

# Cyclohexylamine

## SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Cyclohexylamine
<b>Other Means of Identification</b>	Aminocyclohexane, CHA, Hexahydroaniline
<b>Product Code(s)</b>	CY4910
<b>Product Family</b>	Organic solution
<b>Recommended Use</b>	Industrial.
<b>Restrictions on Use</b>	None known.
<b>Supplier Identifier</b>	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
<b>Emergency Phone No.</b>	CANUTEC CANADA, 613-996-6666, 24 Hours
<b>SDS No.</b>	1480

## SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

### Classification

Flammable liquid - Category 3; Acute toxicity (Oral) - Category 3; Acute toxicity (Dermal) - Category 3; Skin corrosion - Category 1; Serious eye damage - Category 1; Reproductive toxicity - Category 2

### Label Elements



Signal Word:  
Danger

### Hazard Statement(s):

Flammable liquid and vapour.  
Toxic if swallowed or in contact with skin.  
Causes severe skin burns and eye damage.  
Suspected of damaging fertility or the unborn child.

### Precautionary Statement(s):

Prevention:  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Keep container tightly closed.  
Ground and bond container and receiving equipment.

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Use explosion-proof electrical, ventilating, and lighting equipment.  
Use only non-sparking tools.  
Take action to prevent static discharges.  
Wash hands and skin thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Disposal:

Store in a well-ventilated place. Keep cool.

Store locked up.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

#### Other Hazards

Hazardous to the aquatic environment.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Cyclohexylamine	108-91-8	<= 100	Aminocyclohexane, CHA, Hexahydroaniline	

### SECTION 4. FIRST-AID MEASURES

#### First-aid Measures

##### Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

##### Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. Immediately call a Poison Centre or doctor.

##### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Immediately call a Poison Centre or doctor.

##### Ingestion

Rinse mouth with water. Do not induce vomiting. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again.

##### First-aid Comments

Provide general supportive measures (comfort, warmth, rest).

Consult a doctor and/or the nearest Poison Control Centre for all exposures.

All first aid procedures should be periodically reviewed by a doctor familiar with the material and its conditions of use in the workplace.

#### Most Important Symptoms and Effects, Acute and Delayed

If in eyes: contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result. If on skin: contact can cause pain, redness, burns, and blistering. Permanent scarring can result.

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## Immediate Medical Attention and Special Treatment

### Special Instructions

General advice, consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Special "alcohol resistant fire-fighting foams".

#### Unsuitable Extinguishing Media

Water may be ineffective because it may not cool product below its flash point.

### Specific Hazards Arising from the Product

Flammable liquid and vapour. Can ignite at room temperature. Releases vapour that can form explosive mixture with air. Can be ignited by static discharge. May travel a considerable distance to a source of ignition and flash back to a leak or open container. Heating increases the release of toxic vapour.

Not known to generate any hazardous decomposition products in a fire. Corrosive, oxidizing nitrogen oxides.

### Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Move containers from fire area if it can be done without risk. Otherwise, use water in flooding quantities as a spray or fog to keep fire-exposed containers cool and absorb heat. Use water spray to dilute spills to non-flammable mixtures. Use water spray to flush spills away from ignition sources. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Remove or isolate incompatible materials as well as other hazardous materials. Notify government occupational health and safety and environmental authorities.

### Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

### Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Contain spill with earth, sand, or absorbent material which does not react with spilled material.

Small spills or leaks: contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Flush spill area.

Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Only use where there is adequate ventilation. Avoid release to the environment. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Avoid generating vapours or mists. Prevent accidental contact with incompatible chemicals. Never add water to a corrosive. Always add corrosives slowly to COLD water. Keep containers tightly closed when not in use or empty. Wash hands thoroughly after handling this material.

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## Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, out of direct sunlight and away from heat and ignition sources, clear of combustible and flammable materials (e.g. old rags, cardboard). Keep amount in storage to a minimum. Separate from incompatible materials (see Section 10: Stability and Reactivity). Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity). Store in the original, labelled, shipping container.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Cyclohexylamine	10 ppm A4		Not established			

A4 = Not classifiable as a human carcinogen.

### Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use a corrosion-resistant exhaust ventilation system separate from other ventilation systems. Exhaust directly to the outside, taking any necessary precautions for environmental protection.

### Individual Protection Measures

#### Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: Interceptor®.

The following materials should NOT be used: natural rubber, neoprene rubber, nitrile rubber, polyvinyl alcohol, polyvinyl chloride.

#### Respiratory Protection

For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Colourless - yellow liquid.
Odour	Fishy
Odour Threshold	2.6 - 110 ppm Not reliable.
pH	~ 11.8 (0.1 M solution)
Melting Point/Freezing Point	-17.7 °C (0.1 °F) (melting); -17.7 °C (0.1 °F) (freezing)
Initial Boiling Point/Range	134.5 °C (274.1 °F)
Flash Point	26.5 - 31.0 °C (79.7 - 87.8 °F)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	9.4% (upper); 1.5 - 1.6% (lower)
Vapour Pressure	10.73 mm Hg (1.43 kPa) at 20 °C
Vapour Density (air = 1)	3.4
Relative Density (water = 1)	0.865 at 25 °C
Solubility	Soluble in all proportions in water; Soluble in all proportions in alcohols (e.g. ethanol).

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<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	1.54
<b>Auto-ignition Temperature</b>	265 - 293 °C (509 - 559 °F)
<b>Decomposition Temperature</b>	330 °C (626 °F)
<b>Viscosity</b>	Not available (kinematic); 0.21 centipoises (dynamic)
<b>Other Information</b>	
<b>Physical State</b>	Liquid
<b>Molecular Weight</b>	99.17

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

### Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources.

### Incompatible Materials

Oxidizing agents (e.g. peroxides), acid anhydrides (e.g. acetic anhydride), halogenated compounds (e.g. trichloroethylene), organic acids (e.g. acetic acid), halogens (e.g. chlorine), strong acids (e.g. hydrochloric acid).

### Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide; corrosive, oxidizing nitrogen oxides.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Cyclohexylamine	4000-8000 ppm (rat) (4-hour exposure)	150-300 mg/kg (rat)	275 mg/kg (rabbit)

### Skin Corrosion/Irritation

Animal tests show skin corrosion.

### Serious Eye Damage/Irritation

Animal tests show serious eye damage.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

Toxic, can cause death based on animal tests. Causes severe nose and throat irritation.

#### Ingestion

Toxic, can cause death based on animal tests.

### Aspiration Hazard

No information was located.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

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No information was located.

### Respiratory and/or Skin Sensitization

May cause severe asthma-like symptoms (respiratory sensitization) based on information for closely related chemicals.  
May cause an allergic reaction (skin sensitization) based on information for closely related chemicals.

### Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Cyclohexylamine	Not Listed	A4	Not Listed	Not Listed

A4 – Not classifiable as a human carcinogen.

### Reproductive Toxicity

#### Development of Offspring

May harm the unborn child.

#### Sexual Function and Fertility

May cause effects on sexual function and/or fertility.

#### Effects on or via Lactation

No information was located.

### Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

### Interactive Effects

No information was located.

## SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Bury in a licensed landfill or burn in an approved incinerator according to federal, provincial/state, and local regulations.

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN2357	CYCLOHEXYLAMINE	8, 3	II
Canadian TDG	UN2357	CYCLOHEXYLAMINE	8, 3	II

**Special Precautions** Not applicable

### Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### Canada

##### Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

#### USA

##### Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

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## SECTION 16. OTHER INFORMATION

**NFPA Rating**            **Health - 3**    **Flammability - 3**    **Instability - 0**

**SDS Prepared By**    Alphachem Limited

**Phone No.**            (905)-821-2995

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**References**            CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).  
GESTIS Substance Database (included by CCOHS).

**Disclaimer**            This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.

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