



SAFETY DATA SHEET

Revision date: 13-Jun-2024

Revision Number 7

Section 1: Identification

Product identifier

Product Name METHYLENE CHLORIDE
Product Code(s) 000031028101

Other means of identification

CAS No. 75-09-2
Synonyms Dichloromethane; Methylene dichloride; Methane, dichloro-; R30; DCM; Methylene Chloride P; Methylene Chloride - Recovered.

Recommended use of the chemical and restrictions on use

Recommended use Solvent.
Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier

IXOM Operations Pty Ltd (Incorporated in Australia)
NZBN: 9429041465226
Street Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 368 2700
Facsimile: +64 9 368 2710

Emergency telephone number

Emergency Telephone 0 800 734 607 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

Section 2: Hazard identification

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

GHS Classification

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

**Signal word**

Warning

Hazard statements H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H351 - Suspected of causing cancer

H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention

Obtain special instructions before use.

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

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash face, hands and any exposed skin thoroughly after handling.

Wash eyes thoroughly after handling.

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

Wear protective gloves/clothing and eye/face protection.

Use personal protective equipment as required.

Precautionary Statements - Response

Get medical advice/attention if you feel unwell.

Specific treatment (see First aid on this SDS).

IF exposed or concerned: Get medical advice/attention.

Eyes

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

If eye irritation persists: Get medical advice/attention.

Skin

IF ON SKIN: Gently wash with plenty of soap and water.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

Ingestion

Rinse mouth.

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

Spill

Collect spillage.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

Other hazards which do not result in classification

No information available.

Section 3: Composition/information on ingredients

Chemical name	CAS No.	Weight-%
Methylene chloride (Dichloromethane)	75-09-2	>99%

Section 4: First-aid measures

Description of first aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. Give artificial respiration if victim is not breathing. (Call a physician if symptoms occur).
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation persists.
Skin contact	Wash skin with soap and water. (Call a physician if symptoms occur).
Ingestion	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. Give activated charcoal/water slurry.

Most important symptoms and effects, both acute and delayed

Symptoms	Irritation. Erythema (skin redness). May cause redness and tearing of the eyes.
Effects of Exposure	No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically. Adrenaline and similar sympathomimetic drugs should be avoided following exposure as cardiac arrhythmia may result with possible subsequent cardiac arrest.
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Section 5: Fire-fighting measures

Hazchem code	2Z
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Suitable Extinguishing Media

Suitable Extinguishing Media	Dry chemical, CO2, water spray or regular foam.
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Unsuitable extinguishing media	No information available.
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Specific hazards arising from the chemical

Specific hazards arising from the chemical	Non-combustible. Thermal decomposition can lead to release of toxic and corrosive gases/vapors. In use may form flammable/explosive vapour-air mixture.
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Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters	Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire. Keep containers cool with water spray. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.
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Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Do not touch or walk through spilled material. Evacuate personnel to safe areas. Use personal protective equipment as required. Stop leak if you can do it without risk. Wash thoroughly after handling.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Cover spillage with foam to reduce evaporation.

Methods and material for containment and cleaning up

Methods for containment Dike to collect large liquid spills.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Do not eat, drink or smoke when using this product. Use personal protection equipment. Wash thoroughly after handling. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight. Keep at temperatures between 15 °C and 25 °C. Store away from foodstuffs. Keep container closed when not in use.

Packaging materials Do not store in aluminium containers.

Incompatible materials Powdered aluminium. Amines. Lithium. Potassium. Sodium. Nitric acid. Potassium tert-butoxide. Rubber.

Section 8: Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	New Zealand	Australia	ACGIH TLV	United Kingdom
Methylene chloride (Dichloromethane) 75-09-2	TWA: 50 ppm TWA: 174 mg/m ³	TWA: 50 ppm TWA: 174 mg/m ³	TWA: 50 ppm	TWA: 353 mg/m ³ TWA: 100 ppm STEL: 200 ppm

				STEL: 706 mg/m ³ Sk*
Chemical name	New Zealand		ACGIH	
Methylene chloride (Dichloromethane) 75-09-2	-		0.3 mg/L	

Methylene chloride (Dichloromethane): WES-TWA 50 ppm, 174 mg/m³, carcinogen category 2

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

Carcinogen Category 2 - probable human carcinogen. There is sufficient evidence to provide a strong presumption that human exposure may result in the development of cancer. This evidence is generally based on appropriate long term animal studies, limited epidemiological evidence or other relevant information.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace 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.

Appropriate engineering controls

Engineering controls

Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with occupational exposure limits. Vapour heavier than air - prevent concentration in hollows or sumps.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, RESPIRATOR.



Eye/face protection

Glasses.

Hand protection

Impervious gloves.

Skin and body protection

Overalls. Boots. Wear suitable protective clothing.

Respiratory protection

If determined by a risk assessment an inhalation risk exists, wear an organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Environmental exposure controls

No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	Colourless
Odor	Sharp , Penetrating
Odor threshold	ca. 200 ppm

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	-95°C	None known
Boiling point / boiling range	40°C	None known
Flash point	Not applicable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	22%	
Lower flammability or explosive limits	13%	
Vapor pressure	473 hPa @20°C	None known
Vapor density	2.93 (air=1)	None known
Relative density	1.32	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	605°C	None known
Decomposition temperature	>120°C	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	0.42 mPa.s @25°C	None known

Other information

Particle characteristics	
Molecular formula	CH ₂ Cl ₂

Section 10: Stability and reactivity

Reactivity

Reactivity Explosible with air in a vaporous/gaseous state when heated.

Chemical stability

Stability Sensitive to heat. Sensitive to light. May react on prolonged contact with aluminium or light alloys releasing gas and causing subsequent pressure build-up.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions Risk of explosion with: Alkali metals, aluminium, nitrogen oxides, nitrogen dioxide, potassium, sodium azide, perchloric acid, nitric acid, oxygen, aromatic hydrocarbons.

Exothermic reaction with: Alkaline earth metals, powdered metals, amides, alcoholates, non-metallic oxides.

Conditions to avoid

Conditions to avoid Heat. Moisture. Exposure to light.

Incompatible materials

Incompatible materials Powdered aluminium. Amines. Lithium. Potassium. Sodium. Nitric acid. Potassium tert-butoxide. Rubber.

Hazardous decomposition products

Hazardous decomposition products Hydrogen chloride. Phosgene. Carbon oxides.

Section 11: Toxicological information**Acute toxicity****Information on likely routes of exposure**

Product Information No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

Inhalation May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. Inhalation of vapors in high concentration may cause irritation of respiratory system. Vapors can have a narcotic effect. High concentrations lead to unconsciousness - life threatening.

Eye contact Causes serious eye irritation.

Skin contact Causes skin irritation. Will have a degreasing action on the skin. May be absorbed through the skin in harmful amounts.

Ingestion Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkenness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs.

Symptoms Irritation. Erythema (skin redness). May cause redness and tearing of the eyes.

Acute toxicity**Numerical measures of toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Methylene chloride (Dichloromethane)	>2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	= 53 mg/L (Rat) 6 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization Not classified.

Germ cell mutagenicity No information available.

Carcinogenicity Suspected of causing cancer. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	New Zealand	IARC
Methylene chloride (Dichloromethane) - 75-09-2	Suspected carcinogen	Group 2A

IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard Not classified.

Chronic effects: Methylene chloride is converted to carbon monoxide in the body which reduces the oxygen carrying capacity of the blood. This is reflected in raised carboxyhaemoglobin levels in the blood.

A chronic inhalation study in mice has shown that methylene chloride is carcinogenic in this species. Malignant tumours were observed in both the liver and lung at levels well above the occupational Exposure Standard.

However, additional studies in the mouse, rat and hamster have shown no significant evidence of a carcinogenic effect. The effect in mice is considered specific to this species and is unlikely to occur in humans. This is due to well established differences in the metabolic pathways between rodents and humans.

Several major studies in human workers have shown no causal relationship between exposure to methylene chloride and an increase in the incidence of cancer.

Data used to identify the health effects Refer to Section 16 for Key literature references and sources for data used to compile the SDS.

Section 12: Ecological information

Ecotoxicity

Aquatic ecotoxicity Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Methylene chloride (Dichloromethane)	EC50: >500mg/L (96h, Pseudokirchneriella subcapitata) EC50: >500mg/L (72h, Pseudokirchneriella subcapitata)	LC50: 140.8 - 277.8mg/L (96h, Pimephales promelas) LC50: 262 - 855mg/L (96h, Pimephales promelas) LC50: =193mg/L (96h, Lepomis macrochirus)	EC50: 1532 - 1847mg/L (48h, Daphnia magna) EC50: =190mg/L (48h, Daphnia magna)

Terrestrial ecotoxicity There is no data for this product.

Chemical name	Earthworm	Avian	Honeybees
Methylene chloride (Dichloromethane)	LC50 = 0.3 mg/cm2 (Eisenia foetida 48 h filter paper) LC50 = 304 mg/cm2 (Eisenia foetida 48 h filter paper)	-	-

Persistence and degradability Not readily biodegradable.

Bioaccumulative potential

Bioaccumulation This chemical shows a low bioaccumulation potential.

Component Information

Chemical name	Partition coefficient
Methylene chloride (Dichloromethane)	1.25

Mobility in soil

Mobility No information available.

Other adverse effects

No information available.

Section 13: Disposal considerations

Waste treatment methods

Waste from residues/unused products

Dispose of product in packaging in a way that is consistent with the EPA Consolidation 30 April 2021 of the Hazardous Substances (Disposal) Notice 2017 and the Act. Treat the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance; or export the substance from New Zealand as waste. Class 6 and 8 chemicals – may be discharged into the environment if a tolerable exposure limit has been set for the substance (or a component of that chemical); and the discharge does not, after reasonable mixing, result in the concentration of the substance in an environmental medium exceeding the tolerable exposure limit. If there is not tolerable exposure limit for the substance, then it may only be discharged into the environment if the substance is very rapidly converted to substances that are not hazardous substances..

Contaminated packaging

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from. Packages may only be reused or recycled if:
 - the substance has a physical hazard other than corrosive to metal, and has been treated to remove any residual contents of the hazardous substance;
 - or for substances that have a health or environmental hazard, or corrosive to metal, the contents of the residue in the package are below the threshold for the substance to be classified as hazardous in the Hazardous Substances (Hazard Classification) Notice 2020.

Section 14: Transport information

ROAD AND RAIL TRANSPORT Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

UN number or ID number 1593
Proper shipping name DICHLOROMETHANE
Transport hazard class(es) 6.1
Packing group III
Hazchem code 2Z
IATA Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN number 1593
UN proper shipping name DICHLOROMETHANE
Transport hazard class(es) 6.1
Packing group III

IMDG Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN number 1593
UN proper shipping name DICHLOROMETHANE
Transport hazard class(es) 6.1
Packing group III
IMDG EMS Fire F-A
IMDG EMS Spill S-A
Marine pollutant Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
 No information available

Special precautions for user
 Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information

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

EPA New Zealand HSNO approval code or group standard

National regulations There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information
 Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information
 Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

Other Regulations Approval Number: HSR001540.

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

NZIoC	This material is listed on the New Zealand Inventory of Chemicals.
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AIIC	This material is listed on the Australian Inventory of Industrial Chemicals.
TCSI	Contact supplier for inventory compliance status.

Legend:

NZIoC - New Zealand Inventory of Chemicals

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC- Australian Inventory of Industrial Chemicals

TCSI - Taiwan Chemical Substance Inventory

Section 16: Other information

Supplier Safety Data Sheet 08/ 2023

Prepared By	This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and SDS Services).
Revision date:	13-Jun-2024
Reason(s) For Issue:	5 Yearly Revised Primary SDS

Revision Note:

***Indicates updated data since last publication.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorization:

PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances

vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

STOT: Specific Target Organ Toxicity

ATE: Acute Toxicity Estimate

LC50: 50% Lethal Concentration

LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
**	Hazard Designation	+	Sensitizers
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since IXOM Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their IXOM representative or IXOM Operations Pty Ltd at the contact details on page 1.

IXOM Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet