

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

Perihalan Produk: **Dichloromethane**  
 Product Description: **Dichloromethane**  
 Cat No. : D/1854/PB15, D/1854/PB17  
 Synonyms: Dichloromethane; DCM  
 CAS No: 75-09-2  
 Molecular Formula: C H<sub>2</sub> Cl<sub>2</sub>

**Relevant identified uses of the substance or mixture and uses advised against**

Recommended Use: Laboratory chemicals.  
 Uses advised against:

**Company**

Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd  
 Hap Seng Business Park, Lot 01-03, 01-04 Aras 1 Unity Square,  
 No 12, Persiaran Perusahaan, Seksyen 23, 40300 Shah Alam,  
 Selangor Darul Ehsan, Malaysia.  
 Main line: +60 3-5525 7888

**Supplier**

E-mail address: Enquiry.my@thermofisher.com

**Emergency Telephone Number**

Tel: +03-5525 7888  
 CHEMTREC Malaysia **1-800-815-308** (Malay)  
 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

Skin Corrosion/Irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 2 (H319)
Carcinogenicity	Category 2 (H351)
Specific target organ toxicity - (single exposure)	Category 3 (H336)

**Label Elements**


Signal Word

Warning

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## 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

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear eye protection/ face protection

### Response

P302 + P352 - IF ON SKIN: Wash with plenty of soap and 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  
P332 + P313 - If skin irritation occurs: Get medical advice/attention  
P362 + P364 - Take off contaminated clothing and wash it before reuse

### Storage

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

### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

## Other Hazards

The vapor has narcotic effect and in high concentrations induces unconsciousness which can be fatal  
Causes formation of carbon monoxide in the blood. Carbon monoxide may cause adverse effects on the cardiovascular system and the central nervous system  
Do not use in areas without adequate ventilation.  
The vapor has narcotic effect and in high concentrations induces unconsciousness which can be fatal  
Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing  
Decomposes in a fire, giving off toxic fumes: phosgene and hydrochloric acid, Carbon monoxide  
Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers  
This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Methylene chloride	75-09-2	>99.5

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

If symptoms persist, call a physician.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

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Ingestion	Clean mouth with water and drink afterwards plenty of water.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Self-Protection of the First Aider	Use personal protective equipment as required.

## **Most important symptoms and effects, both acute and delayed**

Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Causes central nervous system depression. Continued or high exposures by inhalation will cause anaesthetic effects. This may result in a loss of consciousness and could prove fatal. Causes formation of carbon monoxide in the blood. Carbon monoxide may cause adverse effects on the cardiovascular system and the central nervous system.

## **Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** A patient adversely affected by exposure to this product should not be given adrenaline (epinephrine) or similar heart stimulant since these would increase the risk of cardiac arrhythmias. Treat symptomatically. Symptoms may be delayed.

## **SECTION 5: FIREFIGHTING MEASURES**

### **Extinguishing media**

#### **Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

### **Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Phosgene, Hydrogen chloride gas.

### **Advice for fire-fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment and Emergency Procedures**

Use personal protective equipment as required. Ensure adequate ventilation. Avoid breathing vapors or mists. Wear respiratory protection.

### **Environmental precautions**

Should not be released into the environment.

### **Methods and Material for Containment and Cleaning Up**

Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Ventilate the area.

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## Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Vapors are heavier than air and may spread along floors. Handle product only in closed system or provide appropriate exhaust ventilation. Reacts with aluminum and its alloys.

### Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store in aluminum containers.

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	Malaysia	ACGIH TLV	OSHA PEL
Methylene chloride		TWA: 50 ppm	(Vacated) TWA: 500 ppm (Vacated) STEL: 2000 ppm (Vacated) Ceiling: 1000 ppm TWA: 25 ppm STEL: 125 ppm

Component	European Union	The United Kingdom	Germany
Methylene chloride	TWA: 353 mg/m <sup>3</sup> (8h) TWA: 100 ppm (8h) STEL: 706 mg/m <sup>3</sup> (15min) STEL: 200 ppm (15min) Skin	STEL: 200 ppm 15 min STEL: 706 mg/m <sup>3</sup> 15 min TWA: 353 mg/m <sup>3</sup> 8 hr TWA: 100 ppm 8 hr Skin	TWA: 50 ppm (8 Stunden). AGW - exposure factor 2 TWA: 180 mg/m <sup>3</sup> (8 Stunden). AGW - exposure factor 2 TWA: 50 ppm (8 Stunden). MAK TWA: 180 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 100 ppm Höhepunkt: 360 mg/m <sup>3</sup> Haut

### Exposure Controls

#### Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

Eye Protection	Goggles
Hand Protection	Protective gloves
Skin and body protection	Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g.

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sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

## Respiratory Protection

In case of inadequate ventilation wear respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

## Recommended Filter type:

low boiling organic solvent Type AX Brown conforming to EN371

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

## Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

## Environmental exposure controls

No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

**Appearance** Colorless

**Physical State** Liquid

**Odor** sweet

**Odor Threshold** No data available

**pH** Not applicable

Insoluble in water

**Melting Point/Range** -97 °C / -142.6 °F

**Softening Point** No data available

**Boiling Point/Range** 39 °C / 102.2 °F

**Flash Point** No information available

**Method -** No information available

**Evaporation Rate** No data available

**Flammability (solid,gas)** Not applicable

Liquid

**Explosion Limits** **Lower** 13 vol%

**Upper** 22 vol%

**Vapor Pressure** 350 mbar @ 20°C

**Vapor Density** 2.93

(Air = 1.0)

**Specific Gravity / Density** 1.33

**Bulk Density** Not applicable

Liquid

**Water Solubility** 20 g/L (20°C)

**Solubility in other solvents** No information available

### Partition Coefficient (n-octanol/water)

**Component** **log Pow**

Methylene chloride 1.25

**Autoignition Temperature** 556 °C / 1032.8 °F

**Decomposition Temperature** > 120°C

**Viscosity** 0.42 mPas @ 25°C

**Explosive Properties** No information available

**Oxidizing Properties** No information available

**Molecular Formula** C H<sub>2</sub> Cl<sub>2</sub>

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Molecular Weight 84.93

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable under normal conditions. Decomposes on exposure to light.

### Possibility of Hazardous Reactions

#### **Hazardous Polymerization Hazardous Reactions**

Hazardous polymerization does not occur.  
Forms a detonable mixture with nitric acid.

### Conditions to Avoid

Excess heat. Protect from direct sunlight.

### Incompatible Materials

Strong oxidizing agents. Strong acids. Amines.

### Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Phosgene. Hydrogen chloride gas.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### **Product Information**

#### **(a) acute toxicity;**

**Oral**

Based on available data, the classification criteria are not met

**Dermal**

Based on available data, the classification criteria are not met

**Inhalation**

Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methylene chloride	> 2000 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	53 mg/L ( Rat ) 6 h 76000 mg/m <sup>3</sup> ( Rat ) 4 h

**(b) skin corrosion/irritation;** Category 2

**(c) serious eye damage/irritation;** Category 2

#### **(d) respiratory or skin sensitization;**

**Respiratory**

Based on available data, the classification criteria are not met

**Skin**

Based on available data, the classification criteria are not met

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- (e) germ cell mutagenicity; Based on available data, the classification criteria are not met  
Mutagenic effects have occurred in microorganisms
- (f) carcinogenicity; Category 2  
The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Methylene chloride				Group 2A

- (g) reproductive toxicity; Based on available data, the classification criteria are not met
- (h) STOT-single exposure; Category 3  
Results / Target organs Central nervous system (CNS).
- (i) STOT-repeated exposure; Based on available data, the classification criteria are not met  
Target Organs None known.
- (j) aspiration hazard; Based on available data, the classification criteria are not met
- Other Adverse Effects Tumorigenic effects have been reported in experimental animals.
- Symptoms / effects, both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Causes central nervous system depression. Continued or high exposures by inhalation will cause anaesthetic effects. This may result in a loss of consciousness and could prove fatal. Causes formation of carbon monoxide in the blood. Carbon monoxide may cause adverse effects on the cardiovascular system and the central nervous system.
- Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### Ecotoxicity effects

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Methylene chloride	Pimephales promelas: LC50:193 mg/L/96h	EC50: 140 mg/L/48h	EC50:>660 mg/L/96h	EC50: 1 mg/L/24 h EC50: 2.88 mg/L/15 min

### Persistence and degradability

Persistence

Persistence is unlikely, based on information available.

### Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Methylene chloride	1.25	6.4 - 40 dimensionless

### Mobility in soil

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Will likely be mobile in the environment due to its volatility. Disperses rapidly in air.

### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

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Other adverse effects No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods  
**Waste from Residues/Unused Products**

Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

**Other Information**

Waste codes should be assigned by the user based on the application for which the product was used Do not empty into drains

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

**UN-No** UN1593  
**Hazard Class** 6.1  
**Packing Group** III  
**Proper Shipping Name** Dichloromethane

### Road and Rail Transport

**UN-No** UN1593  
**Hazard Class** 6.1  
**Packing Group** III  
**Proper Shipping Name** Dichloromethane

### IATA

**UN-No** UN1593  
**Hazard Class** 6.1  
**Packing Group** III  
**Proper Shipping Name** Dichloromethane

**Special Precautions for User** No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories** X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Methylene chloride	200-838-9	X	X	X	X	X	X	X	KE-23893

**Note** Stabilised with Amylene (CAS 513-35-9)

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Methylene chloride				Annex I - Y45



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## National Regulations

**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 16: OTHER INFORMATION

### Legend

**CAS** - Chemical Abstracts Service

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

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

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

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

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

### **Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Revision Date**

02-May-2025

**Revision Summary**

SDS sections updated, 2, 6, 7, 8, 9, 11, 15.

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

### **Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**