

## Safety Data Sheet **CYCLOHEXENE**

SDS no. K9U7W6CC • Version 1.0 • Date of issue: 2023-07-18

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### SECTION 1: Identification

#### GHS Product identifier

Product name CYCLOHEXENE

#### Recommended use of the chemical and restrictions on use

Alkylations, organic synthesis, stabiliser for high octane gasolines, catalyst solvent, oil extraction and laboratory reagent.

#### Supplier's details

Name ChemSupply Australia Pty Ltd  
Address 38-50 Bedford Street  
5013 Gillman South Australia  
Australia

Telephone 08 8440 2000  
email [www.chemsupply.com.au](http://www.chemsupply.com.au)

#### Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

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### SECTION 2: Hazard identification

#### General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

#### Classification of the substance or mixture

#### GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, oral, Cat. 4
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2
- Aspiration hazard, Cat. 1
- Flammable liquids, Cat. 2

#### GHS label elements, including precautionary statements

#### Pictograms



**Signal word**

**Danger**

**Hazard statement(s)**

H225  
H302  
H304  
H411

Highly flammable liquid and vapor  
Harmful if swallowed  
May be fatal if swallowed and enters airways  
Toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

P210  
  
P233  
P240  
P241  
P242  
P243  
P270  
P273  
P280  
P301+P310  
P303+P361+P353  
  
P330  
P331  
P370+P378  
P391  
P403+P235  
P405  
P501

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.  
Use explosion-proof [electrical/ventilating/lighting/...] equipment.  
Use non-sparking tools.  
Take action to prevent static discharges.  
Do not eat, drink or smoke when using this product.  
Avoid release to the environment.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
Rinse mouth.  
Do NOT induce vomiting.  
In case of fire: Use agents recommended in Section 5 of SDS for extinction  
Collect spillage.  
Store in a well-ventilated place. Keep cool.  
Store locked up.  
Dispose of contents/container to an approved waste disposal facility

**SECTION 3: Composition/information on ingredients**

**Mixtures**

Molecular weight: 82.15

**Components**

Component	Concentration
Cyclohexene (CAS no.: 110-83-8; EC no.: 203-807-8)	<= 100 % (weight)
CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Aspiration hazard, Cat. 1; Flammable liquids, Cat. 2; Hazardous to the aquatic environment, long-term (chronic), Cat. 2. HAZARDS: H225 - Highly flammable liquid and vapor; H302 - Harmful if swallowed; H304 - May be fatal if swallowed and enters airways; H411 - Toxic to aquatic life with long lasting effects.	

**SECTION 4: First-aid measures**

**Description of necessary first-aid measures**

General advice

First Aid Facilities: Maintain eyewash fountain and drench facilities in work area.

If inhaled

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. Risk of serious damage to the lungs (by aspiration).

In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
If swallowed	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward

**Most important symptoms/effects, acute and delayed**

Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

**Indication of immediate medical attention and special treatment needed, if necessary**

Treat symptomatically based on judgement of doctor and individual reactions of the patient.

For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

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**SECTION 5: Fire-fighting measures**

**Suitable extinguishing media**

Caution: Use of water spray when fighting fire may be inefficient.

Small fire: Use foam, dry chemical, CO<sub>2</sub> or water spray.

Large fire: Use foam, fog or water spray - Do NOT use water jets.

If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.

**Specific hazards arising from the chemical**

HIGHLY FLAMMABLE: These products have a low flash point. Will be easily ignited by heat, sparks or flames. Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Most vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Many liquids are lighter than water. Containers may explode when heated. Fire will produce irritating, poisonous and/or corrosive gases. Vapours from run-off may create an explosion hazard.

**Special protective actions for fire-fighters**

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

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**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

**Methods and materials for containment and cleaning up**

Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 50m. All equipment in handling this product must be earthed. Do NOT touch or walk through this product. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas.

Vapour suppressing foam may be used to control vapours. Water spray may be used to knock down or divert vapours.

Absorb spill with earth, sand or other non-combustible material. Use clean, non-sparking tools to collect material and place it in loosely-covered metal or plastic containers for later disposal.

SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

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**SECTION 7: Handling and storage**

### Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

### Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and flame. Keep containers tightly closed in a cool, well-ventilated place. Keep container tightly closed. May form explosive peroxides. Regularly check inhibitor levels to maintain peroxide levels below 1%.

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## SECTION 8: Exposure controls/personal protection

### Control parameters

#### CAS: 110-83-8

Cyclohexene

AU/SWA (Australia): 300 ppm; 1010 mg/m<sup>3</sup> TWA inhalation;

### Appropriate engineering controls

Provide sufficient ventilation to ensure that the working environment is below the TWA (time weighted average). Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flame proof exhaust ventilation system is required. Refer to AS 1940-The storage and handling of flammable and combustible liquids and AS 2430-Explosive gas atmospheres for further information concerning ventilation requirements.

### Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

#### Skin protection

Hand Protection: Gloves: Nitrile recommended. Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

#### Body protection

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean, flame retardant protective clothing should be worn, preferably with and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

#### Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

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## SECTION 9: Physical and chemical properties

### Basic physical and chemical properties

Physical state

Liquid

Appearance

Clear, colourless liquid.

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Color	Colourless
Odor	Aromatic odour.
Odor threshold	No data available.
Melting point/freezing point	-103.7 - 104 °C
Boiling point or initial boiling point and boiling range	83 °C
Flammability	HIGHLY FLAMMABLE.
Lower and upper explosion limit/flammability limit	Flammable Limits - Lower: 1.20% Flammable Limits - Upper: 7.70%
Flash point	-12 °C
Explosive properties	No data available.
Auto-ignition temperature	250 °C
Decomposition temperature	83 °C (boiling point)
Oxidizing properties	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Insoluble. Solubility in Organic Solvents: Soluble in alcohol.
Partition coefficient n-octanol/water (log value)	log Pow: 3.27
Vapor pressure	160 mm @ 38 °C
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 0.811 g/cm <sup>3</sup>
Relative vapor density	2.8
Particle characteristics	No data available.

### Supplemental information regarding physical hazard classes

No data available.

### Further safety characteristics (supplemental)

Other Information: Refractive index: 1.445 @ 25 °C

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## SECTION 10: Stability and reactivity

### Reactivity

Stable under normal conditions of storage and handling.

Risk of ignition. Vapours may form explosive mixtures with air

### Chemical stability

Stabilized with BHT. Hazardous polymerization may occur upon depletion of inhibitor.

### Possibility of hazardous reactions

Reacts violently with strong oxidising agents.

### Conditions to avoid

Heat, sparks or naked flames and prolonged exposure to oxygen as may form peroxides.

### Incompatible materials

Strong oxidizing agents

### Hazardous decomposition products

Oxides of carbon.

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## SECTION 11: Toxicological information

### Information on toxicological effects

**Acute toxicity**

Oral: Oral LD50 (rat): 1.940 mg/kg

Ingestion: Harmful if swallowed. May cause nausea, headache, drowsiness and CNS effects.

Inhalation: Harmful if inhaled. May cause irritation to the mucous membranes and respiratory tract. May cause nausea, headache, drowsiness and CNS effects.

**Skin corrosion/irritation**

May cause irritation to skin. Harmful if absorbed through skin as may cause nausea, headache, drowsiness and CNS effects.

**Serious eye damage/irritation**

May cause irritation to eyes.

**Respiratory or skin sensitization**

No data available.

**Germ cell mutagenicity**

No evidence of mutagenic properties.

**Carcinogenicity**

No evidence of carcinogenic properties.

**Reproductive toxicity**

No data available.

**Specific target organ toxicity (STOT) - single exposure**

No data available.

**Specific target organ toxicity (STOT) - repeated exposure**

No data available.

**Aspiration hazard**

H304 May be fatal if swallowed and enters airways.

**Additional information**

No data available.

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**SECTION 12: Ecological information**

**Toxicity**

Fish: *Poecilia reticulata* LC50: 7.1 mg/l /96 h.

Daphnia: EC50 - *Daphnia magna* (Water flea) - 5.3 mg/l - 48 h

**Persistence and degradability**

Not readily degradable (DOC or COD reduction <20%).

**Bioaccumulative potential**

Bioaccumulative potential is expected to be appreciable. (log P(o/w) >3).

**Mobility in soil**

log P (o/w): 3.27.

**Other adverse effects**

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Do not allow to enter waters, waste water, or soil!

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### SECTION 13: Disposal considerations

#### Disposal methods

##### Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

##### Sewage disposal

Bioaccumulative potential is expected to be appreciable. ( $\log P(o/w) > 3$ ).

##### Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

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### SECTION 14: Transport information

#### ADG (Road and Rail)

UN Number: 2256

Class: 3

Packing Group: II

Proper Shipping Name: CYCLOHEXENE

#### Hazchem emergency action code (EAC)

3YE

#### IMDG

UN Number: 2256

Class: 3

Packing Group: II

EMS Number:

Proper Shipping Name: CYCLOHEXENE

#### IATA

UN Number: 2256

Class: 3

Packing Group: II

Proper Shipping Name: CYCLOHEXENE

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### SECTION 15: Regulatory information

#### Safety, health and environmental regulations specific for the product in question

##### Australia SUSMP

Poison Schedule: NS

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### SECTION 16: Other information

#### Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), [hcis.safeworkaustralia.gov.au](http://hcis.safeworkaustralia.gov.au)

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)