

Material Safety Data Sheet

Version 4.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Dichloromethane

Product Number : D65100

Brand : Sigma-Aldrich

Company : Sigma-Aldrich Canada, Ltd
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CANADA

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2. HAZARDS IDENTIFICATION

Emergency Overview

Target Organs

Liver, pancreas, Blood, Central nervous system, Heart, Kidney

WHMIS Classification

D1B	Toxic Material Causing Immediate and	Toxic
D2A	Serious Toxic Effects	Carcinogen
D2B		Moderate skin irritant

GHS Label elements, including precautionary statements

Pictogram



Signal word Warning

Hazard statement(s)

H302	Harmful if swallowed.
H315 + H320	Causes skin and eye irritation.
H351	Suspected of causing cancer.

Precautionary statement(s)

P281	Use personal protective equipment as required.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical hazards:	0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Methylene chloride

Formula : CH₂Cl₂

Molecular Weight : 84.93 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Methylene chloride			
75-09-2	200-838-9	602-004-00-3	>= 99.9 %

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid inhalation of vapour or mist.

Normal measures for preventive fire protection.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Heat sensitive. Store under inert gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Methylene chloride	75-09-2	TWA	25 ppm	2006-11-29	Canada. British Columbia OEL

Remarks	IARC "2B" applies to substances deemed possibly carcinogenic to humans.				
		TWAE V	50 ppm 175 mg/m3	2005-12-17	Canada. Ontario OELs
		TWA	50 ppm 174 mg/m3	2007-01-01	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	This substance is also listed with the incorrect CAS number [75-09-4].				
		TWAE V	50 ppm 174 mg/m3	2006-12-29	Canada. Quebec OELs
	A substance to which exposure must be reduced to a minimum in accordance with section 42 Carcinogenic effect suspected in humans				

Personal protective equipment

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).

Hand protection

Handle with gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	colourless

Safety data

pH	no data available
Melting point	97 °C (207 °F) - lit.
Boiling point	39.8 - 40 °C (103.6 - 104 °F) - lit.
Flash point	no data available
Ignition temperature	556.1 °C (1,033.0 °F) -
Lower explosion limit	12 %(V)
Upper explosion limit	19 %(V)
Vapour pressure	470.8 hPa (353.1 mmHg) at 20.0 °C (68.0 °F) 1,687.3 hPa (1,265.6 mmHg) at 55.0 °C (131.0 °F) 57.99 hPa (43.50 mmHg) at 25 °C (77 °F)
Density	1.325 g/mL at 25 °C (77 °F)
Water solubility	slightly soluble
Partition coefficient: n-octanol/water	log Pow: 1.25

Relative vapour density	2.93 - (Air = 1.0)
Evaporation rate	0.71

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks. Exposure to sunlight.

Materials to avoid

Alkali metals, Aluminum, Strong oxidizing agents, Bases, Amines, Magnesium, Strong acids and strong bases, Vinyl compounds

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 1,600 mg/kg

Remarks: Behavioral:Ataxia.

LC50 Inhalation - rat - 52,000 mg/m3

Skin corrosion/irritation

Skin - rabbit - Skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - rabbit - Mild eye irritation - 24 h

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

Genotoxicity in vivo - rat - Oral

DNA damage

Carcinogenicity

Carcinogenicity - rat - Inhalation

Tumorigenic:Carcinogenic by RTECS criteria. Endocrine:Tumors.

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Methylene chloride)

Reproductive toxicity

no data available

no data available

Specific target organ toxicity - single exposure (GHS)

no data available

Specific target organ toxicity - repeated exposure (GHS)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

Dichloromethane is metabolized in the body producing carbon monoxide which increases and sustains carboxyhemoglobin levels in the blood, reducing the oxygen-carrying capacity of the blood., Acts as a simple asphyxiant by displacing air., anesthetic effects, Difficulty in breathing, Headache, Dizziness, Prolonged or repeated contact with skin may cause:, defatting, Dermatitis, Contact with eyes can cause:, Redness, Blurred vision, Provokes tears., Effects due to ingestion may include:, Gastrointestinal discomfort, Central nervous system depression, Paresthesia., Drowsiness, Convulsions, Conjunctivitis., Pulmonary edema. Effects may be delayed., Irregular breathing., Stomach/intestinal disorders, Nausea, Vomiting, Increased liver enzymes., Weakness, Heavy or prolonged skin exposure may result in the absorption of harmful amounts of material., Abdominal pain

Additional Information

RTECS: PA8050000

12. ECOLOGICAL INFORMATION**Toxicity**

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 193.00 mg/l - 96 h NOEC - Cyprinodon variegatus (sheepshead minnow) - 130 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 1,682.00 mg/l - 48 h

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS**Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN-Number: 1593	Class: 6.1	Packing group: III
Proper shipping name: Dichloromethane		
Reportable Quantity (RQ): 1000 lbs		
Marine pollutant: No		
Poison Inhalation Hazard: No		

IMDG

UN-Number: 1593 Class: 6.1

Packing group: III

EMS-No: F-A, S-A

Proper shipping name: DICHLOROMETHANE

Marine pollutant: No

IATA

UN-Number: 1593 Class: 6.1

Packing group: III

Proper shipping name: Dichloromethane

15. REGULATORY INFORMATION**DSL Status**

All components of this product are on the Canadian DSL list.

WHMIS Classification

D1B Toxic Material Causing Immediate and

Toxic

D2A Serious Toxic Effects

Carcinogen

D2B

Moderate skin irritant

16. OTHER INFORMATION**Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
