



## Material Safety Data Sheet

LA2060  
Cyclohexanone

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Id:** LA2060  
**Product Name:** Cyclohexanone  
**Synonyms:** Cyclohexyl ketone, Pimelic ketone, Pimelin ketone, Nadone.  
**Chemical Family:** None Known  
**Application:** Solvent. Pharmaceutical. Photographical agent.

**Distributed By:** Univar Canada Ltd.                      Univar USA.  
9800 Van Horne Way                      6100 Carillon Point  
Richmond, BC                                  Kirkland, WA 98003  
V6X 1W5    USA.

**24-Hour Emergency Telephone Number (CHEMTREC): (800) 424-9300**

**Preparation date of MSDS:** 10/06/2003

**Prepared By:** The Safety, Health and Environment Department of Univar Canada Ltd.

**Telephone number of preparer (Canada): 1-866-686-4827**

**Univar USA. Inc. Corporate Office Number: (425) 889-3400**

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

#### Hazardous Components:

Ingredients	Percent	LD50s and LC50s Route & Species:
Cyclohexanone 108-94-1	95-100	Dermal LD50 (Rabbit) 1 mL/kg Oral LD50 (Mouse) 1400 mg/kg Oral LD50 (Rat) 1620 uL/kg Inhalation LC50 (Rat) 8000 ppm/4H

**Notes:** No additional remark.

### 3. HAZARDS IDENTIFICATION

#### Potential Acute Health Effects:

<b>Eye Contact:</b>	Causes severe eye irritation. May cause eye burns. Eye contact may cause blindness. May cause permanent eye damage. May cause conjunctivitis, corneal burns and permanent damage.
<b>Skin Contact:</b>	May cause defatting, drying and cracking of the skin. Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis). Burns can occur if not promptly removed. Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material.
<b>Inhalation:</b>	Material is irritating to mucous membrane and upper respiratory tract. Exposure can cause coughing, chest pains and difficulty in breathing. Prolonged exposure may cause narcotic effect.
<b>Ingestion:</b>	May cause burns of the mouth, throat and stomach. May cause central nervous system depression. Central Nervous System Depression: signs/symptoms can include headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions. May cause severe pneumonitis if aspirated into the lungs.

### 4. FIRST AID MEASURES

<b>Eye Contact:</b>	Immediately flush eyes with copious quantities of water for at least 20 minutes holding lids apart to ensure flushing of the entire surface. Flush eyes with large amounts of water until irritation subsides. Seek immediate medical attention.
<b>Skin Contact:</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.
<b>Inhalation:</b>	Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.
<b>Ingestion:</b>	Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing. Rinse mouth with water. Do NOT induce vomiting unless directed to do so by medical personnel. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.
<b>Notes To Physician:</b>	The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis.

### 5. FIRE FIGHTING MEASURES

<b>Flash Point (C):</b>	43 - 46	<b>(F):</b>	109.4 - 114.8
<b>Flash Point Method:</b>	Tag Closed Cup		
<b>Autoignition Temperature (C):</b>	420	<b>(F):</b>	788
<b>Flammable Limits in Air - Lower (%):</b>	1.1		
<b>Flammable Limits in Air - Upper (%):</b>	9.4		

<b>Extinguishing Media:</b>	Use DRY chemicals, CO <sub>2</sub> , alcohol foam or water spray.
<b>Special Exposure Hazards:</b>	If a leak or spill has not ignited use water spray to disperse the vapours. Flammable Liquid. Vapors form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from product handling point. Vapour forms a flammable / explosive mixture with air between upper and lower flammable limits. Closed containers may explode in fire. Contact with oxidizers may cause fire and/or explosion. This material may produce a floating fire hazard in extreme fire conditions.
<b>Special Protective Equipment:</b>	Fire fighters should wear full protective clothing, including self-contained breathing equipment.

NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 1, FLAMMABILITY 2, REACTIVITY 0

HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 1, FLAMMABILITY 2, REACTIVITY 0

## 6. ACCIDENTAL RELEASE MEASURES

**Procedure for Clean Up:** Immediately evacuate the area. Eliminate all ignition sources. Handling equipment must be grounded. Absorb with an inert dry material and place in an appropriate waste disposal container. Remove ignition sources and work with non-sparking tools. Ventilate area and wash spill site after material pick up is complete.

**Personal Precautionary Measures:** Wear appropriate protective equipment.

**Environmental Precautionary Measures:** Prevent entry into sewers or streams, dike if needed.

## 7. HANDLING AND STORAGE

**Handling:** Do not add any other material to the container. Do not wash down the drain. Avoid breathing vapor. Protect material from direct sunlight. Keep the containers closed when not in use. Manipulate under an adequate fume hood. Ensure proper electrical grounding procedures are in place. Use explosion proof electrical equipment. Empty containers may contain hazardous product residues. Do not consume food, drink or smoke while handling this material. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**Storage:** Do not exceed sealed containers to temperatures above 40 C. Store in a cool, dry, well ventilated area, away from heat and ignition sources. Place away from incompatible materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** Use explosion proof equipment. Use only in a chemical fume hood to keep airborne levels below recommended exposure limits.

**Respiratory Protection:** Wear self-contained breathing apparatus.

**Gloves:** Impervious gloves. Butyl rubber gloves. Polyvinyl alcohol gloves.

**Skin Protection:** Apron, coveralls and/or other resistant protective clothing. Impervious clothing. Rubber boots.

**Eyes:** Chemical goggles; also wear a face shield if splashing hazard exists.

**Other Personal Protection Data:** Ensure that eyewash stations and safety showers are proximal to the work-station location.

### Hazardous Components:

Ingredients	Percent	Exposure Limit - ACGIH	Exposure Limit - OSHA
Cyclohexanone 108-94-1	95-100	25 ppm TLV-TWA	100 mg/m <sup>3</sup> TWA 25 ppm TWA

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid

**Color:** Clear Colourless

**Odor:** Characteristic.

**pH** 4.0

<b>Specific Gravity:</b>	0.945 - 0.950		
<b>Boiling Point (C):</b>	154 - 157	<b>(F):</b>	309 - 314.6
<b>Freezing/Melting Point (C):</b>	-45 - -31.1	<b>(F):</b>	-49 - -23.9
<b>Vapor Pressure:</b>	Not Available.		
<b>Vapor Density:</b>	Not Available.		
<b>% Volatile by Volume:</b>	100%		
<b>Evaporation Rate:</b>	Not Available.		
<b>Solubility:</b>	Not Available.		
<b>VOCs (lbs/gallon):</b>	Not Available.		
<b>Viscosity:</b>	Not Available.		
<b>Molecular Weight:</b>	Not Available.		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable.
<b>Hazardous Polymerization:</b>	Will not occur.
<b>Conditions to Avoid:</b>	None known.
<b>Materials to Avoid:</b>	Oxidizing agents. Strong acids and bases. Nitrates. Aldehydes. Mercaptans Nitric acid. Reducing agents. Hydrogen peroxide. Isocyanates Amines.
<b>Hazardous Decomposition Products:</b>	When heated to decomposition, it emits acrid smoke and irritating fumes.
<b>Additional Information:</b>	May attack some forms of plastics, rubbers and coatings. Reacts violently with nitric acid.

## 11. TOXICOLOGICAL INFORMATION

### Principle Routes of Exposure

<b>Ingestion:</b>	May cause burns of the mouth, throat and stomach. May cause central nervous system depression. Central Nervous System Depression: signs/symptoms can include headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions. May cause severe pneumonitis if aspirated into the lungs.
<b>Skin Contact:</b>	May cause defatting, drying and cracking of the skin. Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis). Burns can occur if not promptly removed. Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material.
<b>Inhalation:</b>	Material is irritating to mucous membrane and upper respiratory tract. Exposure can cause coughing, chest pains and difficulty in breathing. Prolonged exposure may cause narcotic effect.
<b>Eye Contact:</b>	Causes severe eye irritation. May cause eye burns. Eye contact may cause blindness. May cause permanent eye damage. May cause conjunctivitis, corneal burns and permanent damage.
<b>Other:</b>	Target organs: Heart, blood, central nervous system, liver kidneys, eyes, skin, respiratory system, lungs.

### Acute Test of Product:

<b>Acute Oral LD50:</b>	Not Available.
<b>Acute Dermal LD50:</b>	Not Available.
<b>Acute Inhalation LC50:</b>	Not Available.

### Carcinogenicity:

### Hazardous Components:

Ingredients	Percent	IARC - Group	IARC - Group	IARC - Group	IARC - Group	IARC - Group
		1	2A	2B	3	4
Cyclohexanone 108-94-1	95-100	Not Listed.	Not Listed.	Not listed.	Listed	Not listed.

**Hazardous Components:**

Ingredients	Percent	ACGIH - Carcinogens
Cyclohexanone 108-94-1	95-100	A3 - Animal Carcinogen

**Carcinogenicity Comment:** No additional information available.

**Genotoxicity:** Not Available.  
**Reproductive/Developmental Toxicity:** Not Available.  
**Teratogenicity:** Not Available.  
**Embryotoxicity:** Not Available.  
**Mutagenicity:** Not Available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicological Information:**

**Hazardous Components:**

Ingredients	Percent	Ecotoxicity - Fish Species Data	Acute Crustaceans Toxicity:	Ecotoxicity - Freshwater Algae Data
Cyclohexanone 108-94-1	95-100	96 Hr LC50 (rainbow trout) 44.0 mg/L 96 Hr LC50 (fathead minnow) 527.0 mg/L 96 Hr LC50 (rainbow trout) 90.0 mg/L	Not Available.	96 Hr EC50 (freshwater green algae) 20 mg/L

**Other Information:** No additional remark.

**13. DISPOSAL CONSIDERATIONS**

**Disposal of Waste Method:**

Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

**Contaminated Packaging:**

Empty containers should be recycled or disposed of through an approved waste management facility.

## 14. TRANSPORT INFORMATION

### DOT (U.S.):

**DOT Shipping Name:** Cyclohexanone  
**DOT Hazardous Class:** 3  
**DOT UN Number:** UN1915  
**DOT Packing Group:** III  
**DOT Reportable Quantity (lbs):** Not Applicable.  
**Marine Pollutant:** No.

### ICAO/IATA:

**IATA Proper Shipping Name:** Cyclohexanone  
**IATA Hazard Class:** 3  
**UN/NA Number:** UN1915  
**Packing Group:** III  
**IATA Label:** Flammable liquid.  
**Remarks:** No additional remark.

### IMDG:

**IMDG Proper Shipping Name:** Cyclohexanone  
**Hazard Class:** 3  
**Packing Group:** III  
**Marine Pollutant:** No.  
**IMDG Label:** Flammable liquid.  
**Remarks:** Not regulated under the Transportation of Dangerous Goods Act when transported by road, rail or a ship on a domestic voyage, in packagings or containers of 450 L or less (waste excluded).

### TDG (Canada):

**TDG Proper Shipping Name:** Cyclohexanone  
**Hazard Class:** 3  
**UN Number:** UN1915  
**Packing Group:** III  
**Note:** Not regulated under the Transportation of Dangerous Goods Act when transported by road or rail in packagings or containers of 450 L or less (waste excluded).  
**Marine Pollutant:** No.

## 15. REGULATORY INFORMATION

**U.S. TSCA Inventory Status:** All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

**Canadian DSL Inventory Status:** All components of this product are either on the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL) or exempt.

### U.S. Regulatory Rules

#### Hazardous Components:

Ingredients	Percent	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Cyclohexanone 108-94-1	95-100	Not Listed.	LISTED	Not Listed.

<b>California Proposition 65:</b>	Listed.
<b>MA Right to Know List:</b>	Listed.
<b>New Jersey Right-to-Know List:</b>	Listed.
<b>Pennsylvania Right to Know List:</b>	Listed.
<b>WHMIS Hazardous Class</b>	B2 FLAMMABLE LIQUIDS D1B TOXIC MATERIALS D2B TOXIC MATERIALS



## 16. OTHER INFORMATION

**Additional Information:** This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

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**\*\*\*END OF MSDS\*\*\***