# Safety Data Sheet

# Methylene Chloride (DCM)

## Section 1: Identification of the material and supplier

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| **Product name:** | **Methylene Chloride (DCM)** |
| **Other names:** | DCM, Methylene chloride, Methylene dichloride, DICHLOROMETHANE |
| **Product Codes/Trade Names:** | MC10, MC20 |
| **Recommended use:** | Laboratory reagent, General purpose solvent |
| **Applicable in:** | Australia |
| **Supplier:** | Labtech Service & Supplies |
| **Address:** | PO Box 453, Windsor NSW 2756 |
| **Telephone:** | 02 8064 2333 |
| **Email address:** | info@labtech.net.au |
| **Web site:** | www.labtech.com.au |
| **Facsimile:** | 02 8064 7813 |
| **Emergency phone number:** | 000 Fire Brigade and Police (available in Australia only)<br>1800 774 557 Transpacific Emergency Response (available in Australia only) |
| **Poisons Information Centre:** | 13 11 26 (available in Australia only) |

This Safety Data Sheet (SDS) is issued by the Supplier in accordance with National Standards and Guidelines from Safe Work Australia (SWA – formerly ASCC/NOHSC). The information in it must not be altered, deleted or added to. The Supplier will not accept any responsibility for any changes made to its SDS by any other person or organization. The Supplier will issue a new SDS when there is a change in product specifications and/or Standards, Codes, Guidelines, or Regulations.

## Section 2: Hazard identification

**Statement of hazardous nature**: Classified as **Hazardous** according to the Approved Criteria For Classifying Hazardous Substances [NOHSC:1008] 3rd Edition.

**Methylene Chloride** is classified as **Dangerous Goods** according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

| Risk Phrases | Safety Phrases |
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| R36/37 - Irritant to eyes and respiratory system.<br>R40 - Limited evidence of a carcinogenic effect<br>R66 - Repeated exposure may cause skin dryness and cracking.<br>R67-Vapours may cause drowsiness and dizziness. | S2 - Keep out of reach of children.<br>S23 - Do not breathe vapour.<br>S24/25 Avoid contact with skin and eyes<br>S36/37 Wear suitable protective clothing and gloves |

## Section 3: Composition / Information on ingredients

| Chemical Name: | Proportion: | CAS Number: |
|---|---|---|
| Dichloromethane | >95.5% | 75-09-2 |
| Methyl Alcohol | 0 – 0.4% | 67-56-1 |
| 2-Methyl-2-butene | 0 - 0.01% | 513-35-9 |
| Cyclohexene | 0 - 0.01% | 110-83-8 |

## Section 4: First aid measures

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| **Swallowed:** | If a minor amount has been accidentally swallowed, then, if conscious, give large amounts of water. Do not allow further work until fitness for duties is established.<br>If unconcious, do not attempt to induce vomiting or give anything by mouth. Seek medical attention. If there are signs of drunkenness (intoxication or inebriation) then serious health effects may following (depending on the amount swallowed or inhaled).<br>Treat unconsciousness by placing the person in the coma position. Apply artificial respiration if breathing stops. Immediate medical attention should be sought and the affected person transferred and accompanied to the care of a doctor or hospital. |
| **Eyes:** | Flush eye with running water for a minimum of 15 minutes. Seek medical attention promptly if irritation persists or any loss of vision occurs. |
| **Skin:** | Immediately remove contaminated clothing. Wash skin with water. Launder contaminated clothing before re-use. |
| **Inhaled:** | Remove promptly to fresh air. If there are signs of drunkenness (intoxication or inebriation) or respiratory irritation, dizziness, nausea or headache occurs, seek immediate medical attention.<br>Treat unconsciousness by placing the person in the coma position. Apply artificial respiration if breathing stops. Immediate medical attention should be sought and the affected person transferred and accompanied to the care of a doctor or hospital. |
| **First Aid Facilities:** | Safety showers, eye wash stations and First Aid kits. |
| **Advice to Doctor:** | Treat symptomatically and as for narcotic substance. |

## Section 5: Fire fighting measures

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| **Flammability:** | Non flammable liquid. |
| **Suitable extinguishing media:** | Alcohol-resistant foam is the preferred fire fighting medium but, if it is not available, fine water spray can be used. Water fog, fine water spray, dry chemical or carbon dioxide may also be used. |
| **Hazards from combustion products:** | Burning can produce carbon monoxide and/or carbon dioxide. |
| **Special protective precautions and equipment for fire fighters:** | Non flammable liquid. Contain spill. Full fire kit and breathing apparatus is required .Use water to cool exposed containers. Heating can cause expansion or decomposition leading to violent rupture of containers. If safe to do so, remove containers from path of fire. Spills and leaks may be washed away with copious volumes of water, fog or spray. Prevent run-off from entering drains and watercourses. |
| **HAZCHEM Code:** | ●2Z |

## Section 6: Accidental release measures

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| **Emergency Procedure:** | Use water spray to disperse vapour.<br>Clear area of all personnel not directly involved in the clean up.<br>All personnel involved in the containment and disposal procedures to wear protective equipment as described in Section 8 to prevent skin and eye contamination and inhalation of vapours.<br>Ventilate area well and ensure the atmosphere is safe before personnel return to the work area. |
| **Containment Procedure:** | Stop and contain the spill for salvage or absorb in inert absorbent material (e.g. Soil, sand, vermiculite) for disposal by an approved method. Prevent run-off into drains and waterways.<br>If contamination of sewers or waterways has occurred, advise the local emergency services. |
| **Clean Up Procedure:** | Wash the cleaned-up area with copious volumes of water to remove any trace amounts of product.<br>Non-returnable containers should be de-gassed prior to disposal. Dispose of all waste containers and used drums in accordance with local authority guidelines. |

## Section 7: Handling and storage

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| **Handling:** | Use in well ventilated areas away from all ignition sources. Intrinsically safe equipment only must be used in areas where this chemical is being used. |
| **Storage:** | Store in tightly closed containers in cool, dry, isolated and well-ventilated areas away from heat, sources of ignition and incompatibles (see below). Store away from oxidizing agents. Keep containers closed at all times - check regularly for leaks.<br>Do not eat, drink or smoke in areas of use or storage. Observe State Regulations concerning the storage and handling of Dangerous Goods. Store with all precautions required for handling flammable liquids.<br>The requirement of Australian Standard AS 1940 should be observed in addition to AS 1020, AS 1076, AS 2380 and AS 3000.<br>Empty containers retain residue (liquid and/or vapour) and are dangerous. Do not pressure cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. |
| **Incompatibilities:** | Not to be stored with explosives (Class 1), flammable gases in bulk (Class 2.1), poisonous gases (Class 2.3), spontaneously combustible substances (Class 4.2), oxidizing agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7).<br>Exemptions may apply. |

## Section 8: Exposure controls / Personal protection

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| **Exposure Standards:** | National Occupational Exposure Standard (NES), Safe Work Australia (formerly ASCC/NOHSC). |
| | Methylene Chloride:<br>TWA - 50 ppm (150 mg/m3)<br>STEL - 2000 ppm (445 MG/M3) |
| **Notes:** | All occupational exposures to atmospheric contaminants should be kept to as low a level as is workable (practicable) and in all cases to below the National Standard.<br>These exposure standards are guides to be used in the control of occupational health hazards. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.<br>TWA (Time Weighted Average): the time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.<br>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 work day. |
| **Biological Limit Values:** | No biological limit allocated. |
| **ENGINEERING CONTROLS** | |
| ☐ **Ventilation:** | Local exhaust ventilation and/or mechanical (general) exhaust is recommended where vapours are likely to be generated. All such equipment must be intrinsically safe. |
| ☐ **Special Consideration for Repair &/or Maintenance of Contaminated Equipment:** | Empty containers retain residue (liquid and/or vapour) and are dangerous. Do not pressure cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition.<br>Vapour is heavier than air - prevent concentration in hollows or sumps. Do not enter confined spaces where vapour may have collected. Keep containers closed when not in use. |
| **PERSONAL PROTECTION** | |
| ☐ **Personal Hygiene** | Protective clothing (gloves, coveralls, boots, etc.) should be worn to prevent skin contact. Always wash hands before smoking, eating, drinking or using the toilet.<br>Wash contaminated clothing and other protective equipment before storing or re-using. |
| ☐ **Skin Protection:** | Avoid skin contact by the use of approved chemical resistant gloves and aprons - Nitrile (AS 2161). |
| ☐ **Eye Protection:** | Avoid eye contact by wearing chemical goggles with side-shields or face-shield (AS/NZS 1336) whenever exposed to vapour or mist or if there is a risk of splashing liquid in the eyes.<br>Safety showers with eye-wash should be provided in all areas where product is handled. |
| ☐ **Respiratory Protection:** | None should be needed if engineering, storage and handling controls are adequate to ensure that atmospheric contamination is kept below the |

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| | National Standard.<br>Where vapour concentrations are likely to approach or exceed the National Standard, an approved organic vapour respirator (AS/NZS 1715 and 1716) must be worn.<br>In high vapour concentrations, or in suspected oxygen-deficient atmospheres such as empty vessels or confined spaces, use air-supplied hood. |
| ☐ **Thermal Protection:** | None should be needed under normal circumstances. |
| ☐ **Smoking & Other Dusts** | Smoking must be prohibited in all areas where this product is used. See safety information on flammability above. |

## Section 9: Physical and chemical properties

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| **Appearance:** | Clear, colourless liquid |
| **Odour:** | Penetrating, Sweet but sharp smell. |
| **pH, at stated concentration:** | ($H_2O$, 20 °C) neutral |
| **Vapour Pressure:** | 475 hPa (20 °C) |
| **Vapour Density:** | Not available |
| **Boiling Point/range (°C):** | 40 °C (1013 hPa) |
| **Freezing/Melting Point (°C):** | -95 °C |
| **Solubility:** | 20 g/l (20 °C |
| **Specific Gravity ($H_2O$ = 1):** | 1.33 g/cm$^3$ (20 °C) |
| **FLAMMABLE MATERIALS** | |
| ☐ **Flash Point:** | -7°C |
| ☐ **Flash Point Method:** | Closed cup |
| ☐ **Flammable (Explosive) Limit - Upper:** | 22% |
| ☐ **Flammable (Explosive) Limit - Lower:** | 13% |
| ☐ **Autoignition Temperature:** | 605 °C DIN 51794 |
| **ADDITIONAL PROPERTIES** | |
| ☐ **Evaporation Rate:** | 1.9 |
| ☐ **Molecular Weight:** | 84.93 g/mol |
| ☐ **Volatile Organic Compounds Content (VOC):** (as specified by the Green Building Council of Australia) | 100% |
| ☐ **% Volatiles:** | 100% |

## Section 10: Stability and reactivity

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| **Chemical Stability:** | Stable |
| **Incompatible Materials:** | Will react with strong oxidizing agents |
| **Conditions to avoid:** | Heat, sparks, flame |
| **Hazardous Decomposition Products:** | Burning can produce carbon dioxide and water; incomplete combustion can produce carbon monoxide. |
| **Hazardous Reactions:** | Hazardous polymerisation will not occur. |

## Section 11: Toxicological information

**Toxicological Data:**

Oral rat LD 810: 76000 mg/kg

Inhalation rat LC50: 50, 100 mg/m3/8hr

Health effects information is based on reported effects in use from overseas and Australian reports.

**Effects: Acute**

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| **Swallowed:** | Accidental swallowing is unlikely in the industrial setting. Swallowing can cause drunkenness or harmful central nervous system effects. Effects of a small intake may include excitation, euphoria, headache, dizziness, drowsiness, blurred vision, and fat<br>Drinking a large amount may lead to acute intoxication, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death. Aspiration into lungs may cause pneumonitis. |
| **Eyes:** | Vapours may irritate the eyes. Liquid and mists may severely irritate or damage the eyes. |
| **Skin:** | Contact with skin may result in irritation and redness. Prolonged or repeated contact and heavy skin contamination may cause skin drying and cracking and/or dermatitis with redness, itching, and swelling.<br>This may lead to possible secondary infection. |
| **Inhaled:** | Vapour is moderately irritating to mucous membranes and respiratory tract. Inhalation of the vapour may result in drunkenness, (see effects of swallowing above) or headache, nausea, in-coordination, narcosis (sleepiness) and vomiting.<br>Early signs or symptoms may occur at airborne levels of 1000 to 5000 ppm. |

**Effects: Chronic**

Ongong or repeated exposures at high concentrations may cause central nervous system symptoms similar to "Acute: Swallowed" above. Deliberate inhalation of the vapour is a known occupational risk.

Higher concentrations can cause drowsiness, headaches and vomiting. May also produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and, if exposure is prolonged, unconsciousness.

**Additional Notes**

Methylene chloride Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

## Section 12: Ecological information

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| **Eco-toxicity:** | Toxicity to fish (acute): Blugil sunfish: LC50 8300 ppm\96h<br>Toxicity to daphnia magna: LC50 10 ppm\48 hours |
| **Persistence and Degradability:** | Evaluation: Product is volatile and biodegradable |
| **Mobility:** | Because of its volatility, this product is not regarded as creating longer term ecological risks. |

## Section 13: Disposal considerations

Suitable for incineration by approved agent under controlled conditions if permitted by local authorities, otherwise disposal must be in accordance with local waste authority requirements.

Product must be contained and not disposed to sewerage systems, drains or waterways. Empty containers must be decontaminated by rinsing with water.

## Section 14: Transport information

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| **Proper Shipping Name:** | Dichloromethane |
| **UN number:** | 1593 |
| **DG Class:** | 6.1 |
| **Subsidiary Risk 1:** | None Allocated |
| **Packaging Group:** | III |
| **HAZCHEM code:** | ●2Z |
| **Marine Pollutant:** | No |
| **Special Precautions for User:** | Refer to incompatibilities in Section 7 and stability and reactivity information in Section 10. |
| **ADDITIONAL TRANSPORT REQUIREMENTS:** | |
| Nil | |

## Section 15: Regulatory information

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| **Poisons Schedule:** | Not available |
| **Other:** | Nil |

## Section 16: Other information

**Additional Information**

**Australian Standards References:**

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| AS 1020 | The Control of Undesirable Static Electricity. |
| AS 1076 | Code of Practice for selection, installation and maintenance of electrical apparatus and associated equipment for use in explosive atmospheres (other than mining applications) – Parts 1 to 13 |
| AS/NZS 1336 | Recommended Practices for Occupational Eye Protection |
| AS/NZS 1715 | Selection, Use and Maintenance of Respiratory Protective Devices |
| AS/NZS 1716 | Respiratory Protective Devices |
| AS 1940 | The Storage and Handling of Flammable and Combustible Liquids |
| AS 2161 | Industrial Safety Gloves and Mittens (excluding electrical and medical gloves) |
| AS 2380 | Electrical equipment for explosive atmospheres – Explosion Protection Techniques (Parts 1 to 9) |
| AS 3000 | Electrical installations (known as the Australian/New Zealand Wiring Rules). |

**Other References:**

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| NOHSC:2011 (2003) | National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition, April 2003, National Occupational Health and Safety Commission. |
| NOHSC; 2012 (1994) | National Code of Practice for the Labelling of Workplace Substances, March 1994, Australian Government Publishing Service, Canberra. |
| NES | National Occupational Exposure Standards for Workplace Atmospheric Contaminants (NES), Safe Work Australia (formerly ASCC/NOHSC) 1995 as amended. |
| ADG Code | Australian Dangerous Goods Code 7th Edition. |

## Authorisation

Authorised by: Quality & Technical Manager

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**END OF SDS**