

MATERIAL SAFETY DATA SHEET

Cyclohexanone

MSDS Name: Cyclohexanone, 99.8%

Synonyms:

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
108-94-1	Cyclohexanone	99.8%	203-631-1

Hazard Symbols: XN



Risk Phrases: 10 20

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable. Harmful by inhalation.

Potential Health Effects

Eye:	May cause eye irritation. May result in corneal injury.
Skin:	May cause skin irritation. May be harmful if absorbed through the skin.
Ingestion:	May cause irritation of the digestive tract. May cause central nervous system depression, kidney damage, and liver damage. May be harmful if swallowed.
Inhalation:	Harmful if inhaled. May cause respiratory tract irritation. May cause narcotic effects in high concentration. May cause liver abnormalities. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. May cause kidney damage.
Chronic:	Prolonged or repeated skin contact may cause dermatitis.

Section 4 - First Aid Measures

Eyes:	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 for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion:	Get medical aid. Wash mouth out with water.
Inhalation:	Remove from exposure and move to fresh air immediately. Get medical aid.
Notes to Physician:	

Section 5 - Fire Fighting Measures

General Information:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Will burn if involved in a fire.
Extinguishing	Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide. Water may be ineffective.
Media:	

Section 6 - Accidental Release Measures

General Information:	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:	Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition.

Section 7 - Handling and Storage

Handling:	Use spark-proof tools and explosion proof equipment. Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes.
Storage:	Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:	Use adequate ventilation to keep airborne concentrations low. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.
Exposure Limits	CAS# 108-94-1: United Kingdom, WEL - TWA: 10 ppm TWA United Kingdom, WEL - STEL: 20 ppm STEL United States OSHA: 50 ppm TWA; 200 mg/m ³ TWA Belgium - TWA: 10 ppm VLE; 40.8 mg/m ³ VLE Belgium - STEL: 20 ppm VLE; 81.6 mg/m ³ VLE France - VME: 10 ppm VME; 40.8 mg/m ³ VME France - VLE: 20 ppm VLE; 81.6 mg/m ³ VLE Germany: 20 ppm TWA; 80 mg/m ³ TWA Germany: skin notation Japan: 25 ppm OEL; 100 mg/m ³ OEL Malaysia: 25 ppm TWA; 100 mg/m ³ TWA Netherlands: 12.5 ppm STEL; 50 mg/m ³ STEL Russia: 10 mg/m ³ TWA (vapour) Spain: 10 ppm VLA-ED; 41 mg/m ³ VLA-ED Spain: 20 ppm VLA-EC; 82 mg/m ³ VLA-EC

Personal Protective Equipment

Eyes:	Wear chemical splash goggles.
Skin:	Wear appropriate protective gloves to prevent skin exposure.
Clothing:	Wear appropriate protective clothing to prevent skin exposure.
Respirators:	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State:	Clear liquid
Color:	APHA: 10 max
Odor:	Not available
pH:	Not available
Vapor Pressure:	4.5 mbar @ 20 deg C
Viscosity:	Not available
Boiling Point:	155 deg C @ 760.00mm Hg (311.00°F)
Freezing/Melting Point:	-47 deg C (-52.60°F)
Autoignition Temperature:	520 deg C (968.00 deg F)
Flash Point:	46 deg C (114.80 deg F)
Explosion Limits: Lower:	1.10 vol %
Explosion Limits: Upper:	8.10 vol %
Decomposition Temperature:	Not available
Solubility in water:	Not available.
Specific Gravity/Density:	0.9470g/cm3
Molecular Formula:	C6H10O
Molecular Weight:	98.14

Section 10 - Stability and Reactivity

Chemical Stability:	Stable under normal temperatures and pressures.
Conditions to Avoid:	Incompatible materials, ignition sources.
Incompatibilities with Other Materials	Oxidizing agents, reducing agents, plastics.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide.
Hazardous Polymerization	Will not occur.

Section 11 - Toxicological Information

RTECS#:	CAS# 108-94-1: GW1050000
LD50/LC50:	RTECS: CAS# 108-94-1: Draize test, rabbit, eye: 20 mg Severe; Draize test, rabbit, eye: 250 ug/24H Severe; Inhalation, mouse: LC50 = 2375 mg/m3; Inhalation, rat: LC50 = 8000 ppm/4H; Inhalation, rat: LC50 = 19000 mg/m3; Oral, mouse: LD50 = 1400 mg/kg; Oral, rat: LD50 = 1620 uL/kg; Oral, rat: LD50 = 1800 mg/kg; Skin, rabbit: LD50 = 1 mL/kg;.
Carcinogenicity:	Cyclohexanone - ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans IARC: Group 3 (not classifiable)
Other:	See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:	Daphnia: EC50: 820 mg/l; 96H; Fish: Fathead Minnow: LC50: 527 mg/l; 96H; .
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Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	CYCLOHEXANONE	CYCLOHEXANONE	CYCLOHEXANONE
Hazard Class:	3	3	3
UN Number:	1915	1915	1915
Packing Group:	III	III	

III USA RQ: CAS# 108-94-1: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN

Risk Phrases:

- > R 10 Flammable.
- > R 20 Harmful by inhalation.

Safety Phrases:

- > S 25 Avoid contact with eyes.

WGK (Water Danger/Protection)

- Ø CAS# 108-94-1: 1

Canada

- > CAS# 108-94-1 is listed on Canada's DSL List

US Federal

- > TSCA
- > CAS# 108-94-1 is listed on the TSCA Inventory.