

MSDS 2088 Date of Issue/re-issue: **19.2.2018**

User declaration:- I have read and understood this Safety Data Sheet

Name:- _____ Signature _____ Date _____

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name



Address: 39 Woodside Ave, Northcote, Auckland , New Zealand

Emergency Tel: NZ 0800154666 | Tel +64 9 480 4386 | FAX +64 9 480 4385

Product	Cyclohexanone			Code	2088
CAS#	HSNO#	UN #	DG Class/es	Packing group #	
108-94-1	HSR001112	1915	3	III	

Recommended use: Laboratory Investigations

2. Hazards Identification

2.1 GHS Classification

Flammable Liquids (Category C)

Acute toxicity, Oral (Category D)

Serious eye damage (Category A)

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word **Danger**

Hazard statement(s)

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H318 Causes serious eye damage.

Precautionary statement(s)

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 skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/ physician.

P330 Rinse mouth.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards - none

Hazard Classification

Australia:

Classified as Hazardous, according to criteria of National Occupational Health & Safety Commission, Australia (NOHSC).

Classified as Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

New Zealand:

Classified as Hazardous according to the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001, New Zealand.

Classified as Dangerous Goods for transport, according to the NZS 5433:1999 Transport of Dangerous Goods on Land.

HSNO Classification:

3.1C - Flammable Liquid: Medium Hazard

6.1C - Substance that is acutely toxic

6.4A - Substance that is irritating to the eye

9.2B - Substance that is ecotoxic in the soil environment

9.3C - Substance that is harmful to terrestrial vertebrates

3.1C - 6.1C 6.4A - 9.2B - 9.3C -

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Cyclohexanone	108-94-1	100 %

4. FIRST AID MEASURES

Inhalation If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. If symptoms develop seek medical attention.

Ingestion DO NOT INDUCE VOMITING. Wash out mouth with water. If symptoms develop seek medical attention.

Skin	Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop seek medical attention.
Eye	If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If symptoms persist seek medical attention.
First Aid Facilities	Eye wash fountains and normal wash room facilities.
Advice to Doctor	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Use foam or dry agent.
Hazards from Combustion Products	Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide and carbon dioxide.
Special Protective Equipment for fire fighters	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.
Specific Methods	Water is not generally suitable for fighting fires involving this material. Water spray can be used to absorb heat, keep containers cool and protect exposed materials.
Specific Hazards	This product is flammable. Vapours are heavier than air and will 'travel' to low-level areas e.g. sumps, drains, etc. and flashback. Precautions should be taken to eliminate the build up of explosive mixtures. Take steps to prevent electrostatic discharge.
Hazchem Code	3[Y]

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures	Wear appropriate personal protective equipment and clothing to minimise exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unnecessary personnel. Avoid inhalation. If possible contain the spill. Place inert absorbent material onto spillage. Use clean non-sparking tools to collect the material and place into a suitable labelled container. Do not dilute material but contain. Dispose of waste according to federal, Environmental Protection Authority and state regulations. If the spillage enters the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.
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7. HANDLING AND STORAGE

Precautions for Safe Handling	Open containers cautiously as contents may be under pressure. Use only in a well ventilated area. DO NOT store or use in confined spaces. Do not enter these areas without respiratory protection or until the atmosphere has been checked. Keep tank covered and containers sealed when not in use. Build up of mists or vapours in the atmosphere must be prevented.
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Avoid inhalation of vapour and mists. Do not use near welding or other ignition sources and avoid sparks. Do NOT pressurise, cut, heat or weld containers as they may contain hazardous residues. Do not smoke. When dealing with large quantities, repeated or prolonged exposure without protection should be prevented in order to lessen the possibility of disorders. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie. Washing hands prior to eating, drinking, smoking or using toilet facilities.

Conditions for Safe Storage Store in a cool, dry, well-ventilated area away from sources of ignition, oxidising agents, foodstuffs, and clothing and out of direct sunlight. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Always keep in containers made of the same material as the supply container. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Do not stack more than 3 pallets high. For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids. Reference should also be made to all State and Federal regulations.

Corrosiveness Steel drums. Corrosive to plastics, rubber and coatings.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	Name	STEL (mgm3)	STEL (ppm)	TWA (mgm3)	TWA (ppm)	FootNote
	Cyclohexanone			100	25	

Biological Limit Values No biological limit allocated.

Other Exposure Information As published by the National Occupational Health and Safety Commission (NOHSC):
As published by the New Zealand Occupational Safety and Health Service (OSH):
TWA - the Time-Weighted Average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.
STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.
According to current knowledge these concentrations should neither impair the health of, nor cause undue discomfort to, nearly all workers.

Engineering Controls Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required. Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS/NZS 2430.3.1:1997 : Classification of hazardous areas - Examples of area classification – General, for further information concerning ventilation requirements.

Respiratory Protection If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. 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.

Eye Protection	Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.
Hand Protection	Wear gloves of impervious material such as rubber gloves. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.
Body Protection	Wear appropriate clothing including chemical resistant apron where clothing is likely to be contaminated. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless liquid.
Odour	Mint like with acetone odour.
Melting Point	- 45°C
Boiling Point	156°C
Solubility in Water	23 g/l @ 20°C
Solubility in Organic Solvents	Miscible with ethanol and ethyl ether.
Specific Gravity	Not available.
pH Value	Not applicable
Vapour Pressure	533.2
Vapour Density (Air=1)	3.4
Viscosity	Poise @ 25°C
Density	Relative density: 0.9478
Flash Point	44°C (Closed cup), 54°C (Open cup)
Flammability	FLAMMABLE. This product should be stored and used in a well ventilated area away from naked flames, heat, sparks and other sources of ignition. Electrically link and ground metal containers for transfers of the product to prevent accumulation of static electricity. Keep the container tightly closed.

Auto-Ignition Temperature	430°C
Flammable Limits - Lower	1.3%
Flammable Limits - Upper	9.4%
Molecular Weight	98.16

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Heat, direct sunlight, open flames or other sources of ignition.
Incompatible Materials	Not available.
Hazardous Decomposition Products	Thermal decomposition and combustion produce noxious fumes containing oxides of carbon.
Hazardous Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	Acute toxicity: LC50 Inhalation (rat) 4hr: 8,000 ppm TCLo Inhalation (Human): 75 ppm LD50 Ingestion (rat): 1535 mg/kg LDLo Ingestion (rabbit): 1,600 mg/kg
Inhalation	Harmful by inhalation. Inhalation of product vapours will cause irritation of the nose, throat and respiratory system.
Ingestion	Ingestion of this product may irritate the gastric tract causing nausea and vomiting.
Skin	May cause redness, itching and irritation.
Eye	May cause eye irritation, tearing, stinging, blurred vision, and redness.
Chronic Effects	Repeated or prolonged contact will result in dermatitis.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Not available.
Persistence / Degradability	BODs: 1.232, COD: 2.605, BODs/CODs: 0.47. This product is biodegradable. Because of low BCF (1.34 - Log BCF = 0.13 it will not be expected to bioconcentrate).
Mobility	Due to the experimental value of Henry's constant: 1.21 Pa.m ³ /mol volatilisation from aqueous systems is considered middle. In soil, due to the calculated value of K _{oc} : 2(G), it may be classified as very highly mobile in soil with negligible tendency to sediment.
Information on Ecological Effects	LC50, (Fish) pimephales promelas (96hr): 527 mg/l (Algae) Microcystis aeruginosa: 52 mg/l Scenedesmus quadricauda: 370 mg/l
Environment Protection	Do not allow product to enter drains, waterways or sewers.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	Dispose of waste according to federal, EPA and state regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near containers. Empty containers may contain hazardous residues. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers. Advise flammable nature.
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14. TRANSPORT INFORMATION

Transport Information Australia:

This material is classified as a Class 3 (Flammable Liquid) Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Dangerous goods of Class 3 (Flammable Liquid) are incompatible in a placard load with any of the following:

- Class 1, Explosive
- Class 2.1, Flammable Gas, if both the Class 3 and Class 2.1 dangerous goods are in bulk
- Class 2.3, Toxic Gas
- Class 4.2, Spontaneously Combustible Substance
- Class 5.1, Oxidising Agent
- Class 5.2, Organic Peroxide
- Class 6.1, Toxic and Class 6.2 Infectious Substances, if the Class 3 dangerous goods are nitromethane
- Class 7, Radioactive Substance

New Zealand:

This material is classified as a Class 3 - Flammable Liquid according to NZS 5433:1999 Transport of Dangerous Goods on Land.

Must not be loaded in the same freight container or on the same vehicle with:

- Class 1, Explosives
- Class 2.1, Flammable gases
- Class 2.3, Toxic gases
- Class 4.2, Spontaneously combustible substances
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides or

- Class 7, Radioactive materials unless specifically exempted.
Must not be loaded with in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:
- Class 4.3, Dangerous when wet substances
Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:
- Class 4.2, Spontaneously combustible substances
- Class 4.3, Dangerous when wet substances
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides

U.N. Number 1915

Proper Shipping Name CYCLOHEXANONE

DG Class 3

Hazchem Code 3[Y]

Packaging Method 3.8.3RT1

Packing Group III

EPG Number 3A1

IERG Number 15

15. REGULATORY INFORMATION

Regulatory Information Australia:
Classified as hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC).
Poison Schedule: Not Scheduled

Poisons Schedule Not Scheduled

National and or International Regulatory Information New Zealand:
Classified as Hazardous according to the Hazardous Substances (Classification) Regulations 2001.
ERMA Approval Code:
HSR001112

Hazard Category Harmful

16. Disclaimer

The information above is believed to be accurate and represents the best information currently available to us.

However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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