



# Methylene Chloride

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)  
Date of issue: 06/21/2016 Version: 1.0

### SECTION 1: Identification

#### 1.1. Product identifier

Product form : Substance  
Substance name : Methylene Chloride  
Chemical name : Dichloromethane  
Substance type : Mono-constituent  
Type of product : Pure substance  
CAS No : 75-09-2  
Product code : D2728, D2730, D2734  
Formula : CH<sub>2</sub>Cl<sub>2</sub>  
Product group : Trade product

#### 1.2. Recommended use and restrictions on use

Recommended use : Laboratory chemicals

#### 1.3. Supplier

Produits Chimiques ACP Chemicals Inc.  
4601, boul. des Grandes Prairies  
Montreal, Quebec H1R 1A5  
www.acpchem.com

#### 1.4. Emergency telephone number

Emergency number : (613) 996-6666 (CANUTEC)

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-CA)

Carcinogenicity Category 1B H350  
Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-CA labeling

Hazard pictograms (GHS-CA) :



GHS08

Signal word (GHS-CA) :

Danger

Hazard statements (GHS-CA) :

H350 - May cause cancer

Precautionary statements (GHS-CA) :

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P280 - Wear eye protection, protective gloves  
P308+P313 - IF exposed or concerned: Get medical advice/attention  
P405 - Store locked up  
P501 - Dispose of contents/container to Comply with applicable regulations

#### 2.3. Other hazards

Other hazards not contributing to the classification

: None under normal conditions.

#### 2.4. Unknown acute toxicity (GHS-CA)

No data available

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent

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Name	Chemical name/Synonyms	Product identifier	%	Classification (GHS-CA)
Methylene Chloride (Main constituent)	Dichloromethane dichloromethane / methane dichloride / methylene dichloride	(CAS No) 75-09-2	100	Carc. 1B, H350

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Give activated charcoal. Call Poison Information Centre ( <a href="http://www.big.be/antigif.htm">www.big.be/antigif.htm</a> ). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Doctor: gastric lavage.
First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/injuries after inhalation	: Dry/sore throat. Coughing. Slight irritation. EXPOSURE TO HIGH CONCENTRATIONS: Headache. Nausea. Feeling of weakness. Dizziness. Coordination disorders. Impaired concentration. Change in the haemogramme/blood composition. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties. Disturbances of consciousness.
Symptoms/injuries after skin contact	: Tingling/irritation of the skin.
Symptoms/injuries after eye contact	: Irritation of the eye tissue.
Symptoms/injuries after ingestion	: AFTER ABSORPTION OF LARGE QUANTITIES: Nausea. Dry/sore throat. Gastrointestinal complaints.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Central nervous system depression. Mental confusion. Slurred speech. Visual disturbances. Drunkenness. Delusions. Impaired memory. Enlargement/affection of the liver.

### 4.3. Immediate medical attention and special treatment, if necessary

Treatment	: Obtain medical assistance. Treat symptomatically.
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## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

Suitable extinguishing media	: Water spray. Polyvalent foam. BC powder. Carbon dioxide.
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### 5.2. Unsuitable extinguishing media

Unsuitable extinguishing media	: No unsuitable extinguishing media known.
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### 5.3. Specific hazards arising from the hazardous product

Fire hazard	: DIRECT FIRE HAZARD. Flammable in the presence of a high energy source. Gas/vapor flammable with air within explosion limits. INDIRECT FIRE HAZARD. Heating increases the fire hazard. Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	: DIRECT EXPLOSION HAZARD. Gas/vapour explosive within explosion limits if energy source high. INDIRECT EXPLOSION HAZARD. Heat may cause pressure rise in tanks/drums: explosion risk. Reactions with explosion hazards: see "Reactivity Hazard".

### 5.4. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion. Dilute toxic gases with water spray.
Precautionary measures fire	: Exposure to fire/heat: consider evacuation.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

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### 6.2. Methods and materials for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Provide equipment/receptacles with earthing.
- Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

### 6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Use earthed equipment. Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
- Storage temperature : < 35 °C
- Storage area : Store in a cool area. Store in a dry area. Store in a dark area. Ventilation at floor level. Provide for a tub to collect spills. Provide the tank with earthing. Unauthorized persons are not admitted. Store only in a limited quantity. Meet the legal requirements.
- Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. strong acids. (strong) bases. organic materials. water/moisture.
- Special rules on packaging : SPECIAL REQUIREMENTS: closing. dry. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: stainless steel. polyethylene. glass. MATERIAL TO AVOID: iron. aluminium. synthetic material. copper. PVC.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Methylene Chloride (75-09-2)		
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	174 mg/m <sup>3</sup>
USA - ACGIH	ACGIH TWA (ppm)	50 ppm (Dichloromethane (Methylene chloride); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - OSHA	OSHA PEL (TWA) (ppm)	25 ppm
USA - OSHA	OSHA PEL (STEL) (ppm)	125 ppm

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.

### 8.3. Individual protection measures/Personal protective equipment

- Materials for protective clothing : GIVE GOOD RESISTANCE: PVA. GIVE LESS RESISTANCE: neoprene. tetrafluoroethylene. GIVE POOR RESISTANCE: butyl rubber. natural rubber. nitrile rubber. PVC. viton. styrene-butadiene rubber.
- Hand protection : Gloves.
- Eye protection : Safety glasses.
- Skin and body protection : Head/neck protection. Protective clothing.
- Respiratory protection : Gas mask with filter type AX at conc. in air > exposure limit. High vapour/gas concentration: self-contained respirator.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Liquid.
- Molecular mass : 84.94 g/mol

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Color	: Colourless
Odor	: Sweet odour Ether-like odour
Odor threshold	: 214 ppm 755 mg/m <sup>3</sup>
pH	: No data available
pH solution	: No data available
Relative evaporation rate (butyl acetate=1)	: 27.5
Relative evaporation rate (ether=1)	: 1.8
Melting point	: -97 °C
Freezing point	: No data available
Boiling point	: 40 °C
Flash point	: No data available
Critical temperature	: 245 °C
Auto-ignition temperature	: 556 °C
Decomposition temperature	: > 120 °C
Flammability (solid, gas)	: No data available
Vapor pressure	: 470 hPa (20 °C)
Vapor pressure at 50 °C	: 1445 hPa (50 °C)
Critical pressure	: 61000 hPa
Relative vapor density at 20 °C	: 2.9
Relative density	: 1.3
Relative density of saturated gas/air mixture	: 1.9
Specific gravity / density	: 1325 kg/m <sup>3</sup>
Relative gas density	: No data available
Solubility	: Moderately soluble in water. Substance sinks in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in tetrachloromethane. Soluble in dimethylformamide. Water: 1.4 g/100ml
Log Pow	: 1.25 (Experimental value)
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.00043 Pa.s (20 °C)
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 13 - 22 vol % 450 - 780 g/m <sup>3</sup>

### 9.2. Other information

Specific conductivity	: 4300 pS/m
Saturation concentration	: 1535 g/m <sup>3</sup>
VOC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C. Clear. Highly volatile. May generate electrostatic charges.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity	: Reacts on exposure to water and heat with (some) metals. Decomposes slowly on exposure to water (moisture): release of toxic and corrosive gases/vapours (hydrogen chloride). On heating under increased oxygen concentration: (increased) risk of fire/explosion. On burning: release of toxic and corrosive gases/vapours (hydrogen chloride, carbon monoxide - carbon dioxide). Violent to explosive reaction with many compounds e.g. with (some) acids, with (some) metal powders and with (strong) oxidizers: (increased) risk of fire/explosion and formation of small quantities of phosgene.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Not established.
Conditions to avoid	: Heat. Moisture.
Incompatible materials	: metals.
Hazardous decomposition products	: Carbon dioxide. Carbon monoxide. Hydrogen chloride.

## SECTION 11: Toxicological information

Likely routes of exposure	: Inhalation. Skin and eye contact.
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### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Dermal: Not classified.  
Acute toxicity (inhalation) : Not classified

Methylene Chloride ( \f )75-09-2	
LD50 oral rat	> 2000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit; Literature study)

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Not classified  
Respiratory or skin sensitization : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : May cause cancer.  
National Toxicology Program (NTP) Status : 3 - Reasonably anticipated to be Human Carcinogen  
  
Reproductive toxicity : Not classified  
Specific target organ toxicity (single exposure) : Not classified  
Specific target organ toxicity (repeated exposure) : Not classified  
  
Aspiration hazard : Not classified

Methylene Chloride (75-09-2)	
Viscosity, kinematic (calculated value) (40 °C)	0.32452830 mm <sup>2</sup> /s

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Classification concerning the environment: not applicable.  
Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). TA-Luft Klasse 5.2.5/l.  
Ecology - water : Water pollutant (surface water). Ground water pollutant. Slightly harmful to fishes (LC50(96h) 100-1000 mg/l). Slightly harmful to invertebrates (Daphnia) (EC50 (48h): 100 - 1000 mg/l). Practically non-toxic to algae (EC50 >100 mg/l). Toxic to bacteria. Inhibition of activated sludge.

Methylene Chloride (75-09-2)	
LC50 fish 1	193 mg/l (LC50; 96 h; Pimephales promelas)
EC50 Daphnia 1	168.2 mg/l (EC50; 48 h)

### 12.2. Persistence and degradability

Methylene Chloride (75-09-2)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil.

### 12.3. Bioaccumulative potential

Methylene Chloride (75-09-2)	
BCF fish 1	2 - 40 (BCF)
Log Pow	1.25 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

Methylene Chloride (75-09-2)	
Surface tension	0.028 N/m (20 °C)
Log Pow	1.25 (Experimental value)
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

### 12.5. Other adverse effects

No additional information available

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### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

- Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an incinerator for chlorinated waste materials with energy recovery. Do not discharge into surface water (Directive 2000/60/EC, Council Decision 2455/2001/EC).
- Additional information : LWCA (the Netherlands): KGA category 04. Hazardous waste according to Directive 2008/98/EC.

### SECTION 14: Transport information

#### 14.1. Basic shipping description

In accordance with TDG

#### TDG

Not regulated for transport

#### 14.2. Transport information/DOT

#### DOT

- DOT NA no. : UN1593  
UN-No.(DOT) : 1593  
Packing group (DOT) : III - Minor Danger
- Transport document description : UN1593 Dichloromethane, 6.1, III  
Proper Shipping Name (DOT) : Dichloromethane  
Contains Statement Field Selection (DOT) :
- Transport hazard class(es) (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132  
Division (DOT) : 6.1  
Hazard labels (DOT) : 6.1 - Poison inhalation hazard



- Dangerous for the environment : No
- DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672)  
IP8 - Ammonia solutions may be transported in rigid or composite plastic IBCs (31H1, 31H2 and 31HZ1) that have successfully passed, without leakage or permanent deformation, the hydrostatic test specified in 178.814 of this subchapter at a test pressure that is not less than 1.5 times the vapor pressure of the contents at 55 C (131 F)  
N36 - Aluminum or aluminum alloy construction materials are permitted only for halogenated hydrocarbons that will not react with aluminum  
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)  
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively
- DOT Packaging Exceptions (49 CFR 173.xxx) : 153  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203  
DOT Packaging Bulk (49 CFR 173.xxx) : 241

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DOT Quantity Limitations Passenger aircraft/rail : 60 L  
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 220 L  
CFR 175.75)

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel

Other information : No supplementary information available.

### 14.3. Air and sea transport

#### IMDG

UN-No. (IMDG) : 1593  
Class (IMDG) : 6.1 - Toxic substances  
EmS-No. (1) : F-A  
EmS-No. (2) : S-A

#### IATA

UN-No. (IATA) : 1593  
Class (IATA) : 6 -  
Packing group (IATA) : III - Minor Danger

## SECTION 15: Regulatory information

### 15.1. National regulations

#### Methylene Chloride (75-09-2)

Listed on the Canadian DSL (Domestic Substances List)

### 15.2. International regulations

#### Methylene Chloride (75-09-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

## SECTION 16: Other information

Date of issue : 21/06/2016

Full text of H-phrases:

H350	May cause cancer
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SDS Canada ACP

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*