

# CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

## SAFETY DATA SHEET

### METHYLENE CHLORIDE

#### 1. IDENTIFICATION

**Product identifier: METHYLENE CHLORIDE**

**Product Code Number: 1701**

**Company Identification:**

Corco Chemical Corporation  
299 Cedar Lane  
Fairless Hills, PA 19030  
Phone: 215-295-5006  
Fax: 215-295-0781

**24 Hour Emergency Telephone  
Number:**

CHEMTREC (U.S.): 1-800-424-9300  
CHEMTREC (Outside U.S. 1-703-527-3887

**Trade Name:**

Methylene Chloride

**Synonyms:**

Dichloromethane, Methylene Bichloride,  
Methane Dichloride, DCM

**Chemical Formula:**

CH<sub>2</sub>Cl<sub>2</sub>

**Product use: Solvent, Laboratory and  
scientific research and development**

#### 2. HAZARD(S) IDENTIFICATION

**Health hazards:**

<b>Acute Toxicity:</b>	
<b>Oral:</b>	<b>Category 4</b>
<b>Skin Irritation:</b>	<b>Category 2</b>
<b>Eye Irritation:</b>	<b>Category 2B</b>
<b>Carcinogenicity:</b>	<b>Category 2</b>

**Hazard Statements:** Harmful if swallowed. Harmful in contact with skin. Causes eye irritation. Harmful if inhaled. May cause drowsiness or dizziness. May cause cancer.

**Precautionary Statements:** Wear protective gloves/protective clothing/eye protection/face protection. **IF SWALLOWED:** Call a POISON CENTER or a doctor/physician. **If on skin or hair:** Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. **IF INHALED:** Call a POISON CENTER or doctor/physician if you feel unwell.

**OSHA regulatory status:** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Potential Health Effects:**

**Eye Contact:** May cause pain disproportionate to the level of irritation to eye tissue. May cause moderate eye irritation which may be slow to heal. May cause slight corneal injury. Vapor may cause eye irritation experienced as mild discomfort and redness.

**Skin Contact:** Brief contact may cause moderate skin irritation with local redness. May cause more severe response on covered skin (under clothing, gloves). Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage. Extensive skin contact with methylene chloride, such as immersion, may cause an intense burning sensation, followed by a cold, numb feeling which will subside after contact. May cause drying and flaking of the skin.

**Skin Absorption:** Prolonged skin contact is unlikely to result in absorption of harmful amounts.

**Inhalation:** In confined or poorly ventilated areas, vapor can readily accumulate and cause unconsciousness and death. Vapor may cause irritation of the upper respiratory tract (nose and throat) May cause carboxyhemoglobinemia, thereby impairing the blood's ability to transport oxygen.

**Ingestion:** Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

**Aspiration hazard:** Aspiration into the lungs may occur during ingestion or vomiting, resulting in rapid absorption and injury to other body systems.

**Effects of Repeated Exposure:** In animals, effects have been reported on the following organs: Kidney, Liver, and blood – May cause carboxyhemoglobinemia, thereby impairing the blood's ability to transport oxygen.

**Environmental Effects:** May cause long-term effects to the environment.

**Label Elements:**



Signal word **Danger**

### 3. Composition/information on ingredients

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Dichloromethane	75-09-2	>99%	Yes

### 4. First-aid measures

**Inhalation:** If inhaled, remove to fresh air. If breathing is labored or with coughing, give 100% supplemental oxygen. If not breathing, begin artificial respiration. Get medical aid.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention.

**Eye Contact:** Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## 5. Fire-fighting measures

**Flammability:** Not expected to be a fire hazard.

**Auto-ignition Temperature:** 556.1o C (1033o F)

**Flash Point:** Not applicable.

**Flammable Limits:** Lower Limit – 15.1 @ 103xC, Upper Limit – 17.3 @ 148xC

**Products of Combustion:** May decompose into highly toxic and irritating gases (hydrogen chloride, phosgene, carbon monoxide and carbon dioxide) under fire conditions.

**Specific Fire Hazards:** As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Vapors mixed with air in proper proportion will propagate a flame.

**Specific Explosion Hazards:** None

**Fire Fighting Media:** Use water, dry chemical, chemical foam, or alcohol resistant foam. Use water spray to keep fire exposed containers cool.

**National Fire Protective Association:** Health - 2, Flammability - 1, Reactivity - 0

**NOTE:** NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

## 6. Accidental release measures

**Personal Precautions, Protective Equipment and Emergency Procedures:** Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

**Environmental Precautions and Methods and Materials for Containment and Cleaning Up:** Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth,) and place in a chemical waste container. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

## 7. Handling and storage

**Precautions:** Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Keep container

tightly closed. Avoid ingestion and inhalation. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment.

**Storage:** Keep away from oxidizing materials. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Protect from moisture. Do not store in zinc, aluminum, aluminum alloys or plastic.

## 8. Exposure controls/personal protection

**Engineering Controls:** Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Personal Protection:** Wear protective chemical goggles or appropriate eye protection. Use appropriate protective gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

### Exposure Limits:

ACGIH – 50 ppm; 174 mg/m<sup>3</sup>

NIOSH – Potential Occupational Carcinogen – see Appendix A Potential NIOSH carcinogen

OSHA Final PELs – 25 ppm (8 hr TWA); 125 ppm STEL (15 min TWA); 1800 mg/m<sup>3</sup> TWA

OSHA Vacated PELs: Methylene chloride: 500 ppm TWA

## 9. Physical and chemical properties

### Appearance:

Physical State:	Liquid
Color:	Clear, colorless liquid.
Odor:	Ethereal odor
Odor Threshold:	250 ppm
Molecular Formula:	CH <sub>2</sub> Cl <sub>2</sub>
Molecular Weight:	84.93
Auto-ignition Temperature:	556.1o C (1033o F)
Flash Point:	Not applicable.
Flammable Limits:	Lower Limit – 15.1 @ 103xC, Upper Limit – 17.3 @ 148xC
pH:	Not available.
Boiling Point:	39.8 C (103.6 F) (760 mm/Hg)
Melting Point:	-96,7 C (142.1 F)
Freezing Point :	-96.7 C (142.1 F)
Decomposition Temperature:	Not available

Specific Gravity:	1.33 (Water=1)
Vapor Density (Air=1):	2.9
Viscosity:	Not available
Solubility:	Moderately soluble in water
Conductivity:	Semiconductive; Conductivity = 4300 pS/m; Dielectric Constant = 8.93; Relaxation Time Constant = 1.8x10 <sup>-2</sup> seconds
Explosive properties	Not explosive
Oxidizing properties	No

## 10. Stability and reactivity

**Stability:** Stable

**Conditions to Avoid:** Incompatible materials, strong oxidants. Exposure to elevated temperatures can cause product decompose. Avoid open flames, welding arcs, or other high temperature sources. Avoid direct sunlight or ultraviolet sources.

**Incompatibility With Various Substances:** Strong oxidizing agents. Can react dangerously with nitrogen tetroxide, liquid oxygen, potassium, sodium, sodium-potassium alloys, lithium, potassium hydroxide with N-methyl-N-nitroso urea, potassium t-butoxide, and finely powdered aluminum, mixtures of these materials, and liquid ammonia or dimethylaminopropylamine.

**Hazardous Decomposition Products:** Hydrogen chloride, phosgene, carbon monoxide, carbon, dioxide.

**Hazardous Polymerization:** Will not occur.

## 11. Toxicological information

**Routes of Entry:** Inhalation, skin absorption, skin contact

**Acute Exposure Hazards:**

**INHALATION HAZARD:** In confined or poorly ventilated areas, vapor can readily accumulate and can cause unconsciousness and death. Vapor may cause irritation of the upper respiratory tract (nose and throat). May cause carboxyhemoglobinemia, thereby impairing the blood's ability to transport oxygen. May cause dizziness at higher levels may cause cardiac arrhythmias (irregular heartbeats).

**INGESTION HAZARD:** May cause irritation of the gastrointestinal tract with vomiting. If vomiting results in aspiration, chemical pneumonia could follow.

Absorption through gastrointestinal tract may produce symptoms of central nervous system depression ranging from light headedness to unconsciousness.

**SKIN CONTACT HAZARD:** Causes irritation, redness and pain. Prolonged contact can cause burns. Liquid degrades the skin. May be absorbed through skin.

**EYE CONTACT HAZARD:** Vapors can cause eye irritation. Contact can produce pain, inflammation and temporal eye damage.

**Chronic Exposure Hazards:** Possible cancer hazard based on tests with laboratory animals. Prolonged or repeated contact with skin may cause dermatitis. May have fetal effects.

**Animal Toxicity:**

Inhalation, mouse: LC50 = 14,400 ppm/7H;

Inhalation, rat: LC50 = 88 g/m<sup>3</sup>/30M;

Oral, rat: LD50 = 1600 mg/kg;

**Carcinogenicity:**

ACGIH: A3- animal carcinogen

California: carcinogen, initial date 4/1/88

NIOSH: occupational carcinogen

NTP: suspect carcinogen

OSHA: possible select carcinogen

IARC: Group 2B carcinogen

**Epidemiology:** A historical cohort study of persons occupationally exposed to dichloromethane no significantly increased cancer or ischemic heart disease mortality compared to a group of non-exposed employees, as well as general population controls. The most recent update and expansion of this study demonstrated no unusual mortality patterns for hypothesized cause of latency. See IARC Volume 41 for a more detailed discussion.

**Reproductive Effects:** No data available.

**Mutagenicity:** No data available.

**Neurotoxicity:** No data available.

**Reproductive Effects:** No data available.

**Teratogenicity:**

**Specific developmental abnormalities:** (musculoskeletal/urogenital) observed:

Inl- mus TCLo – 1250 ppm/tH, Oral-rat, TDLo 1260 mg/kg (6-15D preg)

**Developmental abnormalities:**

Craniofacial, Inl-mouse TCLo=100 ppm/7Hr (female, 6-15D post);

Musculoskeletal, Oral- rat, TDLo+1260 mg/kg (6-15D preg)



## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** This chemical has a moderate potential to affect some aquatic organisms. It is resistant to biodegradation and has a flow potential to persist in the aquatic environment. 96-hr, EC50 (loss of equilibrium); Fathead minnow: 99 mg/L; 96-hr, EC10: 66.3 mg/L; Bluegill sunfish: 96-hr, LC50=220 mg/L; Water flea: 24-hr, LC50=2270 mg/L; No observed effect level: 1550 mg/L.

**Environmental Fate:** This material is not likely to bioconcentrate.

## 13. Disposal considerations

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements. This material is a "U" listed waste under 40 CFR 261.33 (U080). Do not dump into any sewers, soil or body of water.

## 14. Transportation Information

US DOT, IATA, IMO



**Proper Shipping Name:** Dichloromethane

**Hazard Class:** 6.1

**UN Number:** UN1593

**Packing Group:** III

**Canada TDG Additional Information:** Not available



## 15. Regulatory information

### US Federal Regulations:

**TSCA:** CAS# 75-09-2 is listed on the TSCA Inventory.

**Health and Safety Reporting List:** CAS# 75-09-2 effective date: 10/4/1982; Sunset date: 10/4/1992

**Chemical Test Rules:** CAS# 75-09-2 is not listed.

**Section 12b:** CAS# 75-09-2 is not listed.

**TSCA Significant New Use Rule:** Does not have an SNUR under TSCA.

**CERCLA Hazardous Substances:** CAS# 75-09-2 – 1000 lb final RQ; 454 kg final RQ

**SARA Section 302:** Does not have a TPQ

**SARA Codes:** CAS# 75-09-2 – acute, chronic

**Section 313:** Dichloromethane (CAS# 75-09-2) is subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.

**Clean Air Act:** CAS# 75-09-2 is listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.

**Clean Water Act:** CAS# 75-09-2 is listed as a Hazardous Substance. It is listed as a Priority Pollutant. It is not a Toxic Pollutant.

**OSHA:** Not considered highly hazardous by OSHA.

### US State Regulations:

CAS# 75-09-2 is on the following state right-to-know lists: California, Florida, New Jersey, Pennsylvania, Minnesota, and Massachusetts.

The following statement is made in order to comply with the California State Drinking Water Act: **WARNING:** This product contains Methylene chloride, a chemical known to the state of California to cause cancer. California No Significant Risk Level = 50 ug/day.

### Canada:

**DSL/NDSL:** CAS# 75-09-2 is listed on Canada's DSL list.

**WHMIS:** This product has a WHMIS classification of D1B, D2A, D2B. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by those regulations.

**Ingredient Disclosure List:** CAS# 75-09-2 is not listed on Canada's Ingredient Disclosure List.

### DSCL (EEC):

**Hazard Symbols:** Xn

**Risk Phrases:** R40 – Possible risk of irreversible effects.

**Safety Phrases:** S23 – Do not inhale gas/fumes/vapor/spray; S24/25 – Avoid contact with skin and eyes; S36/37: Wear suitable protective clothing and gloves.

## 16. Other information

**Disclaimer - The information in the sheet was written based on the best knowledge and experience currently available. 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.**

Created: 8/1/14