



SIGMA-ALDRICH

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name 4-Methylcyclohexanone, 99%
Product Number 173614
Brand Aldrich Chemical
Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
4-METHYLCYCLOHEXANONE	589-92-4	No	209-665-3	
Formula	C ₇ H ₁₂ O			
Synonyms	4-Methylcyclohexanone, Methyl-4 cyclohexanone-1 (French)			

Section 3 - Hazards Identification

Emergency Overview
Combustible (USA) Flammable (EU). Harmful.
Harmful if swallowed.

HMS Rating
Health: 1 Flammability: 2 Reactivity: 0

NFPA Rating
Health: 1 Flammability: 2 Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Flash Point: 118.4 °F 48 °C

Autoignition Temp: N/A

Extinguishing Media

Suitable

Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Combustible liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area.

Procedure(s) or Personal Precaution(s)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Keep away from heat and open flame.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Government approved respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures
Wash contaminated clothing before reuse. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance		Color	Form
		Fairly yellow	Clear liquid
Molecular Weight:		112.17 AMU	
Property	Value		
pH	N/A		
BP/BP Range	60 - 62 °C		
MP/MP Range	N/A		
Freezing Point	N/A		
Vapor Pressure	N/A		
Vapor Density	N/A		
Saturated Vapor Conc.	N/A		
SG/Density	0.914 g/cm3		
Bulk Density	N/A		
Odor Threshold	N/A		
Volatile%	N/A		
VOC Content	N/A		
Water Content	N/A		
Solvent Content	N/A		
Evaporation Rate	N/A		
Viscosity	N/A		
Partition Coefficient	N/A		
Decomposition Temp.	N/A		
Flash Point °F	118.4 °F		
Flash Point °C	48 °C		
Explosion Limits	N/A		
Flammability	N/A		
Autoignition Temp	N/A		
Refractive Index	1.445		
Solubility	N/A		
N/A = not available			

Section 10 - Stability and Reactivity

Stability
Stable
Stable
Materials to Avoid
Strong oxidizing agents, Strong reducing agents, Strong bases.
Hazardous Decomposition Products
Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide.

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
May cause skin irritation.
Skin Absorption
May be harmful if absorbed through the skin.
Eye Contact
May cause eye irritation.
Inhalation
May be harmful if inhaled.
Ingestion
Harmful if swallowed.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: GW1750200

Toxicity Data

Oral - Rat: 800 mg/kg (LD50)
Oral - Mouse: 1600 mg/kg (LD50)

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Methylcyclohexanone
UN#: 2297
Class: 3
Packing Group: Packing Group III
Hazard Label: Flammable liquid
PIH: Not PIH
IATA
Proper Shipping Name: Methylcyclohexanone
IATA UN Number: 2297
Hazard Class: 3
Packing Group: III

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: Xn

Indication of Danger

Harmful.

Risk Statements R: 10 22

Flammable, Harmful if swallowed.

Safety Statements S: 16 36

Keep away from sources of ignition - no smoking. Wear suitable protective clothing.

US Classification and Label Text

Indication of Danger

Combustible (USA) Flammable (EU), Harmful.

Risk Statements

Harmful if swallowed.

Safety Statements

Keep away from sources of ignition - no smoking. Wear suitable protective clothing.

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

MSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.