

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Dichloromethane

Product Number : D65100
Brand : Sigma-Aldrich

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

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2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Carcinogen, Target Organ Effect, Harmful by ingestion., Irritant

Target Organs

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

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

NFPA Rating

Health hazard: 2
Fire: 0
Reactivity Hazard: 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	Update	Basis
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			parameters		
Methylene chloride	75-09-2	TWA	50 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Central Nervous System impairment Carboxyhemoglobinemia Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Confirmed animal carcinogen with unknown relevance to humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.				
	Substance listed; for more information see OSHA document 1910.1052				
	See 1910.1052				

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:	log Pow: 1.25

n-octanol/water	
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)

NTP: Reasonably anticipated to be a human carcinogen (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

Sigma-Aldrich - D65100

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

OSHA Hazards

Carcinogen, Target Organ Effect, Harmful by ingestion., Irritant

DSL Status

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

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Methylene chloride	75-09-2	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Methylene chloride	75-09-2	2007-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Methylene chloride	75-09-2	2007-07-01

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer.	75-09-2	2007-09-28
Methylene chloride		

16. OTHER INFORMATION

Further information

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