



SAFETY DATA SHEET

METHYLENE CHLORIDE

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product name: METHYLENE CHLORIDE

Recommended use: Chemical for industrial

Manufacturer/Supplier: MODERN CHEMICAL CO.,LTD.
82/80 Soi Ekamai 22 (Nuannoi), Sukhumvit 63,
Klong Tan Nuea, Watthana, Bangkok 10110

Telephone No: 0-2715-0897-9, 0-2392-3410-3

Fax No: 0-2715-0908-9, 0-2391-1571-2

Emergency Telephone No: 0-2715-0897-9, 0-2392-3410-3

2. HAZARDS IDENTIFICATION

Label elements

Pictogram



Signal word

Danger

Hazard statement(s)

- 1.) Causes skin irritation.
- 2.) May be fatal if swallowed and enters airways.
- 3.) May cause drowsiness or dizziness.
- 4.) Toxic to aquatic life with long lasting effects.
- 5.) May damage the unborn child. Suspected of damaging fertility.

Precautionary statement(s)

- 1.) Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- 2.) Avoid release to the environment.
- 3.) IF SWALLOWED: call a doctor/physician. Do NOT induce vomiting.



4.) IF IN EYES: Rinse cautiously with water for 15 minutes.

5.) IF ON SKIN Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym: Methane dichloride, Methylene bichloride, Methylene dichloride, DCM, Dichloromethane

Ingredients	% (w/w)	CAS NO.
METHYLENE CHLORIDE	100	75-09-2

4. FIRST AID MEASURES

General advice:

Ensure self protection. Show this safety data sheet to the doctor in attendance.

Inhalation:

Remove patient from exposure, keep warm and at rest. Administer oxygen if necessary. Apply artificial respiration of breathing has ceased or show signs of failing. In the event of cardiac arrest apply external cardiac massage. Obtain immediate medical attention.

Skin contact:

Remove contaminated clothing and wash affected skin with soap and water. Obtain medical attention. If signs of poisoning appear, treat as for inhalation. Wash contaminated clothing before reuse.

Eye contact:

Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. Obtain medical attention.

Ingestion:

Rinse mouth. **Do not induce vomiting.** Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only of patient is mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Water, carbon dioxide, foam, dry powder

Unsuitable Extinguishing Media:

No data available

Specific hazards arising from Chemicals:

Non-combustible. Vapors heavier than air. Ambient fire may liberate hazardous vapors. The following may develop in event of fire: Hydrochloric acid, phosgene.



Special protective equipment for fire-fighters:

Do not stay in dangerous zone with out self-contained breathing apparatus. In order to avoid contact with skin. Keep a safety distance and wear suitable protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Remove all sources of ignition. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

Environmental precautions: Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil or vegetation, advise police.

Methods and Material for Containment and Clean Up:

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel). Prevent liquid entering sewers, basements and workpits ; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

7. HANDLING AND STORAGE

Precautions for Safe Handling & Product Transfer:

Keep container tightly closed. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not empty into drains.

Conditions for Safe Storage & Unsuitable Materials:

Keep tightly closed at room temperature in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible material. Store in original container. Electrical equipment should be protected to the appropriate standard.



8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: TWA 35 ppm (122 mg/m³), OEL 100 ppm (350 mg/m³),
STEL 300 ppm (1060 mg/m³)

Appropriate Engineering Controls:

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

Individual Protection Measures

- Respiratory protection:** In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated. Filter AX(EN 371).
- Hand protection:** Handle with gloves. The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.
- Eye protection:** Goggles giving complete protection to eyes.
- Skin and body Protection:** Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.
- Hygiene measure:** Ventilation hoods and fans required when working with organic solvents or in hot melt applications. Keep working clothes separately. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form, Color and Odor: liquid, colourless, characteristic	Evaporation rate : 27.5(n-Bu acetate = 1)
Melting Point : -97 °C	Specific gravity : 1.318-1.341 g/cm ³ at 25 °C
pH: N/A	Solubility in water : Insoluble
Boiling point : 40 °C	Viscosity : 0.43 mPa.sec
Vapour pressure: 340 mbar at 20 °C	Vapour density: 2.9 g/l
Lower explosion limits: 13 % Vol	Upper explosive limit: 22 %Vol
Auto-ignition temperature: 640 °C	Flash point: N/A
Odour threshold: N/A	Flammability (solid, gas): N/A
Decomposition temperature: N/A	Solubility in other solvents: N/A
n-octanol/water partition coefficient (log P_{ow}): 1.25	



10. STABILITY AND REACTIVITY

Chemical Stability :	Stable in the presence of inhibitor.
Reactions:	Heat-sensitive, light sensitive/decomposition; unsuitable working materials: various plastic, rubber, light metals, metals, steel. Explosible with air in a vaporous/gaseous state.
Possibility of Hazardous Reactions:	No data available
Conditions to avoid	Heat , ignition sources
Materials to be avoided:	Alkali metals, alkaline earth metals, nitrogen oxides, perchloric acid
Hazardous Decomposition Products:	Hydrogen chloride, phosgene.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	LC50 (inhalation, rat): > 88 mg/l/30 min LD50 (oral, rat): 1600 mg/kg LDL0 (oral, human): 357 mg/kg
Sensitization:	After inhalation: mucosal irritations; inebriation, narcosis, unconsciousness. After skin contact; Slight irritations, Degreasing effect on the skin, possibly followed by secondary inflammation. After eyes contact; slight irritations. Risk of corneal clouding. After swallowing; nausea, vomiting. After accidental swallowing the substance may pose a risk of aspiration. Passage into the lung (vomiting) can result in a condition resembling pneumonia (chemical pneumonitis). After absorption of large quantities: CNS disorders, drowsiness, dizziness, drop in blood pressure, cardiac dysrhythmia, respiratory paralysis, depressed respiration, inebriation, narcosis. The following applies to aliphatic halogenated hydrocarbons in general: systemic effect: narcosis, cardiovascular disorders. Toxic effect on liver and kidneys.
Chonic toxicity :	Chronic inhalation studies in mice have show increases in lung and liver tumours, when exposed to concentrations of methylene chloride well in excess of the occupation limit. Extensive mechanistic research has show that these carcinogenic effects are specific to the mouse and are not relevant to human health. This is due to well established differences in metabolic pathways between rodents



and man. Several major studies on human occupationally exposed to methylene chloride have show no demonstrable link with cancer.

Further toxicological information:

The product should be handled with the care usual when dealing with chemicals

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish: LC₅₀ - P. promelas – 193 mg/l - 96h

Toxicity to daphnia and other aquatic invertebrates:

LC₅₀ - Daphnia magna – 1682 mg/l - 48h

Toxicity to algae: IC₅₀ – Selenastrum capricornutum – > 660 mg/l - 48h

Toxicity to bacteria: EC₅₀ – Photobacterium phosphoreum – 2.88 mg/l/ - 15min

Biodegradability remark: Biodegradation 5 - 26 % /28d. MITI test.

Bioaccumulative potential: Product has low potential for Bioaccumulation. Bioconcentration factor (BCF):
0.92 to 40 l/kg

Mobility: No data available

Affected in any other way: No data available

13. DISPOSAL CONSIDERATIONS

Material Disposal: There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Container Disposal: Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.



14. TRANSPORT INFORMATION

ADR/RID

UN-No: 1593 Class: 6.1 Packing group: III

Proper shipping name: DICHLOROMETHANE

IMDG

UN-No: 1593 Class: 6.1 Packing group: III

Ems: F-A S-A

Proper shipping name: DICHLOROMETHANE

IATA

UN-No: 1593 Class: 6.1 Packing group: III

Proper shipping name: DICHLOROMETHANE

15. REGULATORY INFORMATION

GHS – Labelling:

Hazard statement(s)

H351 Suspected of causing cancer.

Precautionary statement(s)

P201 Obtain special instructions before use.

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

P281 Use personal protective equipment as required.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

Hazard symbol(s)

-

R - phrase(s)

R40 Limited evidence of a carcinogenic effect.

S - phrase(s)

S23 Do not breathe vapor.

S24/25 Avoid contact with skin and eyes.

S36/37 Wear suitable protective clothing and gloves.



16. OTHER INFORMATION

Modern Chemical Co.,Ltd. provides the information contained herein in good faith but makes no representation as to its comprehensive or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

MODERN CHEMICAL CO., LTD. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MODERN CHEMICAL CO.,LTD. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.