According to Regulation (EC) No 1907/2006
According to Regulation (EC) No 2020/878

Dichloromethane

Version number: 1
Issued: 2024-01-19

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name
Dichloromethane

CAS number
75-09-2

EC number
200-838-9

Synonyms
methylene chloride

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

Relevant identified uses
Research and development.

Not suitable for use in
Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier
Molekula Group

Address
Molekula Ltd, Lingfield Way, Darlington,
DL1 4XX Darlington
United Kingdom

Telephone
+44 (0) 3302 000 333

Email
info@molekula.com

Web site
www.molekula.com

Contact person
Kevin Banks

Email
+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number
0344 892 0111 - National Poisons Information Service (Newcastle Centre)

Dichloromethane

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Carcinogenicity, hazard category 2
Specific Target Organ Toxicity — Single exposure, hazard category 3 - narcosis
Eye irritation, hazard category 2

Hazard statements

H319, H336, H351

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Warning

Hazard statements

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

Precautionary statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/fumes/gas/mist/vapours/spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304 + P340 IF INHALED: Remove person to fresh air and keep 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.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P405 Store locked up.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container to local regulations.

2.3. Other hazards

No data available

Dichloromethane

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
dichloromethane; methylene chloride	75-09-2 200-838-9 01-2119480404-41 602-004-00-3	100%	Eye Irrit. 2, STOT SE 3 - narcosis, Carc. 2	H319, H336, H351 - -	-

Molecular weight
84.93

Substance additional information
For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact
IF ON SKIN: Wash with plenty of water. Continue to rinse for at least 15 minutes and seek medical attention. Get medical advice/attention if you feel unwell.

Eye contact
Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

Ingestion
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

Information for doctors
First aiders/ medical personnel need to protect themselves.

4.2. Most important symptoms and effects, both acute and delayed

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation
Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

Skin contact
Single exposure may cause the following adverse effects: Severe skin irritation.

Eye contact
Single exposure may cause the following adverse effects: Severe irritation.

Ingestion
Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically. No special treatment requirement.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

Unsuitable extinguishing media
No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture
Specific hazards: Combustible.
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
Carbon dioxide (CO2). Carbon monoxide (CO).
Hydrogen Chloride gas
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3. Advice for firefighters
Special protective equipment for fire-fighters
Evacuate area. Avoid breathing gas, fume, vapours or spray. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Avoid breathing dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. Avoid contact with skin and eyes. For personal protection, see section 8.

6.2. Environmental precautions
Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Absorb spillage with suitable absorbent material. Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

For precautions see section 2.2. Work under hood Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid ingestion and inhalation.

General hygiene

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use. Wash skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Store at ambient temperature. Store in a dry place. Store in a closed container.

7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

TWA. 100ppm. 353 mg/m3. UK. EH40. WEL = Workplace Exposure Limit.
TWA. 100pp. 353 mg/m3. Europe. Directive: 2017/164/EU
STEL 200ppm 706mg/m3 Europe Directive: 2017/164/EU
STEL 200ppm. 706mg/m3. UK. EH40. WEL = Workplace Exposure Limit.

DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
dichloromethane; methylene chloride (75-09-2/200-838-9)	DNEL	Acute (short term) Inhalation	706 mg/m³	Workers	Local
dichloromethane; methylene chloride (75-09-2/200-838-9)	DNEL	Chronic (long term) Inhalation	353 mg/m³	Workers	Systemic
dichloromethane; methylene chloride	DNEL	Chronic (long term)	4750 mg/kg bw/day	Workers	Systemic

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
(75-09-2/200-838-9)		Dermal			
dichloromethane; methylene chloride (75-09-2/200-838-9)	DNEL	Chronic (long term) Oral	0.06 mg/kg bw/day	Consumers	Systemic
dichloromethane; methylene chloride (75-09-2/200-838-9)	DNEL	Chronic (long term) Inhalation	88.3 mg/m³	Consumers	Systemic
dichloromethane; methylene chloride (75-09-2/200-838-9)	DNEL	Chronic (long term) Dermal	2395 mg/kg bw/day	Consumers	Systemic
dichloromethane; methylene chloride (75-09-2/200-838-9)	DNEL	Acute (short term) Inhalation	353 mg/m³	Consumers	Systemic

PNEC/PEC

Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
dichloromethane; methylene chloride (75-09-2/200-838-9)	PNEC	Soil	0.583 mg/kg
dichloromethane; methylene chloride (75-09-2/200-838-9)	PNEC	Marine water	0.194 mg/l
dichloromethane; methylene chloride (75-09-2/200-838-9)	PNEC	Freshwater	0.54 mg/l
dichloromethane; methylene chloride (75-09-2/200-838-9)	PNEC	Sediment (marine water)	1.61 mg/kg
dichloromethane; methylene chloride (75-09-2/200-838-9)	PNEC	Sediment (freshwater)	4.47 mg/kg
dichloromethane; methylene chloride (75-09-2/200-838-9)	PNEC	Sewage Treatment Plant	26 mg/l
dichloromethane; methylene chloride (75-09-2/200-838-9)	PNEC	Intermittent releases	0.27 mg/l

8.2. Exposure controls

Personal Protective Equipment Symbols

Eye / face protection

Wear eye protection.

Hand protection
Wear protective gloves. Recommended gloves: Viton rubber (fluor rubber).
Glove Thickness: 0.7mm
Breakthrough time: 2 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

Other skin protection
Wash skin thoroughly after handling.

Respiratory protection
Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls
Avoid discharge into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state
Liquid

Colour
Colourless.

Odour
Ether.

Melting point / freezing point
-95 °C

Boiling point or initial boiling point and boiling range
40 °C

Flammability
No data available

Lower and upper explosion limit
13 - 22 %

Flash point
No data available

Auto-ignition temperature
605 °C

Decomposition temperature
No data available

pH
No data available

Kinematic viscosity
No data available

Solubility
13.2 g/l

Partition coefficient n-octanol/water
log Pow: 1.25 at 20 °C - Bioaccumulation is not expected.

Vapour pressure
584 hPa

Density and/or relative density
1.33 g/cm³

Relative vapour density
No data available

Particle characteristics
No data available

9.2. Other information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
There are no known reactivity hazards associated with this product.

10.2. Chemical stability
Stable under the prescribed storage conditions. Protect from light, including direct sunrays.

10.3. Possibility of hazardous reactions

Risk of explosion with:
Alkali metals.
Nitrogen oxides
nitrogen dioxide
Potassium.
sodium azide
PERCHLORIC ACID
Nitric acid.
aluminium chloride
Amines.
oxygen (as liquified gas)
powered aluminium
sodium
Aromatic hydrocarbons. with powdered Aluminium.

Exothermic reaction with:
Alkaline earth metals
Powdered metal.
Amides.
Alcoholates
non-metallic oxides
potassium tert-butanolate
sodium amide
lithium

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Strong oxidising agents. various plastics Rubber. Light metals Metals. Mild steel

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals
dichloromethane; methylene chloride 75-09-2 / 200-838-9	LD50	>2000 mg/kg	Oral	-	Rat

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals
dichloromethane; methylene chloride 75-09-2 / 200-838-9	LC50	86 mg/l	Inhalation	4 hours	Mouse
dichloromethane; methylene chloride 75-09-2 / 200-838-9	LD50	>2000 mg/kg	Dermal	-	Rat

Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Duration of exposure	Species
dichloromethane; methylene chloride 75-09-2 / 200-838-9	Irritations	4 hours	Rabbit

Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species	Other
dichloromethane; methylene chloride 75-09-2 / 200-838-9	Causes eye irritation.	Rabbit	Risk of corneal damage.

Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
dichloromethane; methylene chloride 75-09-2 / 200-838-9	Negative.	Mouse	Local Lymph Node Assay

Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result	Exposure route	Metabolic activation / Exposure	Species	Method / Guideline
dichloromethane; methylene chloride 75-09-2 / 200-838-9	Positive.	-	with and without metabolic activation	Chinese Hamster cells: Ovary	Mutagenicity (mammal cell test): Chromosome aberration:

Product / Substance name CAS / EC no.	Result	Exposure route	Metabolic activation / Exposure	Species	Method / Guideline
dichloromethane; methylene chloride 75-09-2 / 200-838-9	Positive.	-	with and without metabolic activation	Salmonella typhimurium	Ames test
dichloromethane; methylene chloride 75-09-2 / 200-838-9	Negative.	Gavage	-	Mouse bone marrow	in vivo Micronucleus test

Carcinogenicity

Product / Substance name CAS / EC no.	Other
dichloromethane; methylene chloride 75-09-2 / 200-838-9	Suspected of causing cancer.

STOT-single exposure

Product / Substance name CAS / EC no.	Exposure route	Target organs	Result
dichloromethane; methylene chloride 75-09-2 / 200-838-9	Inhalation.	Central nervous system.	May cause drowsiness or dizziness.

Aspiration hazard
Based on available data, the classification criteria are not met.

11.2. Information on other hazards
No data available

SECTION 12: Ecological information

12.1. Toxicity
Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
dichloromethane; methylene chloride 75-09-2 / 200-838-9	LC50	193.00 mg/l	96 hours	Pimephales promelas (Fat-head Minnow)

Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
dichloromethane; methylene chloride 75-09-2 / 200-838-9	LC50	27 mg/l	48 hours	Daphnia magna

Micro-/macro organism toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
dichloromethane; methylene chloride 75-09-2 / 200-838-9	EC50	2,590 mg/l	40 minutes	Activated sludge.

Chronical toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
dichloromethane; methylene chloride 75-09-2 / 200-838-9	LC50	471 mg/l	8 days	Pimephales promelas (Fat-head Minnow)

12.2. Persistence and degradability

Persistence and degradability

Product / Substance name CAS / EC no.	Type of test	Duration	Result	Degradation
dichloromethane; methylene chloride 75-09-2 / 200-838-9	aerobic	28 days	68%	The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential

Product / Substance name CAS / EC no.	Bioconcentration factor (BCF)	Duration	Result	Species
dichloromethane; methylene chloride 75-09-2 / 200-838-9	2 - 5.4	6 weeks	250 µg/l	Cyprinus carpio (Common carp)

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment
No data available

12.6. Endocrine disrupting properties
This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Disposal considerations
Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

14.1. UN number
1593

14.2. UN proper shipping name
ADR / RID / ADN proper shipping name
DICHLOROMETHANE

IMDG proper shipping name
DICHLOROMETHANE

IATA proper shipping name
Dichloromethane

14.3. Transport hazard class(es)
ADR / RID Class
6.1

ADR / RID Classification code
T1

ADR / RID hazard identification number
60

IMDG Class
6.1

IATA Class
6.1

ADN Class
6.1

ADN Class Code
T1

14.4. Packing group
ADR / RID / ADN: III
IMDG: III
IATA: III

14.5. Environmental hazards
IMDG EmS
F-A, S-A

14.6. Special precautions for user
Tunnel restriction code: E
Transport category: 2

14.7. Maritime transport in bulk according to IMO instruments
IBC Instruction: IBC03

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulations
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
This material safety data sheet complies with the requirements of Regulation (EU) 2020/878.

National regulations
No data available
Other regulations, limitations and legal regulations
REACH: Dichloromethane

15.2. Chemical safety assessment
No data available

Dichloromethane

SECTION 16: Other information

Phrase meaning

Carc. 2 - Carcinogenicity, hazard category 2
STOT SE 3 - narcosis - Specific Target Organ Toxicity — Single exposure, hazard category 3 - narcosis
Eye Irrit. 2 - Eye irritation, hazard category 2
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.