

# SAFETY DATA SHEET

According to US Regulation 29 CFR 1910.1200 (HazCom 2012)

## 1. Identification

**Product identifier:** Dichloromethane

### Other means of identification

**Synonyms:** Methylene chloride  
**Product No.:** 4879, 4881, 4883, 4884, 5275, 9264, 9316, 9410, H077, H485, H570, H572

### Recommended restrictions

**Recommended use:** For Laboratory, Research or Manufacturing Use.  
**Restrictions on use:** Not determined.

### Details of the supplier of the safety data sheet

**Company Name:** Avantor Performance Materials, LLC  
**Address:** 100 Matsonford Rd, Suite 200  
Radnor, PA 19087

**Telephone:** Customer Service: 855-282-6867

**Contact Person:** Product Information Compliance  
**E-mail:** info@avantormaterials.com

**Emergency telephone number:**  
CHEMTREC: 1-800-424-9300 within US and Canada

## 2. Hazard(s) identification

### Hazard Classification

#### Health Hazards

Acute toxicity (Oral)	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Carcinogenicity	Category 1B
Specific Target Organ Toxicity - Single Exposure	Category 3 <sup>1</sup>

#### Target Organs

1. Respiratory tract irritation., Narcotic effect.

#### Unknown toxicity - Health

Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

### Label Elements

**Hazard Symbol:**



**Signal Word:** Danger

**Hazard Statement:** Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause cancer.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.

**Precautionary Statements**

**Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

**Response:** IF exposed or concerned: Call a POISON CENTER/doctor. IF SWALLOWED: Rinse mouth. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing.

**Storage:** Store in a well-ventilated place. Keep container tightly closed. Store locked up.

**Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Hazard(s) not otherwise classified (HNOC):** None.

### 3. Composition/information on ingredients

**Substances**

Chemical Identity	CAS number	Content in percent (%)*
Dichloromethane	75-09-2	99 - 100%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

**General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

**Ingestion:** Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

<b>Inhalation:</b>	Move to fresh air. Call a POISON CENTER/doctor if you feel unwell.
<b>Skin Contact:</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention. In case of irritation from airborne exposure, move to fresh air.

#### Most important symptoms/effects, acute and delayed

<b>Symptoms:</b>	Irritating to eyes, respiratory system and skin. May cause drowsiness or dizziness.
<b>Hazards:</b>	Irritant. Harmful if swallowed. Suspected of causing cancer.

#### Indication of immediate medical attention and special treatment needed

<b>Treatment:</b>	Treat symptomatically. Symptoms may be delayed.
-------------------	---

### 5. Fire-fighting measures

<b>General Fire Hazards:</b>	May burn, but does not ignite readily. In case of fire and/or explosion do not breathe fumes.
------------------------------	---

#### Suitable (and unsuitable) extinguishing media

<b>Suitable extinguishing media:</b>	Water spray, foam, dry powder or carbon dioxide.
<b>Unsuitable extinguishing media:</b>	None known.

<b>Specific hazards arising from the chemical:</b>	Fire may produce irritating, corrosive and/or toxic gases.
--	--

#### Special protective equipment and precautions for firefighters

<b>Special fire fighting procedures:</b>	Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
<b>Special protective equipment for fire-fighters:</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures:</b>	Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep upwind.
<b>Methods and material for containment and cleaning up:</b>	Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

**Notification Procedures:** Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

**Environmental Precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling:** Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid breathing mist or vapor. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Store in a dry place. Store in a well-ventilated place.

## 8. Exposure controls/personal protection

### Control Parameters

#### Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Dichloromethane	TWA	50 ppm	US. ACGIH Threshold Limit Values (2011)
	OSHA_ACT	12.5 ppm	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	REF	29 CFR 1910.1052	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2012)
	TWA	25 ppm	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	STEL	125 ppm	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	ST ESL	1,100 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	AN ESL	100 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	ST ESL	3,600 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	AN ESL	350 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	TWA PEL	25 ppm 87 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	STEL	125 ppm 435 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	TWA A LV	12.5 ppm	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)

#### Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Dichloromethane (dichloromethane: Sampling time: End of shift.)	0.3 mg/l (Urine)	ACGIH BEI (03 2013)

**Appropriate Engineering Controls**  
SDS\_US - SDS000001398

Adequate ventilation should be provided so that exposure limits are not exceeded.

## Individual protection measures, such as personal protective equipment

<b>General information:</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.
<b>Eye/face protection:</b>	Wear safety glasses with side shields (or goggles) and a face shield.
<b>Skin Protection</b>	
<b>Hand Protection:</b>	Chemical resistant gloves
<b>Other:</b>	Wear suitable protective clothing and gloves.
<b>Respiratory Protection:</b>	In case of inadequate ventilation use suitable respirator.
<b>Hygiene measures:</b>	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

## 9. Physical and chemical properties

### Appearance

<b>Physical state:</b>	Liquid
<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Pleasant sweet odor
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	Not applicable
<b>Melting point/freezing point:</b>	-95 °C
<b>Initial boiling point and boiling range:</b>	39 - 40 °C
<b>Flash Point:</b>	No data available.
<b>Evaporation rate:</b>	0.71 (ether=1)
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	22 %(V)
<b>Flammability limit - lower (%):</b>	13 %(V)
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	58.00 kPa (25 °C)
<b>Vapor density:</b>	2.93 AIR=1.02
<b>Density:</b>	1.32 g/ml (20 °C)
<b>Relative density:</b>	1.33 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	20 g/l
<b>Solubility (other):</b>	ethanol: Miscible
<b>Partition coefficient (n-octanol/water):</b>	1.25
<b>Auto-ignition temperature:</b>	600 - 615 °C
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

#### Other information

Minimum ignition energy:	> 1 J
Molecular weight:	84.93 g/mol (CH <sub>2</sub> Cl <sub>2</sub> )

### 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Excessive heat. Moisture.
<b>Incompatible Materials:</b>	Strong oxidizing agents. Acids. Caustics. Aluminum. Chemically active metals. May attack some plastics, rubber and coatings.
<b>Hazardous Decomposition Products:</b>	Thermal decomposition may release oxides of carbon. Hydrogen chloride. phosgene

### 11. Toxicological information

#### Information on likely routes of exposure

<b>Inhalation:</b>	High vapor concentrations may cause drowsiness and irritation.
<b>Skin Contact:</b>	Causes skin irritation.
<b>Eye contact:</b>	Causes serious eye irritation.
<b>Ingestion:</b>	Harmful if swallowed.

#### Information on toxicological effects

##### Acute toxicity (list all possible routes of exposure)

<b>Oral</b>	
<b>Product:</b>	LD 50 (Rat): 1,600 mg/kg
<b>Dermal</b>	
<b>Product:</b>	LD 50 (Rat) > 2,000 mg/kg
<b>Inhalation</b>	
<b>Product:</b>	LC 50 (Rat, 6 h) 52 mg/l

<b>Repeated dose toxicity</b>	
<b>Product:</b>	No data available.

<b>Skin Corrosion/Irritation</b>	
<b>Product:</b>	Causes skin irritation.

<b>Serious Eye Damage/Eye Irritation</b>	
<b>Product:</b>	Causes serious eye irritation.

<b>Respiratory or Skin Sensitization</b>	
<b>Product:</b>	Not a skin nor a respiratory sensitizer.

**Carcinogenicity**

**Product:** May cause cancer.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

Dichloromethane Overall evaluation: 2A. Probably carcinogenic to humans.

**US. National Toxicology Program (NTP) Report on Carcinogens:**

Dichloromethane Reasonably Anticipated to be a Human Carcinogen.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

Dichloromethane  
Cancer

**Germ Cell Mutagenicity**
**In vitro**

**Product:** No mutagenic components identified

**In vivo**

**Product:** No mutagenic components identified

**Reproductive toxicity**

**Product:** No components toxic to reproduction

**Specific Target Organ Toxicity - Single Exposure**

**Product:** Narcotic effect.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** None known.

**Target Organs**

Specific Target Organ Toxicity - Single Exposure: Respiratory tract irritation., Narcotic effect.

**Aspiration Hazard**

**Product:** Not classified

**Other effects:** None known.

<b>12. Ecological information</b>
-----------------------------------

**Ecotoxicity:**
**Acute hazards to the aquatic environment:**
**Fish**

**Product:** LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 140.8 mg/l

**Aquatic Invertebrates**

**Product:** EC 50 (Water flea (*Daphnia magna*), 48 h): 1,250 mg/l

**Chronic hazards to the aquatic environment:**
**Fish**

**Product:** No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and Degradability**
**Biodegradation**

**Product:** Expected to biodegrade slowly.

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative potential**
**Bioconcentration Factor (BCF)**

**Product:** No data available on bioaccumulation.

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** Log Kow: 1.25

**Mobility in soil:**

The product is partly soluble in water. May spread in the aquatic environment.

**Other adverse effects:**

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**13. Disposal considerations**
**Disposal instructions:**

Discharge, treatment, or disposal may be subject to national, state, or local laws.

**Contaminated Packaging:**

Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**
**DOT**

UN Number:	UN 1593
UN Proper Shipping Name:	Dichloromethane
Transport Hazard Class(es)	
Class:	6.1
Label(s):	6.1
Packing Group:	III
Marine Pollutant:	No
Special precautions for user:	Not determined.

**IMDG**

UN Number:	UN 1593
UN Proper Shipping Name:	DICHLOROMETHANE
Transport Hazard Class(es)	
Class:	6.1
Label(s):	6.1
EmS No.:	F-A, S-A
Packing Group:	III
Marine Pollutant:	No



Special precautions for user: Not determined.

#### IATA

UN Number:	UN 1593
Proper Shipping Name:	Dichloromethane
Transport Hazard Class(es):	
Class:	6.1
Label(s):	6.1
Packing Group:	III
Marine Pollutant:	No
Special precautions for user:	Not determined.

### 15. Regulatory information

#### US Federal Regulations

##### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

##### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

<u>Chemical Identity</u>	<u>OSHA hazard(s)</u>
Dichloromethane	Eye irritation
	Skin irritation
	Cancer
	Heart
	Central nervous system
	Liver

##### CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Dichloromethane	1000 lbs.

##### Superfund Amendments and Reauthorization Act of 1986 (SARA)

###### Hazard categories

Acute toxicity (any route of exposure)  
Skin Corrosion or Irritation  
Serious eye damage or eye irritation  
Carcinogenicity  
Specific target organ toxicity (single or repeated exposure)

###### SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

###### SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Dichloromethane	1000 lbs.

###### SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Dichloromethane	10000 lbs.

###### SARA 313 (TRI Reporting)

<u>Chemical Identity</u>	<u>Reporting threshold for other users</u>	<u>Reporting threshold for manufacturing and processing</u>
Dichloromethane	10000 lbs.	25000 lbs.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):**

None present or none present in regulated quantities.

**US State Regulations**

**US. California Proposition 65**

Dichloromethane Carcinogenic. WARNING: This product contains a chemical known to the State of California to cause cancer.

which is [are] known to the State of California to cause cancer.

Dichloromethane Carcinogenic. WARNING: This product contains a chemical known to the State of California to cause cancer.

**US. New Jersey Worker and Community Right-to-Know Act**

**Chemical Identity**

Dichloromethane

**US. Massachusetts RTK - Substance List**

**Chemical Identity**

Dichloromethane

**US. Pennsylvania RTK - Hazardous Substances**

**Chemical Identity**

Dichloromethane

**US. Rhode Island RTK**

**Chemical Identity**

Dichloromethane

**International regulations**

**Montreal protocol**

Not applicable

**Stockholm convention**

Not applicable

**Rotterdam convention**

Not applicable

**Kyoto protocol**

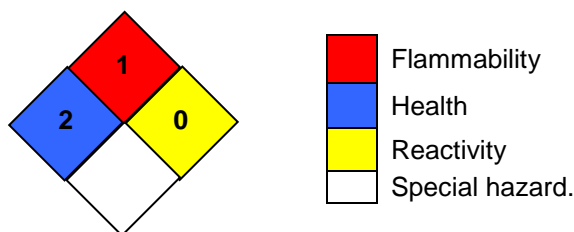
Not applicable

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Mexico INSQ:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

**Issue Date:** 03-29-2019

**Revision Information:** Not relevant.

**Version #:** 2.4

**Source of information:** Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, information from the Toxicology Data Network (TOXNET), European Chemical Agency (ECHA) substance dossiers, IARC Monographs, US National Toxicology Program data, the Agency for Toxic Substances and Disease Registry, other manufacturer's SDSs and other sources, as appropriate.

**Further Information:** No data available.

**Disclaimer:**

The information provided in this Safety Data Sheet (SDS) was prepared based on data believed to be accurate as of the date of this SDS. TO THE GREATEST EXTENT PERMITTED BY LAW, AVANTOR PERFORMANCE MATERIALS ("AVANTOR") EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES REGARDING THE INFORMATION CONTAINED HEREIN INCLUDING, WITHOUT LIMITATION, AS TO ACCURACY, COMPLETENESS, FITNESS FOR PURPOSE OR USE, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY AND STABILITY. This SDS is intended as a guide to the appropriate use, handling, storage and disposal of the product to which it relates by properly trained personnel, and is not intended to be comprehensive. Users of Avantor's products are advised to perform their own tests and to exercise their own judgment to determine the safety, suitability and appropriate use, handling, storage and disposal of each product and product combination for their own purposes and uses. TO THE GREATEST EXTENT PERMITTED BY LAW, AVANTOR DISCLAIMS LIABILITY FOR, AND BY USING AVANTOR'S PRODUCTS PURCHASER AGREES THAT UNDER NO CIRCUMSTANCES SHALL AVANTOR BE LIABLE FOR, SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY TYPE OR KIND, INCLUDING WITHOUT LIMITATION, FOR LOSS OF PROFITS, REPUTATIONAL DAMAGE, PRODUCT RECALL OR BUSINESS INTERRUPTION.