

Dichloromethane

32222-2.5L

Version 2.3

Revision Date 11.06.2022

Supersedes 1

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Skin irritation Category 2

H315 Causes skin irritation.

Eye irritation Category 2

H319 Causes serious eye irritation.

Carcinogenicity Category 2

H351 Suspected of causing cancer.

Specific target organ toxicity - single exposure Category 3 - Central nervous system

H336 May cause drowsiness or dizziness.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms



Signal word

: Warning

Hazard statements

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

Precautionary statements

: P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352 IF ON SKIN: Wash with plenty of water.
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.

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2.3. Other hazards

Fire or intense heat may cause violent rupture of packages. Vapours may form explosive mixtures with air. Results of PBT and vPvB assessment, see chapter 12.5.

SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
dichloromethane; methylene chloride	75-09-2 602-004-00-3 200-838-9	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Carc. 2; H351 STOT SE 3; H336; Inhalation; Central nervous system	>= 99 %	

3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

First aider needs to protect himself. Move out of dangerous area. If unconscious, place in recovery position and seek medical advice. Take off all contaminated clothing immediately.

Inhalation:

If breathed in, move person into fresh air. If symptoms persist, call a physician.

Skin contact:

After contact with skin, wash immediately with plenty of water. Consult a physician.

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Eye contact:

Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. Consult a physician.

Ingestion:

When swallowed, allow water to be drunk. Call a physician immediately.

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

No data available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms. :

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Foam
Carbon dioxide (CO₂)
Water spray
Dry powder

Extinguishing media which shall not be used for safety reasons:

High volume water jet

5.2. Special hazards arising from the substance or mixture

Fire may cause evolution of:
Gaseous hydrogen chloride (HCl).
Phosgene

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5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers/tanks with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Keep people away from and upwind of spill/leak.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3. Methods and materials for containment and cleaning up

Soak up with inert absorbent material.
Pick for disposal in tightly closed containers

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:

Exhaust ventilation at the object is necessary. Avoid formation of aerosol.

Advice on protection against fire and explosion:

Keep away from heat and sources of ignition. Normal measures for preventive fire protection.

Hygiene measures:

General industrial hygiene practice.

7.2. Conditions for safe storage, including any incompatibilities

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Further information on storage conditions:

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container dry.

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
dichloromethane; methylene chloride	EH40 WEL SKIN_DES			Can be absorbed through the skin.
dichloromethane; methylene chloride	EH40 WEL TWA	350 mg/m3 100 ppm		
dichloromethane; methylene chloride	EH40 WEL STEL	1.060 mg/m3 300 ppm		
dichloromethane; methylene chloride	EH40 WEL			Listed
dichloromethane; methylene chloride	EU ELV STEL	706 mg/m3 200 ppm		Indicative
dichloromethane; methylene chloride	EU ELV SKIN_DES			Can be absorbed through the skin.
dichloromethane; methylene chloride	EU ELV TWA	353 mg/m3 100 ppm		Indicative
dichloromethane; methylene chloride	EH40 WEL TWA	353 mg/m3 100 ppm		
dichloromethane; methylene chloride	EH40 WEL STEL	706 mg/m3 200 ppm		

SKIN_DES - Skin designation:
TWA - Time weighted average
STEL - Short term exposure limit

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DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
dichloromethane; methylene chloride	Workers / Long-term systemic effects		176 mg/m ³	Inhalation	
dichloromethane; methylene chloride	Workers / Long-term systemic effects		12mg/kg bw/d	Skin contact	
dichloromethane; methylene chloride	Consumers / Long-term systemic effects		44 mg/m ³	Inhalation	
dichloromethane; methylene chloride	Consumers / Long-term systemic effects		5,82mg/kg bw/d	Skin contact	
dichloromethane; methylene chloride	Consumers / Long-term systemic effects		0,06mg/kg bw/d	Ingestion	

Component	Environmental compartment / Value	Remarks
dichloromethane; methylene chloride	Fresh water: 0,31 mg/l	Assessment factor: 20
dichloromethane; methylene chloride	Marine water: 0,031 mg/l	Assessment factor: 200
dichloromethane; methylene chloride	Sewage treatment plant: 26 mg/l	Assessment factor: 100
dichloromethane; methylene chloride	Fresh water sediment: 2,57 mg/kg dw	
dichloromethane; methylene chloride	Marine sediment: 0,26 mg/kg dw	
dichloromethane; methylene chloride	Soil: 0,33 mg/kg dw	

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8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Avoid exposure - obtain special instructions before use.

Personal protective equipment

Respiratory protection:

In the case of vapour formation use a respirator with an approved filter.

Hand protection:

Glove material: Fluorinated rubber

Break through time: > 120 min

Glove thickness: 0,7 mm

Vitoject® 890

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer´s directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:

Safety goggles

Skin and body protection:

Impervious clothing

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Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: liquid
Colour	: colourless
Odour	: sweet
molecular weight	: 84,93 g/mol
Melting point/range	: -97 °C
Boiling point/boiling range	: 39 - 41 °C at 1.013 hPa
Upper explosion limit	: 22 %(V)
Lower explosion limit	: 13 %(V)
Flash point	: Not applicable
Auto-ignition temperature	: 605 °C
Decomposition temperature	: 120 °C Decomposition temperature
pH	: Not applicable
Viscosity, kinematic	: No data available
Water solubility	: 20,0 g/l at 20 °C
Solubility in other solvents	: soluble
Partition coefficient: n-octanol/water	: log Pow 1,25

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Vapour pressure : 453 hPa
at 20 °C

Density : 1,32 - 1,33 g/cm³
at 20 °C

Relative vapour density : No data available

9.2 Other Information

Evaporation rate : No data available

Viscosity, dynamic : 0,44 mPa.s
at 20 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

>120 °C
Decomposition temperature

10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4. Conditions to avoid

Heat, flames and sparks.
Exposure to sunlight.

10.5. Incompatible materials

Alkali metals

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Amines
Bases
Alkaline earth metals
Powdered metals
Strong oxidizing agents
Strong acids

10.6. Hazardous decomposition products

Hydrogen chloride gas
Phosgene

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

LD50

Species: Rat

Value: > 2.000 mg/kg

Method: OECD Test Guideline 401

Acute dermal toxicity:

LD50

Species: Rat

Value: > 2.000 mg/kg

Method: OECD Test Guideline 402

Acute inhalation toxicity:

LC50

Species: Mouse

Value: 86 mg/l

Skin irritation:

Species: Rabbit

Result: irritating

Method: OECD Test Guideline 404

Eye irritation:

Species: rabbit eye

Result: irritating

Respiratory or skin sensitisation:

Species: Mouse

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Result: non-sensitizing
Method: OECD 429

Repeated dose toxicity:
Note: No data available

Carcinogenicity:
Species: not specified
Note: Classification based on Annex VI of regulation 1272/2008/EC.

Germ cell mutagenicity:
Note: Not classified due to data which are conclusive although insufficient for classification.

Reproductive toxicity:
Species: not specified
Remarks: Not classified due to data which are conclusive although insufficient for classification.

Aspiration hazard:
No data available

11.2. Information on other hazards

Endocrine disrupting properties
No data available

Other information:
Solvent removes skin oil from the skin.
Solvent vapours have a narcotic effect if inhaled in high concentrations.
The product has a neurotoxic effect in high concentrations.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:
LC50
Species: Pimephales promelas (fathead minnow)
Value: 193 mg/l
Exposure time: 96 h

LC50
Species: Fish
Value: 97 mg/l
Exposure time: 48 h

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NOEC

Species: Pimephales promelas (fathead minnow)

Value: 142 mg/l

Exposure time: 28 d
mortality

Toxicity to aquatic plants:

No data available

Toxicity to Microorganisms:

LC0

Species: Pseudomonas putida

Value: 500 mg/l

EC50

Species: activated sludge

Value: 2.590 mg/l

Exposure time: 40 min

Method: OECD 209

Toxicity to aquatic invertebrates:

LC50

Species: Daphnia (water flea)

Value: 220 mg/l

Exposure time: 48 h

LC50

Species: Daphnia magna (Water flea)

Value: 27 mg/l

Exposure time: 48 h

12.2. Persistence and degradability

Biodegradability:

Biodegradation: 68 %

Exposure time: 28 d

Result: Readily biodegradable

Method: OECD 301 D

12.3. Bioaccumulative potential

No bioaccumulation is to be expected ($\log Pow \leq 4$).

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12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

Bioaccumulation is unlikely.

The product should not be allowed to enter drains, water courses or the soil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:

Dispose according to legal requirements.

Packaging:

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:

Provisions relating to waste:

EC Directive 2006/12/EC; 2008/98/EEC

Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID:1593

IMDG:1593

IATA:1593

14.2 UN proper shipping name

ADR/RID:DICHLOROMETHANE

IMDG:DICHLOROMETHANE

IATA:Dichloromethane

14.3 Transport hazard class(es)

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ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: no

Marine pollutant: no

14.6 Special precautions for user

No data available

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
Regulation (EC) No. 1907/2006, Annex XVII		This product contains an ingredient according to Annex XVII of the REACH Regulation 1907/2006/EC.
Directive 2012/18/EC		Not applicable
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).

VOC:

Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control), 100 %

VOC:

Directive 2004/42/EC, 100 %

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Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
Munich : 089/19240	
Latvia	+37167042473

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

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Australia. Industrial Chemicals Act (AIC), as amended
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

dichloromethane; methylene chloride	:	H315	Causes skin irritation.
		H319	Causes serious eye irritation.
		H351	Suspected of causing cancer.
		H336	May cause drowsiness or dizziness.
2-Methylbut-2-ene (Stabilizer)	:	H225	Highly flammable liquid and vapour.

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H302 Harmful if swallowed.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:

EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very bioaccumulative substance
PBT Persistent, bioaccumulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. 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. Final determination of suitability of any material is the sole responsibility of the user.
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