

MSDS 8023 Date of Issue/re-issue: **20.06.2017**

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	Chlorobenzene			Code	8023
CAS#	HSNO#	UN #	DG Class/es	Packing group #	
108-90-7	HSR001108	1134	3	III	

Recommended use: Laboratory Investigations

2. Hazards Identification

2.1 GHS Classification

- Flammable Liquids (Category C)
- Acute toxicity, Oral (Category D)
- Acute toxicity, Inhalation (Category D)
- Aquatic toxicity (Acute or Chronic) (Category B)

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word **Warning**

Hazard statement(s)

- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H332 Harmful if inhaled.
- H411 Toxic to aquatic life with long lasting effects.

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.
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.

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.

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.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

P330 Rinse mouth. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P391 Collect spillage.

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 (NOHSC), Australia.

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 New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

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

HSNO Classification:

3.1C - Flammable Liquid: Medium Hazard.

6.1D - Substance that is moderately toxic.

6.3B - Substance that is mildly irritating to the skin.

6.4A - Substance that is irritating to the eye.

6.9A - Substance that is toxic to human target organs or systems.

9.1A - Substance that is very ecotoxic in the aquatic environment.

9.3C - Substance that is harmful to terrestrial vertebrates.

Hazard statement code:

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H316 Causes mild skin irritation.

H319 Causes serious eye irritation.

H370 Causes damage to organs.

H410 Very toxic to aquatic life with long lasting effects.

H433 Harmful to terrestrial vertebrates.

Precautionary statement codes- prevention:

P102 Keep out of reach of children.

P104 Read Safety Data Sheet before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash hands thoroughly after handling.
 P260 Do not breathe spray.
 P270 Do not eat, drink or smoke when using this product.
 P273 Avoid release to the environment. – This statement does not apply where this is the intended use.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement codes- Response:
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P303+P361+P353 IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P307+P311 IF exposed: Call a POISON CENTER or doctor/physician.
 P330 Rinse mouth.
 P331 Do NOT induce vomiting.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P391 Collect spillage.

Precautionary statement codes - Storage:
 P403+P235 Store in a well-ventilated place. Keep cool.
 P405 Store locked up.

Precautionary statement codes - Disposal:
 P501 In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Chlorobenzene	108-90-7	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	If swallowed, 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 and normal washroom facilities.
Advice to Doctor	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Use dry agent, foam or water mist.

Media

Hazards from Combustion Products	Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide, carbon dioxide, hydrogen chloride and phosgene.
Specific Hazards	This product is flammable. Keep storage tanks, pipelines, fire-exposed surfaces etc cool with water spray. Shut off any leak if safe to do so and remove sources of re-ignition. Vapour/air mixtures may ignite explosively. Flashback along the vapour trail may occur. Runoff to sewer may create fire or explosion hazard.
Hazchem Code	2Y
Precautions in connection with Fire	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.

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. 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. 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 i.e. 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. 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	Australian National Occupational Health And Safety Commission (NOHSC) Exposure Standards: Substance TWA STEL ppm mg/m ³ ppm mg/m ³ Chlorobenzene 10 46 - -
	New Zealand Occupational Safety and Health Service (OSH) Workplace Exposure Standards:

Substance TWA STEL
ppm mg/m³ ppm mg/m³
Chlorobenzene 10 46 - -

Biological Limit Values	No Biological limit available.
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 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. 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. 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	Suitable work wear should be worn to protect personal clothing, eg cotton overalls buttoned at neck and wrist. When large quantities are handled the use of plastic aprons and rubber boots is recommended. Industrial clothing should conform to the specifications detailed in AS/NZS 2919: Industrial clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colourless, volatile liquid.
Odour	Almond-like odour.
Melting Point	-45.6°C
Boiling Point	132°C
Solubility in Water	Insoluble.
Solubility in Organic Solvents	Very soluble in carbon disulfide and benzene. Soluble in alcohol, ether, chloroform, carbon tetrachloride.
Specific Gravity	1.106
pH Value	Not available.
Vapour Pressure	8.8 mmHg (20°C)
Vapour Density (Air=1)	3.88
Evaporation Rate	1.0
Odour Threshold	0.4 mg/m ³ (perception); 1-7 mg/m ³ (recognition) WARNING PROPERTY (ODOUR/IRRIT.) GOOD - chlorobenzene is perceptible below TLV-TWA levels; an eye irritant.
Flash Point	29°C
Auto-Ignition Temperature	638°C

Flammable Limits - Lower	1.3%
Flammable Limits - Upper	7.1%

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	Strong oxidising materials (e.g. silver perchlorate) - increase risk of fire and explosion; Dimethyl sulfoxide - decomposes violently on contact with chlorobenzene.
Hazardous Decomposition Products	Thermal decomposition may result in the release of toxic and/or irritating fumes.
Hazardous Reactions	Liquid chlorobenzene will attack some forms of plastics, rubber, and coatings.
Hazardous Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	LD50 (oral, rat): 1,110 mg/kg
Inhalation	Harmful by inalation. Inhalation of product vapours will cause irritation of the nose, throat and respiratory system.
Ingestion	Harmful if swallowed. Ingestion of this product will irritate the gastric tract causing nausea and vomiting.
Skin	May cause irritation in contact with skin. Symptoms may include redness and itchiness. Repeated or prolonged skin contact may lead to dermatitis.
Eye	May cause irritation to eyes. Symptoms may include redness, tearing, stinging and blurred vision.
Chronic Effects	Prolonged or repeated skin contact may cause defatting leading to dermatitis. Prolonged inhalation may cause central nervous system depression with symptoms including dizziness, drowsiness, nausea and headaches. This product may cause digestive disorders; lung-, liver-, and kidney damage; numbness of extremities; spastic contractions of finger muscles; and possibly reduced sense of touch. Chlorobenzene may cause a breakdown of red blood cells.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Persistence / Degradability	Not available.
Mobility	Not available.
Environment Protection	Prevent this material entering waterways, drains and 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
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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.

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	1134
Proper Shipping Name	CHLOROBENZENE
DG Class	3
Hazchem Code	2Y
Packaging Method	3.8.3RT1
Packing Group	III
EPG Number	3A1
IERG Number	17

15. REGULATORY INFORMATION

Regulatory Information	Australia: Classified as hazardous according to criteria of National Occupational Health & Safety
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	Commission (NOHSC). Poison Schedule: Not Scheduled
Poisons Schedule	Not Scheduled
National and or International Regulatory Information	New Zealand: Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
Hazard Category	Harmful,Dangerous for the environment

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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