



SAFETY DATA SHEET

According to Regulation (EC) No 453/2010

SDS –DCM-0001

Version 1.5

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www.eamaterials.com

Section 1: IDENTIFICATION OF SUBSTANCE/ MIXTURE AND OF THE COMPANY

1.1 Product identifier

Product name : **Dichloromethane**

Included product code : DCM010-2.5, DCM010-4.0, DCM012-2.5,
DCM012-4.0P, DCM011-25M

1.2 Relevant identified uses of the substance or mixture

Identified uses : Laboratory chemicals, Manufacture of substances

Uses advised against : Not applicable

1.3 Details of the supplier of the safety data sheet

Company : Elite Advanced Materials Sdn Bhd
No 1, Jalan KPK1/2, Kawasan Perindustrian
Kundang, 48020 Rawang, Selangor, Malaysia

E-mail address : enquiry@eamaterials.com

1.4 Emergency telephone number

Emergency : +603-60343766 (Local business hours only)

Section 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin irritation	Category 2
Eye irritation	Category 2
Carcinogenicity	Category 2
Specific target organ toxicity – single exposure, Central nervous system	Category 3

2.2 Label elements

Labeling in compliance to Regulation (EC) No. 1272/2008 [CLP/GHS]

Hazard pictograms



GHS07



GHS08

Signal word

Danger

Hazard statement

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

Precautionary statements

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
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.

Storage

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

Repeated exposure may cause skin dryness or cracking.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Synonyms	:	Methylene chloride, DCM
Formula	:	CH ₂ Cl ₂
Molecular Weight	:	84.93 g/mol
CAS-No.	:	75-09-2

Hazardous components according to Regulation (EC) No 1272/2008

Component	Identity	Classification Code	H-Code	Concentration (by wt)
Dichloromethane	CAS-No.: 75-09-2	Skin Irritation 2 Eye Irritation 2 Carcinogenicity 2 STOT SE 3	H315 H319 H351 H336	50-100 %

3.2 Mixture

Not applicable

Section 4: FIRST AID MEASURES

4.1 Description of First Aid measures

General information

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

Move to fresh air in case of accidental inhalation of vapors. Consult a physician.

In case of skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a

physician.

In case of eye contact

Rinse thoroughly with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

Caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately. Subsequently administer: activated charcoal (20-40 g in 10% slurry).

4.2 Most important symptoms and delayed symptoms and effects

Dizziness, inebriation, Nausea, vomiting, CNS disorders, Unconsciousness, Cough, depressed respiration, shortness of breath, respiratory paralysis

Risk of corneal clouding.

The following applies to aliphatic halogenated hydrocarbons in general: systemic effect: narcosis, cardiovascular disorders. Toxic effect on liver, kidneys. Irritant effects, somnolence, drowsiness.

4.3 Indication of any immediate medical attention and special treatment

No data available.

Section 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

None.

5.2 Special hazards arising from the substance or mixture

Not combustible

Vapours are heavier than air and may spread along floors.

Ambient fire may liberate hazardous vapours

Fire may cause evolution of:

Hydrogen chloride gas, Phosgene.

5.3 Advice for fire-fighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see Section 13.

Section 7: HANDLING AND STORAGE

7.1 Precaution for safe handling

Advice on safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Protected from light.

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified and authorised persons.

Recommended storage temperature see product label.

7.3 Specific end use

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

Section 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Component	ACGIH TLV (8 hr)	CAL/OSHA PEL (8 hr)	NIOSH REL (Up to 10 hr)
Dichloromethane	TWA: 50 ppm	TWA: 25 ppm STEL: 125 ppm	No data available

(OSHA)

8.2 Exposure control

Personal protection measures, such as personal protective equipment

Never eat, drink or smoke during handling the chemical. Ensure that there is adequate ventilation, especially in confined areas.

Eye/ face protection

Face shield and safety glasses is required during handling. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Discard of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Splash contact*

Material: Viton (R)

Minimum layer thickness: 0.7 mm

Break through time: >120 min

(Merck, 2019; Ver 1.8)

Body protection

Impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless
Odor	:	Sweet
Order threshold	:	24.9 – 611.7 ppm at 20 °C
pH - value	:	Neutral
Melting point / Range	:	-95 °C
Boiling point / Range	:	40 °C at 1013 hPa
Flash point	:	Does not flash
Evaporation rate	:	1.9
Lower explosion limit – LEL	:	13 % (V)
Upper explosion limit - UEL	:	22 % (V)
Vapour pressure	:	475 hPa at 20°C
Vapor density (air = 1)	:	2.93
Density	:	1.33 g/cm ³ at 20 °C
Bulk density	:	No data available
Solubility(ies)	:	No data available
Water solubility	:	20 g/l at 20 °C
Partition coefficient: n-octanol/water	:	log Pow: 1.25 (experimental) (Lit.) Bioaccumulation is not expected
Auto-ignition temperature	:	No data available
Decomposition temperature	:	> 120 °C. Distillable in an undecomposed. State at normal pressure
Viscosity	:	0.43 mPa.s at 20°C
Explosive properties	:	Not explosive
Oxidising properties	:	None

(Merck, 2019; Ver 1.8)



9.2 Other information

No applicable.

Section 10 : STABILITY AND REACTIVITY

10.1 Reactivity

See section 10.3

10.2 Chemical stability

Sensitivity to light

The product is chemically stable under standard ambient conditions (room temperature).

Stabilizer

2-methyl-2-butene

10.3 Possibility of hazardous reactions

Risk of explosion with:

Alkali metals, nitrogen oxides, nitrogen dioxide, Potassium, sodium azide, perchloric acid, Nitric acid, aluminium chloride, Amines, Oxygen, (as liquefied gas), powdered aluminium, sodium aromatic hydrocarbons, with, powdered aluminium

Exothermic reaction with:

Alkaline earth metals, powdered metals, amides, alcoholates, non-metallic oxides, potassium tert-butanolate, sodium amide

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Rubber, various plastics, light metals, metals, mild steel.

10.6 Hazardous decomposition products

Hydrogen chloride, phosgene

Section 11 : TOXICOLOGY INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral	- > 2000 mg/kg (Rat) - Method: OECD Test Guideline 401 - Symptoms: Nausea, Vomitting, Aspiration (May cause pulmonary oedema and Pneumonitis.
LC50 Inhalation	- 60.14 mg/l 17250 ppm (Rat, 4h, vapour) - Symptoms: Possible damages; mucosal irritations
Dermal	- No data available

(Merck, 2019; Ver 1.8)

Skin corrosion/irritation

Skin - Rabbit

Remarks: Irritating to skin

OECD Test Guideline 404

(Merck, 2019; Ver 1.8)

Serious eye damage/eye irritation

Eyes - Rabbit

Remarks: Irritating to eyes

(Merck, 2019; Ver 1.8)

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Genotoxicity in vivo

Micronucleus test – Mouse

Oral, Bone marrow

Result: Negative

Method: OECD Test Guideline 474

Genotoxicity in vitro

Mammal cell test – chromosome aberration

Result: positive

Method: OECD Test Guideline 471

(Merck, 2019; Ver 1.8).

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity – single exposure

May cause respiratory irritation

(Merck, 2019; Ver 1.8)

Specific target organ toxicity – repeated exposure

No data available.

Aspiration hazard

No data available

Additional Information

May caused drowsiness, dizziness, drop in blood pressure, cardiac irregularities, depressed respiration, inebriation, unconsciousness, narcosis, respiratory paralysis

Toxic effect on liver and kidney failure.

This substance should be handled with particular care.

Section 12 : ECOLOGY INFORMATION

12.1 Ecotoxicity

Toxicity to fish	Flow-through test - LC50 - Pimephales promelas (fathead minnow) - 193 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	Static test - EC50 - Daphnia magna (Water flea) - 27 mg/l - 48h
Toxicity to algae	Static test - EbC50 - Pseudokirchberliella subcapitata (green algae) - 662 mg/l - 96 h OECD Test Guideline 201
Toxicity to bacteria	Static test - EC50 - activated sludge - 2590 mg/l - 40 min OECD Test Guideline 209
Toxicity to fish (Chronic toxicity)	Flow-through test - NOEC - Pimephales promelas (fathead minnow) - 83 mg/l - 28 d

(Merck, 2019; Ver 1.8)

12.2 Persistence and degradability

Biodegradability	68 % - 28 d - Aerobic - Readily biodegradable - OECD Test Guideline 301B
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(Merck, 2019; Ver 1.8)

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

Log Pow: 1.25

(Experimental)

(Merck, 2019; Ver 1.8)

12.4 Mobility in soil

Distribution among environmental compartments

Adsorption/Soil

Log Koc: 1.00

(experimental)

(Merck, 2019; Ver 1.8)

12.5 Other adverse effects

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII

12.6 Results of PBT and vPvB assessment

Henry constant

329 Pa*m³/mol

Method: (experimental)

Discharge into the environment must be avoided.

(Merck, 2019; Ver 1.8)

Section 13 : DISPOSAL CONSIDERATIONS

13.1 Waste treatment method

Product

Waste material must be disposed according to national and local regulations. Keep the chemicals in its specific waste container according to the waste classification.

According to Quality Environment Regulation (Scheduled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product and do not re-use empty containers. Follow label warnings even after container is emptied since it retain product residue.

Section 14 : TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1593	IMDG: 1593	IATA-DGR: 1593
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14.2 UN proper shipping name

ADR/RID:	DICHLOROMETHANE
IMDG:	DICHLOROMETHANE
IATA-DGR:	DICHLOROMETHANE

14.3 Transport hazard class(es)

ADR/RID: 6.1	IMDG: 6.1	IATA-DGR: 6.1
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14.4 Packaging group

ADR/RID: III	IMDG: III	IATA-DGR: III
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14.5 Environmental hazards

ADR/RID: no	IMDG Marine pollutant: no	IATA-DGR: no
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14.6 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

14.7 Special precautions for user

No data available

Section 15 : REGULATORY INFORMATION

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

All national and local regulations, including Occupational Safety and Health (Classification, Labelling and Safety Data Sheet or Hazardous Chemicals) Regulations 2013, if applicable to the use, should be observed.

National legislation

Storage class

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

Section 16 : OTHER INFORMATION

This information is based on present level of our knowledge, however, this shall not constitute a guarantee product features and shall not establish a legally valid contractual relationship.

Abbreviations:

ADR : European agreement concerning the international carriage of dangerous goods by road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association

ICAO : International Civil Aviation Organization

RID : Regulations concerning the International Carriage of Dangerous goods by rail.

Notice to reader

The information contained in this Safety Data Sheet is based on the present state of knowledge and current national legislation. It provides guidance on health, safety and environmental aspects of the products and should not be construed as any guarantee of technical performance or suitability for particular application.

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