



Infosafe No™	1CH2C	Issue Date : July 2018	RE-ISSUED by CHEMSUPP
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Product Name : **CYCLOHEXANE AR**

Classified as hazardous

1. Identification

GHS Product Identifier	CYCLOHEXANE AR	
Product Code	CA019	
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	
Emergency phone number	CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)	
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.	
Other Names	<u>Name</u>	<u>Product Code</u>
	CYCLOHEXANE	
	Hexahydrobenzene	
	Hexamethylene	
	Hexanaphthene	
	Hexalhydrobenzene	

Other Information

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 Aspiration Hazard: Category 1 Skin Corrosion/Irritation: Category 2 Specific target organ toxicity - Single Exposure Category 3 Hazardous to the Aquatic Environment - Acute Hazard: Category 1 Hazardous to the Aquatic Environment - Long-Term 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. H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H410 Very toxic to aquatic life with long lasting effects.
Pictogram (s)	Flame, Health hazard, Exclamation mark, Environment

**Precautionary statement – Prevention**

P220 Keep/Store away from clothing/.../combustible materials.
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.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.



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Precautionary statement – Response	<p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P273 Avoid release to the environment.</p> <p>P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.</p> <p>P331 Do NOT induce vomiting.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of soap and water.</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/attention.</p> <p>P362 Take off contaminated clothing and wash before reuse.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P370+P378 In case of fire: Use foam, dry chemical, CO2 or water spray for extinction.</p> <p>P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p>
Precautionary statement – Storage	<p>P312 Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P403+P235 Store in a well-ventilated place. Keep cool.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p>
Precautionary statement – Disposal	<p>P501 Dispose of contents/container to an approved waste disposal plant.</p>

3. Composition/information on ingredients

Chemical Characterization	Liquid.				
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	Cyclohexane	110-82-7	100 %		

4. First-aid measures

Inhalation	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.
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	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.
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.

5. Fire-fighting measures

Specific Methods	<p>Caution: Use of water spray when fighting fire may be inefficient.</p> <p>Small fire: Use foam, dry chemical, CO2 or water spray.</p> <p>Large fire: Use foam, fog or water spray - Do NOT use water jets.</p> <p>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.</p>
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.	80.7 - 81 °C
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
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Infosafe No™	1CH2C	Issue Date : July 2018	RE-ISSUED by CHEMSUPP
--------------	-------	------------------------	-----------------------

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Personal Precautions	do so. Prevent entry into waterways, drains, confined areas.
Personal Protection	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. Ventilate contaminated area thoroughly. Do not breathe vapour. Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing.
Clean-up Methods - Small Spillages	Wear breathing apparatus, nitrile or heavy rubber gloves and rubber boots.
Environmental Precautions	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. Prevent further leakage or spillage and prevent from entering drains

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.
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	<u>Name</u>	STEL		TWA		<u>Footnote</u>
		<u>mg/m3</u>	<u>ppm</u>	<u>mg/m3</u>	<u>ppm</u>	
Other Exposure Information	Cyclohexane	1050	300	350	100	A time weighted average (TWA) has been established for Cyclohexane (Safe Work Aust) of 350 mg/m3, (100 ppm). The corresponding STEL level is 1050 mg/m3, (300 ppm). The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. 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	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.					
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.					
Hand Protection	Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336. Gloves: nitrile, heavy rubber gloves. 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 clothing or protective clothing should be worn, preferably with and apron. Clothing for protection					



Infosafe No™	1CH2C	Issue Date : July 2018	RE-ISSUED by CHEMSUPP
--------------	-------	------------------------	-----------------------

Product Name : **CYCLOHEXANE AR**

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Hygiene Measures against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals. 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	Colourless mobile liquid.
Odour	Pungent odour.
Decomposition Temperature	80.7 - 81 °C
Melting Point	6 - 6.5 °C
Boiling Point	80.7 - 81 °C
Solubility in Water	Insoluble.
Solubility in Organic Solvents	Soluble in alcohol, acetone and benzene.
Specific Gravity	0.779 g/cm ³
Vapour Pressure	100 mm Hg @ 60.8 °C
Vapour Density (Air=1)	2.90
Flash Point	-18 °C
Flammability	HIGHLY FLAMMABLE.
Auto-Ignition Temperature	260 °C
Flammable Limits - Lower	1.3%
Flammable Limits - Upper	8.4%
Molecular Weight	84.16
Other Information	Refractive index: 1.4263

10. Stability and reactivity

Chemical Stability	Stable under normal use conditons.
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.

11. Toxicological Information

Acute Toxicity - Oral	LD50(oral, rat): 12,705 mg/kg.
Acute Toxicity - Dermal	LD50 (dermal, rabbit): > 2000 mg/kg.
Acute Toxicity - Inhalation	LC50 (inhalation, rat): 34,000 mg/l/4h. (OECD Test Guidleine 403)
Ingestion	Harmful by ingestion. May cause a burning sensation of soft tissues, vomiting, diarrhoea and drowsiness. Harmful: May cause lung damage if swallowed.
Inhalation	Harmful by inhalation. Narcotic in high concentrations. May cause drowsiness, dizziness, intoxication, headache, nausea, coma and death.
Skin	Irritating to skin. Will dry and defat the skin, which may cause redness, cracking of the skin and possible dermatitis.
Eye	May cause irritation to eyes. This may result in redness, stinging and tearing.
Carcinogenicity	No evidence of carcinogenic properties.
Aspiration Hazard	Aspiration Hazard: Category 1



Infosafe No™	1CH2C	Issue Date : July 2018	RE-ISSUED by CHEMSUPP
--------------	-------	------------------------	-----------------------

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Chronic Effects	H304 May be fatal if swallowed and enters airways. 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.
Serious eye damage/irritation	Eye irritation test (rabbit): Slight irritation.
Mutagenicity	No evidence of mutagenic properties.
Skin corrosion/irritation	Skin irritation test (rabbit): No irritation.
Subchronic/Chronic Toxicity	Bacterian mutagenicity: Ames-Test: negative.

12. Ecological information

Ecotoxicity	Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.
Persistence and degradability	Biological degradability: low (6% /28d.). Slightly degradable.
Mobility	log P(o/w): 3,44 (experimentally).
Bioaccumulative Potential	Bioaccumulation potential is expected to be high (log P(o/w) > 3).
Environmental Protection	Do not allow to enter waters, waste water, or soil!
Acute Toxicity - Daphnia	Daphnia magna EC50: 0.9 mg/l /48 h.

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.
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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	1145
UN proper shipping name	CYCLOHEXANE
Transport hazard class(es)	3
Hazchem Code	3YE
Packaging Method	3.8.3
Packing Group	II
EPG Number	3A1
IERG Number	14

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
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 for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide',
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Safety Data Sheet

infosafe
CS: 1.7.2

Page: 6 of 6

Infosafe No™	1CH2C	Issue Date : July 2018	RE-ISSUED by CHEMSUPP
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Product Name : **CYCLOHEXANE AR**

Classified as hazardous

**Contact
Person/Point**

Standards Australia/Standards New Zealand, 2010.
Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
Safe Work Australia, 'Hazardous Chemical 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]'.
Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**
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