

# Methylene Chloride

## SAFETY DATA SHEET (SDS)

### Section 1 - Identification of the Preparation and the Company

Product Name: **Methylene Chloride**

Other Names: Dichloromethane; Methane, dichloro-

**This product is classified as hazardous according to the criteria of Safe Work Australia.**

Classified as a Dangerous Good according to the Australian Dangerous Goods Code (ADG).

Uses: Industrial solvent and chemical intermediate

**Manufacturer: Summit Composites Pty Ltd**

Address

Country

Telephone

Facsimile

Website

Poisons Information Centre

**Western Australia**

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Bibra Lake WA 6163

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<http://summitcomposites.com.au/>

Australia 131 126; New Zealand 0800 764 766

**Victoria**

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### Section 2 – Hazards Identification

**DANGER**



Health Hazard Chronic



Harmful Acute

#### Hazard Statements

Carcinogenicity - Category 2

Acute Toxicity (Oral) - Category 4

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Irritation - Category 2A

Specific Target Organ Toxicity (Single Exposure) - Category 1

Specific Target Organ Toxicity (Single Exposure) - Category 3

Specific Target Organ Toxicity (Repeated Exposure) - Category 1

Acute Hazard To The Aquatic Environment - Category 3

H305 May be harmful if swallowed and enters airways

H331 Toxic if inhaled.

H302 Harmful if swallowed

H315. Causes skin irritation

H319: Causes serious eye irritation

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer

H361d Suspected of damaging the unborn child

H372 Causes damage to the liver through repeated exposure

#### Precautionary Statements.

##### Prevention

P102 Keep out of reach of children

P202 Do not handle until all safety precautions have been read and understood..

P264 Wash hands thoroughly after handling

P281 Use personal protective equipment as required

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

P271 Use only outdoors or in a well-ventilated area.

P260 Do not breathe dust/fume/gas/mist/vapours/spray

P273 Avoid release to the environment

P280 Wear protective gloves/eye protection/face protection.

##### Response

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 person to fresh air and keep comfortable for breathing

P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 If eye irritation persists: Get medical advice/attention.

##### Storage

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

**Disposal**

P501 Dispose of contents/container to approved landfill

## Section 3 - Composition/Information on Ingredients

Ingredient(s)	CAS-number	%wt
Methylene chloride	75-09-2	>99.5%

## Section 4 – First Aid Measures

**Ingestion:**

NEVER GIVE AN UNCONSCIOUS PERSON ANYTHING TO DRINK NOR ATTEMPT TO INDUCE VOMITING. If the person is conscious, rinse mouth out with water ensuring that mouthwash is not swallowed. Give about 250mL (2 glasses) of water to drink. DO NOT attempt to induce vomiting. Seek URGENT medical attention. For advice, contact a Poisons Information Centre (phone e.g. Australia 131 126; New Zealand 0800 764 766).

**Inhalation:**

Avoid becoming a casualty. DO NOT enter a hazardous area without adequate breathing protection. Remove to fresh air. Keep warm and at rest. If breathing is laboured, hold in a half upright position (this assists respiration). Apply artificial respiration if breathing has stopped. Seek URGENT medical attention for all but the most minor cases of over-exposure.

**Eye Contact:**

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. In all cases of eye contamination it is a sensible precaution to seek medical attention.

**Skin Contact:**

Remove contaminated clothing and wash thoroughly with soap and water. Use water alone, if soap is unavailable. Apply a moisturising hand cream, if available. Seek medical attention if any soreness or inflammation of the skin persists or develops later. Launder affected clothing before re-use

**Additional Information:**

*First Aid Facilities: Normal washroom facilities are adequate for small volumes of this product. If large volumes are in use an eye wash station should be available. Also consider providing a safety shower if large volumes are being handled.*

**Advice to Doctor:** Treat symptomatically. Because of the risk of aspiration, gastric lavage should only be undertaken after endotracheal intubation.

**Entry Route(s):** Inhalation, ingestion and skin and eye contact.

## Section 5 – Fire Fighting Measures

Non-flammable, but certain mixtures in air ignite by heat, sparks, flames, welding, cutting operations or high temperature.

In case of fire, evacuate personnel to safe areas. Avoid breathing vapours or fumes. Responders must be made aware of the nature of the hazard and must wear self-contained breathing apparatus and full protective clothing (including helmet, coat trousers, boots and gloves). If heated, corrosive and toxic vapours/gases may be formed. If safe to do so, move undamaged containers from fire area but DO NOT approach containers suspected of being hot. Undamaged and sealed containers may be kept cool by spraying with water.

Extinguish using carbon dioxide; dry chemical; protein-based foam; or alcohol-resistant foam. Solid water jets are not effective for fire fighting and may spread flames. Prevent, by any means possible, runoff from entering drains or water courses.

## Section 6 – Accidental Release Measures

Avoid contact. Evacuate non-emergency personnel from area. Keep upwind of spill. Ventilate area. Use appropriate personal protective equipment (refer to Section 8 - Exposure Controls / Personal Protection). Contain liquid to prevent contamination of soil, surface water or ground water. Prevent from entering, sewers or drains. Cover with an absorbent such as earth, sand or a commercial oil absorber. Collect material in containers and remove to a well-ventilated area. Clean up floor areas. Wash area well with water. Test atmosphere for vapours to ensure safe working

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conditions before other personnel are allowed in the area.  
Dispose by controlled incineration or to approved land-fill.

## Section 7 – Handling and Storage

### Storage:

Store in a designated no smoking area, away from all sources of ignition, out of direct sunlight in a cool well-ventilated area below 25° Celsius. Higher temperatures may cause pressure build up inside containers. Protect containers against physical damage. Class 6.1 Poisonous (toxic) Substances should not be stored with goods of:

Class 1 Explosives  
Class 3 Flammable Liquids (where the flammable liquid is nitromethane)  
Class 5.1 Oxidising Agents (where the poisonous substances are fire risk substances)  
Class 5.2 Organic Peroxides (where the poisonous substances are fire risk substances)  
Class 8 Corrosive Substances (where the poisonous substances are cyanides and the corrosives are acids)  
Foodstuff and foodstuff empties

### Handling:

Avoid skin and eye contact and breathing in vapour, mists and aerosols. Use in well ventilated areas. Wash thoroughly after handling. Handle open containers in well-ventilated area. Ensure that the workplace is ventilated such that the Occupational Exposure limit is not exceeded. Do not empty into drains. Do not eat, drink or smoke in contaminated areas. Before eating, drinking or smoking, remove contaminated clothing and wash hands. Incompatible with amines, alkali metals, nitric acid. May react on prolonged contact with aluminium releasing gas with subsequent pressure build up.

For Personal Protective Equipment (PPE), see Section 8.

## Section 8 – Exposure Controls/Personal Protection

**Exposure standards:** Exposure standards have been allocated for methylene chloride.

Acetone TWA: 50 ppm, 171mg/m<sup>3</sup> Skin  
Carcinogen Category 2

Exposure standards represent airborne concentrations of individual chemical substances, which according to current knowledge, should neither impair the health nor cause undue discomfort to nearly all workers. Exposure standard may be a time-weighted average (TWA), a short-term exposure limit (STEL) or a peak level.

### Engineering Controls:

Ventilation requirements depend on the quantity of product in use and the method of application. Ventilation should be sufficient to maintain vapour levels below the appropriate exposure standard. Use only in well ventilated areas unless forced air ventilation is employed. Local exhaust ventilation may be required. Ventilation systems should be installed and regularly monitored to ensure exposure to vapour/aerosol is minimised. Exhaust systems should be designed in accordance with workplace conditions. The air should always be moved away from the source of vapour generation and the person working at this point. The odour and irritancy of this material are inadequate to warn of excessive exposure.

### Personal Protection:

Requirements are dependent on working conditions, quantity of product in use and method of application. For minor use: safety goggles and nitrile or butyl rubber gloves may be sufficient. If large quantities are in use: chemical resistant safety goggles, gloves or gauntlets and overalls. A half face respirator with organic vapour filter is required unless the area is well ventilated. In confined or poorly ventilated areas: air supplied breathing apparatus. Select and use respirators in accordance with AS/NZS 1715/1716. N.B. If using an air-purifying respirator, TAKE THE LIMITS OF ABSORPTION CAPACITY INTO ACCOUNT. CHANGE FILTERS REGULARLY.

## Section 9 – Physical and Chemical Properties

**Appearance:** Liquid, water like appearance

**Specific gravity:** 1.33

**Boiling Point:** 39°C

**Melting Point:** -94°C

**Solubility in Water:** 20g/L

**Vapour Pressure:** 435mmHg @ 25°C

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**Vapour Density (Air = 1):** Heavier than air. 2.93

**Flash Point:** None

**Explosive Limits (% By Volume in Air):** LEL:12% UEL:19.0%

**Auto-ignition Temperature:** 556°C

**Percentage Volatile:** 100

## Section 10 – Stability and Reactivity

**Stability:** Stable under recommended storage and handling conditions Highly flammable.

**Hazardous Decomposition Products:** Burning can produce toxic and corrosive fumes

**Hazardous polymerisation:** Will not occur.

**Incompatibilities:** Incompatible with amines, alkali metals, nitric acid. May react on prolonged contact with aluminium releasing gas and causing subsequent pressure build up

**Conditions to Avoid:** Excessive heat, ignition sources and incompatible materials.

## Section 11 – Toxicological Information

### Symptoms of Exposure:

**INGESTION:** Severely irritating. Ingestion may cause abdominal spasm, nausea and vomiting as well as symptoms similar to those for inhalation. If vomiting occurs after ingestion, small droplets of the liquid may enter the lungs (aspiration) with the risk of chemical pneumonitis being induced.

**EYE:** Severely irritating to the eyes.

**SKIN:** Irritating and may be absorbed through the skin with resultant toxic effects (similar to those for inhalation).

**INHALATION:** May be an irritant to the mucous membranes of the respiratory tract. Breathing in vapour can result in headaches, dizziness, drowsiness, and possible nausea. Breathing in high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and if exposure is prolonged, unconsciousness. Breathing in high concentrations may result in an irregular heart beat and prove suddenly fatal

### Chronic Health Effects

Inhalation, ingestion and skin contact are the routes of entry into the body. The liquid defats the skin and prolonged or repeated contact may contribute to dermatitis.

### Toxicological Information

Available evidence from animal studies indicate repeated or prolonged exposure could result in effects on liver and kidneys. Controlled human-exposure studies revealed disturbances of psychomotor performance at 800ppm dichloromethane, depression of flicker fusion threshold and vigilance performance due to 300ppm and a performance decrement in combined tracking-monitoring task at 200ppm.

LDLo (oral, human): 357mg/Kg, TCLo (inhaled, human): 500ppm/8H, LD50 (oral, rat): 1600mg/Kg, LC50 (inhaled, rat): 52g/m3

Classified by Worksafe Australia as a Category 3 Carcinogen (sufficient evidence in animals, inadequate data in humans). Classified by the International Agency for Research on Cancer (I.A.R.C.) in Group 2B i.e. possibly carcinogenic to humans (sufficient evidence in animals, inadequate data in humans). Based on increased incidence of hepatocellular neoplasms and alveolar/bronchiolar neoplasms in male and female mice, and increased incidence of benign mammary tumours in both sexes of rats, salivary gland sarcomas in male rats and leukaemia in female rats. This classification is supported by some positive geno toxicity data, although results in mammalian systems are generally negative. .

## Section 12 – Ecological Information

**Ecotoxicity:** Do not allow to contaminate waterways, sewers, soil or vegetation.

If released to air, a vapour pressure of 435 mm Hg at 25 deg C indicates dichloromethane will exist solely as a vapour in the ambient atmosphere. Vapour-phase dichloromethane will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 119 days. It will not be subject to direct photolysis. If released to soil, dichloromethane is expected to have very high mobility based upon an estimated Koc of 24. Volatilization from moist soil surfaces is expected to be an important fate process based upon a estimated Henry's Law constant of 3.25X10<sup>-3</sup> atm-cu m/mole. Dichloromethane may volatilize from dry soil surfaces based upon its vapour pressure. Biodegradation in soil may occur based on activated sludge studies. If released into water, dichloromethane is not expected to adsorb to suspended solids and sediment in water based upon the estimated Koc. Biodegradation is possible in natural waters but will probably be very slow compared with evaporation. Volatilization from water surfaces is expected to be an important fate process based upon this compound's Henry's Law constant. Estimated volatilization half-lives for a

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model river and model lake are 1 hr and 4 days, respectively. Hydrolysis is not an important degradation process under normal environmental conditions.

An estimated BCF of 2 suggests the potential for bio concentration in aquatic organisms is low.

## Section 13 – Disposal Considerations

Do not allow into any sewers, drains, on the ground or into any body of water. Any disposal must be accordance with applicable State, Territory and/or Local government regulations. Dispose by controlled incineration or to approved land-fill. Product and container must be disposed as hazardous waste.

## Section 14 – Transport Information

This product is a Class 6.1 Toxic Liquid according to the Australian Code for the Transportation of Dangerous Goods by Road and Rail (ADG Code).

UN Number: 1593  
Proper shipping name: DICHLOROMETHANE  
DG Class: 6.1  
Hazchem code: 2Z  
Packing group: III  
Emergency Information ERG 37 (AS/NZS HB:76)

## Section 15 – Regulatory Information

Product is a Scheduled 5 (S5) Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

All ingredients are listed on the Australian Inventory of Chemical Substances (AICS).

## Section 16 – Other Information

### REFERENCES

1. List of Designated Hazardous Substances [NOHSC: 10005(1999)]
2. Safe Work Australia Code of Practice: Preparation of Safety Data Sheets for Hazardous Chemicals, 2016
3. Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC: 1003(1995)] and subsequent amendments
4. AS/NZS 1715 - Selection, use and maintenance of respiratory protective devices.
5. AS/NZS 1716 - Respiratory protective devices.
6. Australian Code for the Transportation of Dangerous Goods by Road and Rail (ADG Code), Edition, 7.4.
7. International Maritime Dangerous Goods Code (IMDG), and current amendments
8. Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) No. 15, November 2016

### ABBREVIATIONS

LC50	Lethal dose for 50% of test population, by inhalation.
LDLo	Lowest documented lethal dose
LD50	Lethal dose for 50% of test population, by ingestion or skin contact
TDLo	Lowest published toxic dose

User should verify applicability of this data sheet if more than 5 years old.



## Methylene Chloride

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**Date of Issue:** 31<sup>st</sup> December 2016, Revision 2