Safety Data Sheet

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision date: 24.02.2025	*Version: 1.2*	*Print date: 24.02.2025*

SECTION 1: Identification

Product identifier

Trade name/designation:	Dichloromethane
Product No.:	BDH1113
Synonyms:	none
CAS No.:	75-09-2

Relevant identified uses of the substance or mixture and uses advised against

Recommended use	For Laboratory, Research or Manufacturing Use.
Uses advised against	After February 3, 2025, this chemical substance (as defined in TSCA section 3(2))/product cannot be distributed in commerce to retailers. After January 28, 2026, this chemical substance (as defined in TSCA section 3(2))/product is and can only be distributed in commerce or processed with a concentration of methylene chloride equal to or greater than 0.1% by weight for the following purposes: (1) Processing as a reactant; (2) Processing for incorporation into a formulation, mixture, or reaction product; (3) Processing for repackaging; (4) Processing for recycling; (5) Industrial or commercial use as a laboratory chemical; (6) Industrial or commercial use as a bonding agent for solvent welding; (7) Industrial and commercial use as a paint and coating remover from safety critical, corrosion-sensitive components of aircraft and spacecraft; (8) Industrial and commercial use as a processing aid; (9) Industrial and commercial use for plastic and rubber products manufacturing; (10) Industrial and commercial use as a solvent that becomes part of a formulation or mixture, where that formulation or mixture will be used inside a manufacturing process, and the solvent (methylene chloride) will be reclaimed; (11) Industrial and commercial use in the refinishing for wooden furniture, decorative pieces, and architectural fixtures of artistic, cultural or historic value until May 8, 2029; (12) Industrial and commercial use in adhesives and sealants in aircraft, space vehicle, and turbine applications for structural and safety critical non-structural applications until May 8, 2029; (13) Disposal; and (14) Export.

Details of the supplier of the safety data sheet

Supplier

VWR International LLC

Street	100 Matsonford Road Radnor Corporate Center, Building One, Suite 200 P. O. Box 6660
Postal code/City	Radnor, PA 19087, United States
Telephone	+1-800-932-5000 toll-free within US/Canada +1-610-386-1700
Telefax	+1-610-728-2103

Emergency phone number

Telephone	+1-800-424-9300 (Chemtrec, 24 hrs/day, 7 days/week, USA)

Preparation Information

VWR International - Product Information Compliance

E-mail	SDS@avantorsciences.com

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)

Hazard classes and hazard categories	Hazard statements
Skin irritation, category 2	H315
Eye irritation, category 2	H319
Specific target organ toxicity (single exposure), category 3, narcotic effect	H336
Carcinogenicity, category 2	H351

2.2 Label elements

Labelling in accordance with 29 CFR 1910.1200 (OSHA HCS)

Hazard pictograms

Signal word: Warning

Hazard statements	
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H336	May cause drowsiness or dizziness.

Precautionary statements	
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P202	Do not handle until all safety precautions have been read and understood.
P302+P352	IF ON SKIN: Wash with plenty of water.
P362+P364	Take off contaminated clothing and wash it before reuse.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to an appropriate treatment or disposal facility in accordance with applicable laws and regulations.

Hazard(s) not otherwise classified (HNOC)
none

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name	Dichloromethane
Molecular formula	CH_2Cl_2
Molecular weight	84.93 g/mol
CAS No.	75-09-2

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Do not leave affected person unattended. If unconscious but breathing normally, place in recovery position and seek medical advice. Take off contaminated clothing. Never give anything by mouth to an unconscious person or a person with cramps. When in doubt or if symptoms are observed, get medical advice.

In case of inhalation

Remove casualty to fresh air and keep warm and at rest. In case of respiratory tract irritation, consult a physician. When in doubt or if symptoms are observed, get medical advice.

In case of skin contact

Remove contaminated, saturated clothing immediately. Wash off any skin contamination immediately. In case of skin irritation, consult a physician.

After eye contact:

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist.

In case of ingestion

Seek medical advice immediately (poison centre). Rinse mouth thoroughly with water.

Self-protection of the first aider

First aider: Pay attention to self-protection! Wear personal protection equipment (refer to section 8).

4.2 Most important symptoms/effects, acute and delayed

Cough. Shortness of breath. Respiratory depression. Cardiac arrhythmias. Cardiac arrest. Pulmonary oedema. Vomiting. Dizziness. Nausea. Repeated exposure may cause skin dryness or cracking. Unconsciousness.

4.3 Indication of any immediate medical attention and special treatment needed

Substance 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. Administer oxygen, if necessary intubation and ventilation. In the event of severe poisoning hyperven-tilation should be considered. Do not administer catecholamines because of the cardiac effect caused by the product.

SECTION 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media

The product itself does not burn.
Co-ordinate fire-fighting measures to the fire surroundings.
Water spray.
Dry extinguishing powder.
Alcohol resistant foam.
Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons

Full water jet.

5.2 Specific hazards arising from the chemical

In case of fire and/or explosion do not breathe fumes.
Do not allow run-off from fire-fighting to enter drains or water courses.
In case of fire: Evacuate area.
In case of fire may be liberated:
Carbon monoxide
Carbon dioxide (CO2).
Hydrogen chloride (HCl)

5.3 Advice for firefighters

Non-combustible corrosive substances (liquid).
Do not breathe gas/fume/vapor/spray.
Fight fire with normal precautions from a reasonable distance.
Protective equipment and precautions for firefighters:
Wear a self-contained breathing apparatus and chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Wear personal protection equipment (refer to section 8). Avoid contact with eyes and skin. Do not breathe gas/fume/vapor/spray. Remove victim out of the danger area. Stop leak if safe to do so.

6.2 Environmental precautions

Do not allow to enter into surface water or drains.

6.3 Methods and material for containment and cleaning up

Large spills: Dike or dam to contain for later disposal. Take up mechanically, placing in appropriate containers for disposal. Small spills: Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Dispose according to legislation.

6.4 Reference to other sections

Personal protection equipment (PPE): see section 8 Disposal information: see section 13 Decomposition products in case of fire: see section 5.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling
Wear personal protection equipment (refer to section 8).
Avoid contact with eyes and skin.
Avoid inhalation of the product.
Use extractor hood (laboratory).
Provide adequate ventilation.
Measures to prevent fire, aerosol and dust generation
Usual measures for fire prevention.
Measures required to protect the environment
Do not allow uncontrolled discharge of product into the environment.

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: 15°C – 25°C or 30°C depending on climatic conditions.
Storage: Keep container tightly closed and in a well-ventilated place. Keep/Store only in original container. Keep cool. Protect from sunlight. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Suitable container/equipment material: Glass Steel Stainless steel Unsuitable container/equipment material: Aluminium Polyethylene PVC (polyvinyl chloride)

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredient (Designation)	Source	Country	parameter	Limit value
Dichloromethane	OSHA	US	LTV	25 ppm
Dichloromethane	OSHA	US	STV	125 ppm

8.2 Engineering controls

Appropriate engineering controls
Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment (PPE)
Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

Eye/face protection
Eye glasses with side protection

Skin protection
Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

<u>By short-term hand contact</u>	
Suitable material:	Butyl caoutchouc (butyl rubber)/FKM (fluoro rubber)
Thickness of the glove material:	0,70 mm
Breakthrough time	> 120 min

<u>By long-term hand contact</u>	
Suitable material:	Butyl caoutchouc (butyl rubber)/FKM (fluoro rubber)
Thickness of the glove material:	0,70 mm
Breakthrough time	> 120 min

Respiratory protection
Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Additional information
Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls
no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	
Physical state:	liquid
Color:	colorless
Odor:	no data available

Safety relevant basic data

pH:	7 (20 °C)
Melting point/freezing point:	-95 °C
Initial boiling point and boiling range:	39.8 °C (1013 hPa)
Flash point:	no data available
Flammability:	Not applicable
Lower and upper explosion limit	
Lower explosion limit:	13 % (v/v)
Upper explosion limit:	22 % (v/v)
Vapor pressure:	475 hPa (20 °C)
Relative vapour density:	2.93 (20 °C)
Density and/or relative density	
Density:	1.322 g/cm³ (20 °C)
Solubility(ies)	
Water solubility:	~20 g/l (20 °C)
Partition coefficient: n-octanol/water:	1.25 (20 °C)
Auto-ignition temperature:	605 °C (DIN 51794)
Decomposition temperature:	Not applicable
Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	0.43 mPa*s (20 °C)
Particle characteristics:	does not apply to liquids

9.2 Other information

Evaporation rate:	no data available
Explosive properties:	no data available
Oxidising properties:	Not applicable
Bulk density:	no data available
Refraction index:	1.4244 (589 nm; 20 °C)
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is non-reactive under normal conditions.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Violent reaction with:
Oxidizing agent, strong.
Strong acid
Alkali (lye)
Perchlorates

10.4 Conditions to avoid

Protect from moisture.
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.
Protect from direct sunlight.
Possible decomposition might be provoken.

10.5 Incompatible materials:

Alkali metals
Aluminium
Reacts with strong oxidizing agents.

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects
Acute oral toxicity:
Based on available data, the classification criteria are not met.

LD50: > 1600 mg/kg - Rat - (RTECS)

LDLo: > 357 mg/kg - Human - (RTECS)

Acute dermal toxicity:
Based on available data, the classification criteria are not met.

LD50: < 2000 mg/kg - Rat - (OECD 402)

Acute inhalation toxicity:
Based on available data, the classification criteria are not met.

LC50: 53 mg/l - Rat - (Japan GHS Basis for Classification Data)

Irritant and corrosive effects:
Primary irritation to the skin:
Causes skin irritation.

Irritation to eyes:
Causes serious eye irritation.

Irritation to respiratory tract:
Not applicable

Respiratory or skin sensitization
In case of skin contact: not sensitizing
In case of inhalation: not sensitizing

STOT-single exposure
May cause drowsiness or dizziness.

STOT-repeated exposure
Not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Carcinogenicity
Suspected of causing cancer.

IARC Monographs on the Identification of Carcinogenic Hazards to Humans:

Dichloromethane (CAS: 75-09-2) - Group 2A - Probably carcinogenic to humans

Occupational Safety and Health Administration (OSHA, 29 CFR Part 1910.1003):

Dichloromethane (CAS: 75-09-2) - Listed

National Toxicology Program (NTP) Report:

Dichloromethane (CAS: 75-09-2) - Reasonably anticipated to be a human carcinogen

Germ cell mutagenicity
No indications of human germ cell mutagenicity exist.

Reproductive toxicity
No indications of human reproductive toxicity exist.

Aspiration hazard
Not applicable

Other adverse effects
no data available

Additional information
no data available

SECTION 12: Ecological information

12.1 Toxicity

Fish toxicity:
LC50: 193 - 502 mg/l (96 h) - Alexander, H.C., W.M. McCarty, and E.A. Bartlett 1978. Toxicity of Perchloroethylene, Trichloroethylene, 1,1,1-Trichloroethane, and Methylene Chloride to Fathead Minnows. Bull.Environ.Contam.Toxicol. 20(3):344-352 (OECDG Data File)

NOEC: 83 mg/l (28 d) - Pimephales promelas - ECHA

Daphnia toxicity:
EC50: 1250 - 1680 mg/l (48 h) - Bringmann, G., and F. Meinck 1964. Wassertoxikologische Beurteilung von Industrieabwassern. Gesundheits-Ingenieur 85:229-260 (OECDG Data File)

LC50: 108 - 220 mg/l (48 h) - Burton, D.T., and D.J. Fisher 1990. Acute Toxicity of...Methylene Chloride, and 2,4,6-Trichlorophenol to Juvenile Grass Shrimp and Killifish. Bull.Environ.Contam.Toxicol. 44(5):776-783

Algae toxicity:
NOEC: 550 mg/l (192 h) - Microcystis aeruginosa - ECHA

Bacteria toxicity:
EC50: 2590 mg/l (40 min) - ECHA (OECD 209)

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
Partition coefficient: n-octanol/water: 1.25 (20 °C)

12.4 Mobility in soil:
no data available

12.5 Results of PBT/vPvB assessment
Not applicable

12.6 Endocrine disrupting properties
This substance does not have endocrine disrupting properties with respect to the environment.

12.7 Other adverse effects
no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product
Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: 070103

Appropriate disposal / Package
Dispose according to legislation. Handle contaminated packages in the same way as the substance itself. This material and its container must be disposed of as hazardous waste. Do not open container by force. Warning: Do not refill! Do not pierce or burn, even after use.

Additional information

none

No further relevant information available.

SECTION 14: Transport information

Land transport (DOT)

UN-No.:	UN1593
Proper Shipping Name:	DICHLOROMETHANE
Class(es):	6.1
Hazard label(s):	6.1
Packing group:	III
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	

Sea transport (IMDG)

UN-No.:	1593
Proper Shipping Name:	DICHLOROMETHANE
Class(es):	6.1
Hazard label(s):	6.1
Packing group:	III
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	
Segregation group:	10
EmS-No.	F-A S-A

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant

Air transport (ICAO-TI / IATA-DGR)

UN-No.:	1593
Proper Shipping Name:	DICHLOROMETHANE
Class(es):	6.1
Classification code:	
Hazard label(s):	6.1
Packing group:	III
Special precautions for user:	

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Toxic Substances Control Act (TSCA)
Listed

40 CFR 751 Regulation of certain chemical substances and mixtures under section 6 of the Toxic Substances Control Act
After February 3, 2025, this chemical substance (as defined in TSCA section 3(2))/product cannot be distributed in commerce to retailers. After January 28, 2026, this chemical substance (as defined in TSCA section 3(2))/product is and can only be distributed in commerce or processed with a concentration of methylene chloride equal to or greater than 0.1% by weight for the following purposes: (1) Processing as a reactant; (2) Processing for incorporation into a formulation, mixture, or reaction product; (3) Processing for repackaging; (4) Processing for recycling; (5) Industrial or commercial use as a laboratory chemical; (6) Industrial or commercial use as a bonding agent for solvent welding; (7) Industrial and commercial use as a paint and coating remover from safety critical, corrosion-sensitive components of aircraft and spacecraft; (8) Industrial and commercial use as a processing aid; (9) Industrial and commercial use for plastic and rubber products manufacturing; (10) Industrial and commercial use as a solvent that becomes part of a formulation or mixture, where that formulation or mixture will be used inside a manufacturing process, and the solvent (methylene chloride) will be reclaimed; (11) Industrial and commercial use in the refinishing for wooden furniture, decorative pieces, and architectural fixtures of artistic, cultural or historic value until May 8, 2029; (12) Industrial and commercial use in adhesives and sealants in aircraft, space vehicle, and turbine applications for structural and safety critical non-structural applications until May 8, 2029; (13) Disposal; and (14) Export.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Listed

SARA 313 Components
Listed

US State Regulations

Massachusetts Right To Know Components
Listed

Pennsylvania Right To Know Components
Listed

New Jersey Right To Know Components
Listed

California Prop. 65 Components

⚠ **WARNING:**

This product can expose you to chemicals including Dichloromethane which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygiensts
DOT - Department of Transportation
IARC - International Agency for Research on Cancer
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
STV - Short Term Value
SVHC - Substances of Very High Concern
TDG - Transport of Dangerous Goods
TLV - Threshold Limit Value
vPvB - very Persistent, very Bioaccumulative

Key literature references and sources for data

This Safety Data Sheet has been prepared based on information available for public as TOXNET information, European Chemicals Agency (ECHA) substance dossier, papers from international cancer research institutes (IARC Monographs), U.S. National Toxicology Program data, U.S. Agency for Toxic Substances and Disease Control (ATSDR), PubChem websites and SDS from our raw material manufacturers.

Revision date	Version	Print date
24.02.2025	1.2	24.02.2025

Additional information

Indication of changes	Section 8: Update of DNEL and/or PNEC data If you need an explanation of the change, contact the supplier (SDS@avantorsciences.com).

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state knowledge and is applicable to the product with regard to appropriate safty precautions. It does not represent any guarantee of the properties of the product. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.