
1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name METHYLENE CHLORIDE
Synonyms DICHLOROMETHANE

1.2 Uses and uses advised against

Uses CLEANING AGENT • DEGREASING AGENT • INDUSTRIAL APPLICATIONS • SOLVENT • SPECIALTY CHEMICAL • SURFACE FINISHING

1.3 Details of the supplier of the product

Supplier name DUBOIS CHEMICALS AUSTRALIA PTY LIMITED
Address 305 Frankston Dandenong Rd, Dandenong South, VIC, 3175, AUSTRALIA
Telephone (03) 9768 3860
Email sales@duboischchemicals.com.au
Website <http://duboischchemicals.com.au/>

1.4 Emergency telephone numbers

Emergency 13 11 26 (Poisons Information Centre)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Not classified as a Physical Hazard

Health Hazards

Skin Corrosion/Irritation: Category 2
Serious Eye Damage / Eye Irritation: Category 2A
Specific Target Organ Toxicity (Single Exposure): Category 3 (Narcotic Effects)
Carcinogenicity: Category 2

Environmental Hazards

Not classified as an Environmental Hazard

2.2 GHS Label elements

Signal word WARNING

Pictograms**Hazard statements**

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.

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Prevention statements

P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response statements

P302 + P352	IF ON SKIN: Wash with plenty of water.
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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P321	Specific treatment is advised - see first aid instructions.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage statements

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.
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2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	200-838-9	100%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
Ingestion	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Rinse mouth with water.
First aid facilities	Eye wash facilities and safety shower should be available.

4.2 Most important symptoms and effects, both acute and delayed

Dichloromethane is classified as possibly carcinogenic to humans (IARC Group 2B). Individuals with impaired cardiovascular function, or who are heavy drinkers or smokers should avoid exposure as dichloromethane reduces the blood's oxygen carrying capacity.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Dry agent, carbon dioxide or foam. Prevent contamination of drains and waterways.

5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases (carbon oxides, hydrogen chloride, chlorides, phosgene, hydrocarbons) when heated to decomposition.

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5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

5.4 Hazchem code

2Z

2 Fine Water Spray.

Z Wear full fire kit and breathing apparatus. Contain spill and run-off.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Methylene chloride	SWA [AUS]	50	174	--	--

Biological limits

Ingredient	Determinant	Sampling Time	BEI
DICHLOROMETHANE (METHYLENE CHLORIDE)	Dichloromethane in urine	End of shift	0.3 mg/L

Reference: ACGIH Biological Exposure Indices

8.2 Exposure controls

Engineering controls

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

PRODUCT NAME METHYLENE CHLORIDE**PPE**

Eye / Face	Wear splash-proof goggles.
Hands	Wear PVA or viton® gloves.
Body	Wear coveralls.
Respiratory	Wear a Type A (Organic vapour) respirator. At high vapour levels, wear an Air-line respirator. If spraying, wear a Full-face Type A-Class P1 (Organic gases/vapours and Particulate) respirator or an Air-line respirator. Where the boiling point is < 65°C, use an AX filter type.



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	CLEAR COLOURLESS LIQUID
Odour	CHLOROFORM-LIKE ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	39.75°C (Approximately)
Melting point	-95°C to -97°C
Evaporation rate	27.5 (Butyl acetate = 1)
pH	7 (Approximately)
Vapour density	2.9 (Air = 1)
Relative density	1.326
Solubility (water)	SLIGHTLY SOLUBLE
Vapour pressure	475 hPa @ 20°C
Upper explosion limit	22 %
Lower explosion limit	13 %
Partition coefficient	NOT AVAILABLE
Autoignition temperature	605°C
Decomposition temperature	NOT AVAILABLE
Viscosity	0.430 mPa·s @ 20°C
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

Refractive Index	1.4246
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10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Hazardous polymerisation is not expected to occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), metals, heat and ignition sources. Also incompatible with chemically active metals (in powder form), alkali metals, alkaline earth metals, alcoholates, alkali amides, electrical arcs, nitric acid, nitric oxides, nonmetallic oxides, oxygen, plastics and perchloric acid. Liquid methylene chloride will attack some forms of plastics, rubber, light metals, steel and coatings.

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10.6 Hazardous decomposition products

May evolve toxic gases (carbon oxides, hydrogen chloride, chlorides, phosgene, hydrocarbons) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Acute exposure may result in nausea, vomiting, abdominal pain, diarrhoea, dizziness and drowsiness. Whilst the GHS classification criteria has not been met, Dichloromethane is classified as toxic for transport purposes UN1593, DG6.1.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
DICHLOROMETHANE (METHYLENE CHLORIDE)	> 2000 mg/kg (rat) (OECD Test Guideline 401)	> 2000 mg/kg (rat) (OECD Test Guideline 402)	88 mg/L/30min; vapour (rat) (IUCLID)

Skin Contact may result in drying and defatting of the skin, rash and dermatitis.

Eye Contact may result in irritation, lacrimation, pain and redness.

Sensitisation Not classified as causing skin or respiratory sensitisation.

Mutagenicity Insufficient data available to classify as a mutagen.

Carcinogenicity Suspected of causing cancer. Dichloromethane is classified as probably carcinogenic to humans (IARC Group 2A). Available data derived from animal studies suggests a plausible mechanism for the development of tumours within the liver and lungs.

Reproductive Insufficient data available to classify as a reproductive toxin.

STOT - single exposure Over exposure to dichloromethane may result in central nervous system (CNS) effects, dizziness, drowsiness, breathing difficulties, anaesthesia, cardiac arrhythmias, pulmonary oedema, unconsciousness and possible respiratory failure. Dichloromethane is metabolised to carbon monoxide which reacts with haemoglobin in the blood to prevent oxygen uptake and release.

STOT - repeated exposure Repeated exposure to dichloromethane may result in nerve (including brain), liver and lung damage. Individuals with impaired cardiovascular function, or who are heavy drinkers or smokers should avoid exposure as dichloromethane reduces the blood's oxygen carrying capacity.

Aspiration Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

LC50 (*Pimephales promelas*) is 193 mg/L/96 hours; EC50 (*Daphnia magna*) is 1682 mg/L/48 hours.

12.2 Persistence and degradability

Dichloromethane is readily biodegradable as shown in a closed bottle test. Dichloromethane is a very volatile substance and the calculated half-life in air of dichloromethane is 107 days, in water 10.9 days and in soil 14.2 days. Therefore dichloromethane is not Persistent (REACH).

12.3 Bioaccumulative potential

The highest observed BCF in fish was 40 L/kg, thus dichloromethane is not bioaccumulative (REACH).

12.4 Mobility in soil

If released to soil, dichloromethane is expected to have very high mobility based upon a measured Koc range of 8-48 (HSDB).

12.5 Other adverse effects

Avoid contamination of drains and waterways.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal Dissolve in flammable liquid and incinerate at an approved high temperature facility equipped with afterburner and scrubber. For small quantities, place in tray in fume cupboard and evaporate.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	1593	1593	1593
14.2 Proper Shipping Name	DICHLOROMETHANE	DICHLOROMETHANE	DICHLOROMETHANE
14.3 Transport hazard class	6.1	6.1	6.1
14.4 Packing Group	III	III	III

14.5 Environmental hazards

Not a Marine Pollutant.

14.6 Special precautions for user

Hazchem code	2Z
GTEPG	6B7
EmS	F-A, S-A

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison schedule	Classified as a Schedule 5 (S5) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Classifications	Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).
Inventory listings	AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals) All components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information

WORK PRACTICES - SOLVENTS: Organic solvents may present both a health and flammability hazard. It is recommended that engineering controls should be adopted to reduce exposure where practicable (for example, if using indoors, ensure explosion proof extraction ventilation is available). Flammable or combustible liquids with explosive limits have the potential for ignition from static discharge. Refer to AS 1020 (The control of undesirable static electricity) and AS 1940 (The storage and handling of flammable and combustible liquids) for control procedures.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

IARC GROUP 2B - POSSIBLE HUMAN CARCINOGEN. This product contains an ingredient which has demonstrated sufficient evidence to have been classified by the International Agency for Research into Cancer (IARC) as possibly carcinogenic to humans and whose use should be strictly monitored and controlled.

DICHLOROMETHANE VAPOUR may only produce a flammable mixture with air in a vacuum (1.7 bar @ 27°C). It may produce a flammable mixture with pure oxygen between 15.5% and 66.4% dichloromethane.

PRODUCT NAME METHYLENE CHLORIDE**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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