

Cyclohexane**053-4**

Version 1.1 1

Revision Date 12/22/2017

Print Date 06/29/2018

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Cyclohexane

SDS Number : 000000011343

Product Use Description : Solvent

Manufacturer or supplier's details : CHEM-SUPPLY Pty Ltd
38-50 Bedford St.
Gillman SA 5013, Australia

For more information call : +61 8 8440 2000
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : Medical: 1-800-498-5701 or +1-303-389-1414
: **Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
:
: **CHEMTREC in Australia: +(61)-290372994**
: (24 hours/day, 7 days/week)

2. HAZARDS IDENTIFICATION**Classification of the substance or mixture**

Classification of the substance or mixture : Flammable liquids, Category 2
Skin irritation, Category 2
Specific target organ toxicity - single exposure, Category 3, narcotic effect
Aspiration hazard, Category 1
Acute aquatic toxicity, Category 1
Chronic aquatic toxicity, Category 1

GHS Label elements, including precautionary statements

Symbol(s) :



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Signal word : Danger

Hazard statements : Highly flammable liquid and vapour.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause drowsiness and dizziness.
Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER/doctor.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
Specific treatment (see supplemental first aid instructions on this label).
Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Collect spillage.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

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3. COMPOSITION/INFORMATION ON INGREDIENTSFormula : C₆H₁₂

Chemical nature : Substance

CAS-No. : 110-82-7

Hazardous components

Chemical name	CAS-No.	Concentration
Cyclohexane	110-82-7	<= 100%

4. FIRST AID MEASURES

Inhalation : Remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Use oxygen as required, provided a qualified operator is present.
Call a physician.

Skin contact : Wash off immediately with plenty of water for at least 15 minutes.
Take off contaminated clothing and shoes immediately.
Wash contaminated clothing before re-use.
Call a physician.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Call a physician.

Ingestion : Do not induce vomiting without medical advice.
If a person vomits when lying on his back, place him in the recovery position.
Never give anything by mouth to an unconscious person.
Call a physician.

Notes to physician : Treat symptomatically.

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5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Carbon dioxide (CO₂)
Dry chemical
Foam
Cool closed containers exposed to fire with water spray.
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during firefighting : Highly flammable.
Vapours may form explosive mixtures with air.
Vapours are heavier than air and may spread along floors.
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.
In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO₂)
- Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.
- Further information : HAZCHEM CODE: 3YE

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Wear personal protective equipment. Unprotected persons must be kept away.
Immediately evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
Ensure adequate ventilation.
Remove all sources of ignition.
Do not swallow.
Avoid breathing vapours, mist or gas.
Avoid contact with skin, eyes and clothing.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.
Prevent product from entering drains.
Discharge into the environment must be avoided.
Do not flush into surface water or sanitary sewer system.
Do not allow run-off from fire fighting to enter drains or water courses.
- Methods for cleaning up : Ventilate the area.
No sparking tools should be used.
Use explosion-proof equipment.

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Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE**Handling**

- Advice on safe handling : Wear personal protective equipment.
Use only in well-ventilated areas.
Keep container tightly closed.
Do not smoke.
Do not swallow.
Avoid breathing vapours, mist or gas.
Avoid contact with skin, eyes and clothing.
- Advice on protection against fire and explosion : Keep away from fire, sparks and heated surfaces.
Take precautionary measures against static discharges.
Ensure all equipment is electrically grounded before beginning transfer operations.
Use explosion-proof equipment.
Keep product and empty container away from heat and sources of ignition.
No sparking tools should be used.
No smoking.

Storage

- Requirements for storage areas and containers : Store in area designed for storage of flammable liquids.
Protect from physical damage.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep away from heat and sources of ignition.
Keep away from direct sunlight.
Store away from incompatible substances.
Container hazardous when empty.
Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

- Materials to avoid : Strong oxidizing agents, Acids

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Cyclohexane	110-82-7	TWA : Time Weighted Average (TWA):	100 ppm 350 mg/m ³	12 2011	AU NOEL: Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)
		STEL : Short Term Exposure Limit (STEL):	300 ppm 1,050 mg/m ³	12 2011	AU NOEL: Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)
		TWA : Time Weighted Average (TWA):	100 ppm 350 mg/m ³	08 2005	AU OEL: Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
		STEL : Short Term Exposure Limit (STEL):	300 ppm 1,050 mg/m ³	08 2005	AU OEL: Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

Engineering measures

Use with local exhaust ventilation.

Prevent vapour buildup by providing adequate ventilation during and after use.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
For rescue and maintenance work in storage tanks use self-contained breathing apparatus.
Use NIOSH approved respiratory protection.

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Hand protection	: Solvent-resistant gloves Gloves must be inspected prior to use. Replace when worn.
Eye protection	: Do not wear contact lenses. Wear as appropriate: Safety glasses with side-shields If splashes are likely to occur, wear: Goggles or face shield, giving complete protection to eyes
Skin and body protection	: Wear as appropriate: Solvent-resistant apron Flame retardant antistatic protective clothing. If splashes are likely to occur, wear: Protective suit
Hygiene measures	: When using, do not eat, drink or smoke. Wash hands and face before breaks and immediately after handling the product. Keep working clothes separately. Remove and wash contaminated clothing before re-use. Do not swallow. Avoid breathing vapours, mist or gas. Avoid contact with skin, eyes and clothing.
Protective measures	: Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Colour	: colourless
Odour	: mild sweet
pH	: Note: Not applicable
Melting point/range	: 6.54 °C
Boiling point/boiling range	: 80.72 °C
Flash point	: -4 °F (-20 °C) Method: closed cup

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Lower explosion limit	:	1 %(V)
Upper explosion limit	:	8.4 %(V)
Vapour pressure	:	104 hPa at 20 °C(68 °F) 129 hPa at 25 °C(77 °F)
Vapour density	:	2.9 Note: (Air = 1.0)
Density	:	0.78 g/cm ³ at 20 °C
Water solubility	:	Note: insoluble
Ignition temperature	:	245 °C
Molecular weight	:	84.16 g/mol

10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur.
Conditions to avoid	:	Heat, flames and sparks. Keep away from direct sunlight.
Incompatible materials to avoid	:	Strong oxidizing agents Acids

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Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO₂)

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50: > 5,000 mg/kg
Species: Rat

Acute inhalation toxicity : LC50: 32.88 mg/l
Exposure time: 4 h
Species: Rat

Acute dermal toxicity : LD50: > 2,000 mg/kg
Species: Rabbit

Skin irritation : Species: Rabbit
Result: Irritating to skin.

Eye irritation : Species: Rabbit
Result: slight irritation

Repeated dose toxicity : Species: Rabbit
Application Route: Inhalation
Note: (786 ppm; 6 hours/day for 50 days; NOEL: 434 ppm)
Based on experimental results, may cause adverse health effects on the following: Liver Kidney

Genotoxicity in vitro : Test Method: Ames test
Result: negative

12. Ecological information**Toxicity**

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Toxicity to fish : flow-through test
LC50: 4.53 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates : static test
EC50: 0.9 - 3.78 mg/l
Species: Daphnia magna (Water flea)

Toxicity to algae : EbC50: 3.4 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)

Other adverse effects

Additional ecological information : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Product : In accordance with local and national regulations.

14. TRANSPORT INFORMATION**ADR**

UN/ID No. : UN 1145
Description of the goods : CYCLOHEXANE
Class : 3
Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

ADG_ROAD

UN/ID No. : UN 1145
Description of the goods : CYCLOHEXANE
Class : 3

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Packing group : II
Hazard Identification Number : 33
Labels : 3

IATA

UN/ID No. : UN 1145
Description of the goods : Cyclohexane
Class : 3
Packing group : II
Labels : 3
Packing instruction (cargo aircraft) : 364
Packing instruction (passenger aircraft) : 353
Packing instruction (passenger aircraft) : Y341

IMDG

UN/ID No. : UN 1145
Description of the goods : CYCLOHEXANE
Class : 3
Packing group : II
Labels : 3
EmS Number 1 : F-E
EmS Number 2 : S-D

Marine pollutant : no

HAZCHEM CODE: 3YE

15. REGULATORY INFORMATION**National regulatory information**

Standard for the Uniform : Schedule 5
Scheduling of Medicines and
Poisons

Other international regulations**Notification status**

US. Toxic Substances : On TSCA Inventory
Control Act

Australia. Industrial Chemical : On the inventory, or in compliance with the inventory

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(Notification and
Assessment) Act

Canada. Canadian
Environmental Protection Act
(CEPA). Domestic
Substances List (DSL) : All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Existing Chemicals
Inventory (KECI) : On the inventory, or in compliance with the inventory

Philippines. The Toxic
Substances and Hazardous
and Nuclear Waste Control
Act : On the inventory, or in compliance with the inventory

China. Inventory of Existing
Chemical Substances : On the inventory, or in compliance with the inventory

New Zealand. Inventory of
Chemicals (NZIoC), as
published by ERMA New
Zealand : On the inventory, or in compliance with the inventory

16. OTHER INFORMATION**Sources of key data used to compile the Safety Data Sheet:**

1. National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)]
2. Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(1999)]
3. List of Designated Hazardous Substances [NOHSC:10005(1999)]
4. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]
5. Australian Dangerous Goods Code, No. 6 [National Road Transport Commission]
6. Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP), No. 19 [NDPSC: 2004]
7. National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)]

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific

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material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Prepared by:
Honeywell Performance Materials and Technologies Product Stewardship Group

End of Safety Data Sheet