

Safety Data Sheet **CYCLOHEXANE**

SDS no. 18K2ZL13 • Version 1.0 • Date of issue: 2023-07-11

SECTION 1: Identification

GHS Product identifier

Product name CYCLOHEXANE

Other means of identification

CYCLOHEXANE
Hexahydrobenzene
Hexamethylene
Hexanaphthene
Hexalhydrobenzene

Recommended use of the chemical and restrictions on use

Manufacture of nylon, solvent for cellulose ethers, fats, oils, waxes, bitumens, resins, crude rubber, extracting essential oils, paint and varnish remover, glass substitutes, solid fuels, fungicides, analytical chemistry, chemicals (organic synthesis, recrystallising medium) 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

Emergency phone number

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

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

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- Hazardous to the aquatic environment, short-term (acute), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1
- Aspiration hazard, Cat. 1
- Flammable liquids, Cat. 2
- Skin corrosion/irritation, Cat. 2
- Specific target organ toxicity following single exposure, Cat. 3

GHS label elements, including precautionary statements

Pictograms



Signal word

Warning

Hazard statement(s)

H225	Highly flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P331	Do NOT induce vomiting.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use agents recommended in Section 5 of SDS for extinction
P391	Collect spillage.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 84.16

Components

Component	Concentration
Cyclohexane (CAS no.: 110-82-7; EC no.: 203-806-2; Index no.: 601-017-00-1)	<= 100 % (weight)
CLASSIFICATIONS: Flammable liquids, Cat. 2; Aspiration hazard, Cat. 1; Specific target organ toxicity following single exposure, Cat. 3; Skin corrosion/irritation, Cat. 2; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Hazardous to the aquatic environment, long-term (chronic), Cat. 1. HAZARDS: H225 - Highly flammable liquid and vapor; H304 - May be fatal if swallowed and enters airways; H315 - Causes skin irritation; H336 - May cause drowsiness or dizziness; H400 - Very toxic to aquatic life; H410 - Very 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. For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor (at once).
If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician.
In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
In case of eye contact	If in eyes, hold eyelids apart and flush eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor, or for at least 15 minutes.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

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

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, CO2 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.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

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.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid prolonged or repeated contact with skin, eyes and clothing . Use in well ventilated areas away from all ignition sources.

Conditions for safe storage, including any incompatibilities

Store in cool place and out of direct sunlight. Store in well ventilated area. Store away from sources of heat or ignition. Store away from oxidizing agents. Keep containers closed at all times. Take precautionary measures against static electricity discharges.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

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

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Appearance	Colourless mobile liquid.
Color	Colourless
Odor	Pungent odour.
Odor threshold	No data available.
Melting point/freezing point	6 - 6.5 °C
Boiling point or initial boiling point and boiling range	80.7 - 81 °C
Flammability	HIGHLY FLAMMABLE.
Lower and upper explosion limit/flammability limit	Flammable Limits - Lower: 1.30% Flammable Limits - Upper: 8.40%
Flash point	-18 °C
Explosive properties	No data available.
Auto-ignition temperature	260 °C
Decomposition temperature	80.7 - 81 °C
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, acetone and benzene.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	100 mm Hg @ 60.8 °C
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 0.779 g/cm ³
Relative vapor density	2.9

Particle characteristics

No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

Refractive index: 1.4263

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

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

Heat, high temperatures, flames and other ignition sources and incompatible materials.

Incompatible materials

Strong oxidizing agents. Nitrogen oxides.

Hazardous decomposition products

Carbon dioxide and carbon monoxide.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute Toxicity - Oral: LD50(oral, rat): 12,705 mg/kg.

Ingestion: Harmful by ingestion. May cause a burning sensation of soft tissues, vomiting, diarrhoea and drowsiness. Harmful: May cause lung damage if swallowed.

Acute Toxicity - Inhalation: LC50 (inhalation, rat): 34,000 mg/l/4h. (OECD Test Guideline 403)

Inhalation: Harmful by inhalation. Narcotic in high concentrations. May cause drowsiness, dizziness, intoxication, headache, nausea, coma and death.

Skin corrosion/irritation

Acute Toxicity - Dermal: LD50 (dermal, rabbit): > 2000 mg/kg.

Irritating to skin. Will dry and defat the skin, which may cause redness, cracking of the skin and possible dermatitis.

Serious eye damage/irritation

May cause irritation to eyes. This may result in redness, stinging and tearing.

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

May cause drowsiness or dizziness

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

Aspiration Hazard: Category 1

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H304 May be fatal if swallowed and enters airways.

Additional information

Chronic poisoning could result in general malaise with blood disorders, and are of a significant nature when the aromatic content of hydrocarbon products has been high.

SECTION 12: Ecological information

Toxicity

Acute Toxicity - Daphnia: Daphnia magna EC50: 0.9 mg/l /48 h.

Persistence and degradability

Biological degradability: low (6% /28d.). Slightly degradable.

Bioaccumulative potential

Bioaccumulation potential is expected to be high (log P(o/w) > 3).

Mobility in soil

log P(o/w): 3,44 (experimentally).

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

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

Bioaccumulation potential is expected to be high (log P(o/w) > 3).

Other disposal recommendations

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

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 1145

Class: 3

Packing Group: II

Proper Shipping Name: CYCLOHEXANE

Hazchem emergency action code (EAC)

3[Y]E

IMDG

UN Number: 1145
Class: 3
Packing Group: II
EMS Number:
Proper Shipping Name: CYCLOHEXANE

IATA

UN Number: 1145
Class: 3
Packing Group: II
Proper Shipping Name: CYCLOHEXANE

SECTION 15: Regulatory information

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

Australia SUSMP

Poison Schedule: NS

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 provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

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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
IATA, Dangerous Goods Regulations (DGR)
IMO, International Maritime Dangerous Goods Code (IMDG)