclohexane	108-87-2	90 - 100%	Yes

3. Hazards Identification

Emergency Overview

DANGER! HARMFUL OR FATAL IF SWALLOWED. FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

Health Rating: 2 - Moderate

Flammability Rating: 3 - Severe (Flammable)

Reactivity Rating: 1 - Slight

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD;
PROPER GLOVES; CLASS B EXTINGUISHER
Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:

Inhalation of vapors irritates the mucous membranes and upper respiratory tract. May cause lightheadedness, dizziness, drowsiness and nausea. High vapor concentrations may cause unconsciousness and death.

Ingestion:

May produce abdominal pain, nausea. Aspiration into lungs can produce severe lung damage and is a medical emergency. Other symptoms expected to parallel inhalation.

Skin Contact: Causes irritation to skin. Symptoms include redness, itching, and pain.

Eye Contact: Causes irritation, redness, and pain.

Chronic Exposure: Chronic exposure may cause skin effects.

Aggravation of Pre-existing Conditions: No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Aspiration hazard. If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately.

Skin Contact:

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention.

5. Fire Fighting Measures

Fire:

Flash point: -3.9C (25F) CC Autoignition temperature: 250C (482F)

Flammable limits in air % by volume: lel: 1.2; uel: 6.7 Flammable Liquid

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Contact with strong oxidizers may cause fire. Sealed containers may rupture when heated. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.

Fire Extinguishing Media:

Dry chemical, foam or carbon dioxide. Water may be ineffective. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.

7. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL): 500 ppm (TWA)

-ACGIH Threshold Limit Value (TLV): 400 ppm (TWA)

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion

of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: Clear, colorless liquid.

Odor: Faint benzene-like odor.

Solubility: Insoluble in water.

Specific Gravity: 0.77 @ 20C/4C

pH: No information found.

% Volatiles by volume @ 21C (70F): 100

Boiling Point: 101C (214F)

Melting Point: -126.3C (-195F)

Vapor Density (Air=1): 3.4

Vapor Pressure (mm Hg): 37 @ 20C (68F)

Evaporation Rate (BuAc=1): No information found.

10. Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization: Will not occur.

Incompatibilities: Strong oxidizers.

Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Oral mouse LD50: 2250 mg/Kg; Inhalation mouse LC50: 41500 mg/m³/2H

-----\Cancer Lists\-----

Ingredient	~NTP Carcinogen~		IARC Category
	Known	Anticipated	
Methylcyclohexane (108-87-2)	No	No	None

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

The LC50/96-hour values for fish are between 10 and 100 mg/l.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: METHYLCYCLOHEXANE

Hazard Class: 3

UN/NA: UN2296

Packing Group: II

Information reported for product/size: 500ML

International (Water, I.M.O.)

Proper Shipping Name: METHYLCYCLOHEXANE

Hazard Class: 3

UN/NA: UN2296

Packing Group: II

Information reported for product/size: 500ML

International (Air, I.C.A.O.)

Proper Shipping Name: METHYLCYCLOHEXANE

Hazard Class: 3
UN/NA: UN2296
Packing Group: II
Information reported for product/size: 500ML

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----
Ingredient TSCA EC Japan Australia

Methylcyclohexane (108-87-2) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient ~~Canada~~
Korea DSL NDSL Phil.

Methylcyclohexane (108-87-2) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient ~~SARA 302~~ ~~SARA 313~~
RQ TPQ List Chemical Catg.

Methylcyclohexane (108-87-2) No No No No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient ~~RCRA~~ ~~TSCA~~
CERCLA 261.33 8(d)

Methylcyclohexane (108-87-2) No No Yes

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: No (Pure / Liquid)

Australian Hazchem Code: 3[Y]E

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 2 Flammability: 3 Reactivity: 0

Label Hazard Warning:

DANGER! HARMFUL OR FATAL IF SWALLOWED. FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

Label Precautions:

Avoid breathing vapor. Avoid contact with eyes, skin and clothing.

Keep container closed. Use only with adequate ventilation.

Wash thoroughly after handling. Keep away from heat, sparks and flame.

Label First Aid:

Aspiration hazard. If swallowed, do not induce vomiting. Vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention.

Product Use: Laboratory Reagent.

Revision Information: MSDS Section changed since last revision of document include: 3.

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