Infosafe No™	1CH2D	Issue Date : July 2018	RE-ISSUED by CHEMSUPP

Product Name : **CYCLOHEXENE**

Classified as hazardous

1. Identification

GHS Product Identifier	CYCLOHEXENE
Company Name	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)
Address	38 - 50 Bedford Street GILLMAN SA 5013 Australia
Telephone/Fax Number	Tel: (08) 8440-2000 Fax: (08) 8440-2001
Recommended use of the chemical and restrictions on use	Alkylations, organic synthesis, stabiliser for high octane gasolines, catalyst solvent, oil extraction and laboratory reagent.

Other Names	**Name**	**Product Code**
	1,2,3,4-Tetrahydrobenzene	
	CYCLOHEXENE LR	CL073

Other Information

EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply 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 Chem-Supply 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 Chem-Supply 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.

2. Hazard Identification

GHS classification of the substance/mixture

Flammable Liquids: Category 2
Acute Toxicity - Oral: Category 4
Acute Toxicity - Dermal: Category 4
Aspiration Hazard: Category 1

Signal Word (s) DANGER

Hazard Statement (s)

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.

Pictogram (s) Flame, Skull and crossbones, Health hazard



Precautionary statement – Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 Do NOT induce vomiting.
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P361 Remove/Take off immediately all contaminated clothing.

	P362 Take off contaminated clothing and wash before reuse. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P370+P378 In case of fire: Use foam, dry chemical, CO2 or water spray for extinction.
Precautionary statement – Storage	P405 Store locked up. P403+P235 Store in a well-ventilated place. Keep cool.
Precautionary statement – Disposal	P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Chemical Characterization Liquid

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
Cyclohexene	110-83-8	100 %		

4. First-aid measures

Inhalation	If inhaled, remove from contaminated area to fresh air immediately. If breathing is difficult, give oxygen. Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth resuscitation. Immediately medical attention is required.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
Skin	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical attention.
Eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open.In all cases of eye contamination it is a sensible precaution to seek medical advice.
First Aid Facilities	Maintain eyewash fountain and drench facilities in work area.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
Other Information	If poisoning occurs, contact a Doctor or Poisons Information Centre. Phone 13 1126 from anywhere in Australia.

5. Fire-fighting measures

Specific Methods	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.
Hazchem Code	3YE
Decomposition Temp.	83 °C (boiling point)
Precautions in connection with Fire	SCBA and structural firefighter's uniform may provide limited protection. Fully encapsulating, gas-tight suits should be worn for maximum protection.

6. Accidental release measures

Spills & Disposal	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.
Personal Precautions	Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing.

Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.
Environmental Precautions	Prevent further leakage or spillage and prevent from entering drains

7. Handling and storage

Precautions for Safe Handling	Take precautionary measures against static discharges. Ensure the appropriate personal protective equipment is used when handling this material. Do not breathe vapour. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. All electrical equipment must be flameproofed. Clean up all spills and splashes promptly; avoid secondary accidents.
Conditions for safe storage, including any incompatabilities	Store in cool place and out of direct sunlight. Store away from sources of heat or ignition. Store away from oxidizing agents. Keep container tightly closed and in a cool, well-ventilated place
Storage Regulations	Refer Australian Standard AS 1940-2017 'The storage and handling of flammable and combustible liquids'.
Storage Temperatures	Store at room temperature (15 to 25 °C recommended).

8. Exposure controls/personal protection

Occupational exposure limit values

Name	STEL		TWA		
	mg/m3	ppm	mg/m3	ppm	Footnote
Cyclohexene			1010	300	

Other Exposure Information	A time weighted average (TWA) has been established for Cyclohexene (Safe Work Australia) of 1010 mg/m3, (300 ppm). The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
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.
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.
Eye 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.
Hand Protection	Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste. Cloves: Nitrile recommended. Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
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.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Liquid
Appearance	Clear, colourless liquid.
Odour	Aromatic odour.
Decomposition Temperature	83 °C (boiling point)
Melting Point	-103.7 - 104 °C
Boiling Point	83 °C
Solubility in Water	Insoluble.
Solubility in Organic Solvents	Soluble in alcohol.
Specific Gravity	0.811 g/cm3
Vapour Pressure	160 mm @ 38 °C
Vapour Density (Air=1)	2.8
Coefficient Water/Oil Distr.	log Pow: 3.27
Flash Point	-12 °C
Flammability	HIGHLY FLAMMABLE.
Auto-Ignition Temperature	250 °C
Flammable Limits - Lower	1.2 %
Flammable Limits - Upper	7.7 %
Molecular Weight	82.15
Other Information	Refractive index: 1.445 @ 25 °C

10. Stability and reactivity

Chemical Stability	Stable under normal use conditons. Stabilized with BHT.
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.
Possibility of hazardous reactions	Reacts violently with strong oxidising agents.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

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	Toxic in contact with skin. May cause irritation to skin. Harmful if absorbed through skin as may cause nausea, headache, drowsiness and CNS effects.
Eye	May cause irritation to eyes.
Carcinogenicity	No evidence of carcinogenic properties.
Aspiration Hazard	H304 May be fatal if swallowed and enters airways.

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Mutagenicity	No evidence of mutagenic properties.

12. Ecological information

Persistence and degradability	Not readily degradable (DOC or COD reduction <20%).
Mobility	log P (o/w): 3.27.
Bioaccumulative Potential	Bioaccumultive potenial is expected to be appreciable. (log P(o/w) >3).
Acute Toxicity - Fish	Poecilia reticulata LC50: 7.1 mg/l /96 h.
Acute Toxicity - Daphnia	EC50 - Daphnia magna (Water flea) - 5.3 mg/l - 48 h
Other Information	Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information	Dangerous goods of Class 3 (Flammable Liquid) are incompatible in a placard load with any of the following: Class 1, Class 2.1, if both the Class 3 and Class 2.1 dangerous goods are in bulk, Class 2.3, Class 4.2, Class 5, Class 6, if the Class 3 dangerous goods are nitromethane, Class 7.
U.N. Number	2256
UN proper shipping name	CYCLOHEXENE
Transport hazard class(es)	3
Hazchem Code	3YE
Packing Group	II
EPG Number	3B3
IERG Number	14

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS).
Poisons Schedule	Not Scheduled

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Substances Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'. Commonwealth Department of Health and Aged Care, 'Standard for the Uniform Scheduling of Drugs and Poisons No. 18', Commonwealth of Australia, Canberra 2002. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley & Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Dangerous Goods Code 6th. Ed.', AGPS, Canberra,

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South Australia Government, 'Approved Code of Practice for the Labelling of Workplace Substances', 1995.
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Worksafe Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(1999)]', AusInfo, Canberra 1999.
Worksafe Australia, 'List of Designated Hazardous Substances [NOHSC:10005(1999)]', AusInfo, Canberra 1999.
Worksafe Australia, 'National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)]', AGPS, Canberra 1994.
Worksafe Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]', AusInfo, Canberra 1995.

Contact Person/Point Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT:
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Empirical Formula & Structural Formula C6 H10

Other Information
Previously labelled as:
R11 Highly flammable.
R21/22 Harmful in contact with skin and if swallowed.
R50/53 Very toxic to aquatic organism, may cause long-term adverse effects in the aquatic environment.
S16 Keep away from sources of ignition - No smoking.
S23 Do not breathe gas/fumes/vapour/spray.
S33 Take precautionary measures against static discharge.
S36/37 Wear suitable protective clothing and gloves.
S51 Use only in well ventilated areas.
S61 Avoid release to the environment. Refer to special instructions/safety data sheet.
S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.
...End Of MSDS...

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