

# MATERIAL SAFETY DATA SHEET

## Cyclohexanone

<b>MSDS Name:</b>	Cyclohexanone, 99.8%
<b>Synonyms:</b>	

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### Section 2 - Composition, Information on Ingredients

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

<b>Hazard Symbols:</b>	XN
	
<b>Risk Phrases:</b>	10 20

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

*Flammable. Harmful by inhalation.*

#### Potential Health Effects

<b>Eye:</b>	May cause eye irritation. May result in corneal injury.
<b>Skin:</b>	May cause skin irritation. May be harmful if absorbed through the skin.
<b>Ingestion:</b>	May cause irritation of the digestive tract. May cause central nervous system depression, kidney damage, and liver damage. May be harmful if swallowed.
<b>Inhalation:</b>	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.
<b>Chronic:</b>	Prolonged or repeated skin contact may cause dermatitis.

### Section 4 - First Aid Measures

<b>Eyes:</b>	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
<b>Skin:</b>	Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
<b>Ingestion:</b>	Get medical aid. Wash mouth out with water.
<b>Inhalation:</b>	Remove from exposure and move to fresh air immediately. Get medical aid.
<b>Notes to Physician:</b>	

## Section 5 - Fire Fighting Measures

<b>General Information:</b>	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.
<b>Extinguishing Media:</b>	Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide. Water may be ineffective.

## Section 6 - Accidental Release Measures

<b>General Information:</b>	Use proper personal protective equipment as indicated in Section 8.
<b>Spills/Leaks:</b>	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

<b>Handling:</b>	Use spark-proof tools and explosion proof equipment. Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes.
<b>Storage:</b>	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

<b>Engineering Controls:</b>	Use adequate ventilation to keep airborne concentrations low. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.
<b>Exposure Limits</b>	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 <sup>3</sup> TWA
	Belgium - TWA: 10 ppm VLE; 40.8 mg/m <sup>3</sup> VLE Belgium - STEL: 20 ppm VLE; 81.6 mg/m <sup>3</sup> VLE
	France - VME: 10 ppm VME; 40.8 mg/m <sup>3</sup> VME France - VLE: 20 ppm VLE; 81.6 mg/m <sup>3</sup> VLE
	Germany: 20 ppm TWA; 80 mg/m <sup>3</sup> TWA Germany: skin notation
	Japan: 25 ppm OEL; 100 mg/m <sup>3</sup> OEL
	Malaysia: 25 ppm TWA; 100 mg/m <sup>3</sup> TWA
	Netherlands: 12.5 ppm STEL; 50 mg/m <sup>3</sup> STEL
	Russia: 10 mg/m <sup>3</sup> TWA (vapour)
	Spain: 10 ppm VLA-ED; 41 mg/m <sup>3</sup> VLA-ED Spain: 20 ppm VLA-EC; 82 mg/m <sup>3</sup> VLA-EC

### Personal Protective Equipment

<b>Eyes:</b>	Wear chemical splash goggles.
<b>Skin:</b>	Wear appropriate protective gloves to prevent skin exposure.
<b>Clothing:</b>	Wear appropriate protective clothing to prevent skin exposure.
<b>Respirators:</b>	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

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

## Section 10 - Stability and Reactivity

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

## Section 11 - Toxicological Information

<b>RTECS#:</b>	CAS# 108-94-1: GW1050000
<b>LD50/LC50:</b>	RTECS: <b>CAS# 108-94-1:</b> 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;.
<b>Carcinogenicity:</b>	Cyclohexanone - ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans IARC: Group 3 (not classifiable)
<b>Other:</b>	See actual entry in RTECS for complete information.

## Section 12 - Ecological Information

<b>Ecotoxicity:</b>	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.	
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## Section 14 - Transport Information

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

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

## Section 15 - Regulatory Information

<b>European/International Regulations</b>
European Labeling in Accordance with EC Directives
Hazard Symbols: XN
<b>Risk Phrases:</b>
➤ R 10 Flammable.
➤ R 20 Harmful by inhalation.
<b>Safety Phrases:</b>
➤ S 25 Avoid contact with eyes.
<b>WGK (Water Danger/Protection)</b>
➤ CAS# 108-94-1: 1
<b>Canada</b>
➤ CAS# 108-94-1 is listed on Canada's DSL List
<b>US Federal</b>
➤ TSCA
➤ CAS# 108-94-1 is listed on the TSCA Inventory.

## Section 16 - Other Information

<b>MSDS Creation Date:</b>	July 24, 2015
<b>Revision #0 Date</b>	

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