

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

UN number or ID number 1593

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 manufacturer or importer

Supplier

IXOM Operations Pty Ltd
ABN: 51 600 546 512
Level 8, 1 Nicholson Street
Melbourne 3000
Australia

Telephone Number: +61 3 9906 3000

Emergency telephone number

Emergency telephone number **1 800 033 111 (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 hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

GHS Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3

Label elements

Skull and crossbones

Health hazard
Exclamation mark



Signal word
WARNING

Hazard statements

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

Precautionary Statements - Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash face, hands and any exposed skin thoroughly after handling.
Wash eyes thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/clothing and eye/face protection.
Use personal protective equipment as required.

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention.
Specific treatment (see First aid on this SDS).
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.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed.
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

Section 3: Composition and 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	In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Skin contact	Wash skin with soap and water. Get medical attention if symptoms occur.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur. Give activated charcoal/water slurry. Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms	Erythema (skin redness). May cause redness and tearing of the eyes. Vapors may cause drowsiness and dizziness. Irritation.
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: Firefighting measures**Suitable Extinguishing Media**

Suitable extinguishing media Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media No information available.

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.

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters Keep containers cool with water spray. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. 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.

Hazchem code 2Z

Section 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. 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.

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. 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. Keep at temperatures between 15 °C and 25 °C. Keep container closed when not in use. Protect from direct sunlight. Store away from foodstuffs.

Packaging materials Do not store in aluminium containers.

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

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits

Chemical name	Australia	New Zealand	ACGIH TLV
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

Chemical name	European Union	United Kingdom	Germany DFG
Methylene chloride (Dichloromethane) 75-09-2	-	TWA: 353 mg/m ³ TWA: 100 ppm STEL: 200 ppm STEL: 706 mg/m ³ Sk*	TWA: 50 ppm TWA: 180 mg/m ³ Peak: 100 ppm Peak: 360 mg/m ³ Sk*

Chemical name	Australia	ACGIH	European Union
Methylene chloride (Dichloromethane) 75-09-2	-	0.3 mg/L	-

Methylene chloride (Dichloromethane): 8hr TWA = 174 mg/m³ (50 ppm), Carcinogen Category 2, Sk

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day

working week.

Carcinogen Category 2 - substances suspected of having carcinogenic potential. The available information is not adequate for making a satisfactory assessment.

'Sk' (skin) Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

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 the occupational exposure limits. 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.

Skin and body protection

Boots. Overalls. Wear suitable protective clothing.

Hand protection

Impervious gloves.

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.

Thermal hazards

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
pH (as aqueous solution)	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	13.2 g/l @ 25 °C	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

Molecular formula CH₂Cl₂

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. Exposure to light. Moisture.

Incompatible materials

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

Hazardous decomposition products

Hazardous decomposition products Hydrogen chloride. Phosgene. Carbon oxides.

Section 11: Toxicological information**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. 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	Erythema (skin redness). May cause redness and tearing of the eyes. Vapors may cause drowsiness and dizziness. Irritation.

Acute toxicity**Numerical measures of toxicity - Product Information**

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

See section 16 for terms and abbreviations

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	Australia	European Union	IARC
Methylene chloride (Dichloromethane) - 75-09-2	Carc. 2	Carc. 2	Group 2A

IARC (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans**Reproductive toxicity** No information available.**STOT - single exposure** May cause drowsiness or dizziness.**STOT - repeated exposure** Not classified.**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.

Section 12: Ecological information**Ecotoxicity****Aquatic ecotoxicity** Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	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)	Acute Toxicity: LC50 = 0.3 mg/cm ² (Eisenia foetida 48 h)	-	-

Chemical name	Earthworm	Avian	Honeybees
	filter paper) Source: IUCLID Acute Toxicity: LC50 = 304 mg/cm2 (Eisenia foetida 48 h filter paper) Source: IUCLID		

Persistence and degradability

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

Mobility No information available.

Other adverse effects

Other adverse effects No information available.

Section 13: Disposal considerations**Waste treatment methods**

Waste from residues/unused products Refer to Waste Management Authority. Dispose of material through a licensed waste contractor.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

See section 8 for more information

Section 14: Transport information

ADG Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; 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

Section 15: Regulatory information

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

National regulations

Australia

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).
 Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

See section 8 for national exposure control parameters

Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)
Poison Schedule Number 5

Australian Industrial Chemicals Introduction Scheme (AICIS)

Contact supplier for inventory compliance status

Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Methylene chloride (Dichloromethane) - 75-09-2	Present	-

Illicit Drug Precursors/Reagents

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
Methylene chloride (Dichloromethane) - 75-09-2	10 tonne/yr Threshold category 1

International Inventories

AIIC

This material is listed on the Australian Inventory of Industrial Chemicals.

NZIoC	This material is listed on the New Zealand Inventory of Chemicals.
TSCA	Contact supplier for inventory compliance status.
DSL/NDL	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.

Legend:**AIIIC- Australian Inventory of Industrial Chemicals****NZIoC - New Zealand Inventory of Chemicals****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - 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**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**Section 16: Other information**

Supplier Safety Data Sheet 08/ 2023

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

The symbol (*) in the margin of this SDS indicates that this line has been revised.

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
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)
Australian Industrial Chemicals Introduction Scheme (AICIS)
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