

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 7.2 Revision Date 28.06.2016

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Dichloromethane

Product Number : 270997

Brand : Sigma-Aldrich

Index-No. : 602-004-00-3

REACH No. : 01-2119480404-41-XXXX

CAS-No. : 75-09-2

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

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Israel Ltd.  
3 PARK RABIN, PLAUT  
7670603 REHOVOT  
ISRAEL

Telephone : +972 8948-4222

Fax : +972 8948-4200

**1.4 Emergency telephone number**

Emergency Phone # +972 (8) 948-4222

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

Carcinogenicity (Category 2), H351

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Specific target organ toxicity - repeated exposure, Oral (Category 2), Liver, Blood, H373

Specific target organ toxicity - repeated exposure, Inhalation (Category 2), Central nervous system, H373

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 Label elements****Labelling according Regulation (EC) No 1272/2008**

Pictogram



Signal word

Warning

Hazard statement(s)

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs (Liver, Blood) through prolonged or repeated exposure if swallowed.
H373	May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.
Precautionary statement(s)	
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	:	Methylene chloride DCM
Formula	:	CH <sub>2</sub> Cl <sub>2</sub>
Molecular weight	:	84,93 g/mol
CAS-No.	:	75-09-2
EC-No.	:	200-838-9
Index-No.	:	602-004-00-3
Registration number	:	01-2119480404-41-XXXX

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
<b>Methylene chloride</b>		
CAS-No.	75-09-2	Skin Irrit. 2; Eye Irrit. 2; Carc. 2; STOT SE 3; STOT RE 2; H315, H319, H351, H336, H335, H373, H373
EC-No.	200-838-9	
Index-No.	602-004-00-3	
		<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

No data available

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

No data available

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

**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 and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Heat sensitive. Handle and store under inert gas.

**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

#### Components with workplace control parameters

##### Derived No Effect Level (DNEL)

Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Acute systemic effects	706 mg/m <sup>3</sup>
Workers	Inhalation	Long-term systemic effects	353 mg/m <sup>3</sup>
Workers	Skin contact	Long-term systemic effects	4750mg/kg BW/d
Consumers	Ingestion	Long-term systemic effects	0,06mg/kg BW/d
Consumers	Inhalation	Long-term systemic effects	88,3 mg/m <sup>3</sup>
Consumers	Skin contact	Long-term systemic effects	2395mg/kg BW/d
Consumers	Inhalation	Acute systemic effects	353 mg/m <sup>3</sup>

##### Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	0,583 mg/kg
Marine water	0,194 mg/l
Fresh water	0,54 mg/l
Marine sediment	1,61 mg/kg
Fresh water sediment	4,47 mg/kg
Onsite sewage treatment plant	26 mg/l
Aquatic intermittent release	0,27 mg/l

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### Splash contact

Material: Fluorinated rubber

Minimum layer thickness: 0,7 mm

Break through time: 148 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

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

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |   |  |
|---|--|
| a) Appearance                                   | Form: liquid<br>Colour: colourless                               |
| b) Odour  | No data available  |
| c) Odour Threshold                              | No data available  |
| d) pH   | No data available  |
| e) Melting point/freezing point                 | Melting point/range: -97 °C                                      |
| f) Initial boiling point and boiling range      | 39,8 - 40 °C   |
| g) Flash point                                  | No data available  |
| h) Evaporation rate                             | 0,71   |
| i) Flammability (solid, gas)                    | No data available  |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 19 %(V)<br>Lower explosion limit: 12 %(V) |
| k) Vapour pressure                              | 470,9 hPa at 20,0 °C   |
| l) Vapour density                               | 2,93 - (Air = 1.0)   |
| m) Relative density                             | 1,325 g/mL at 25 °C  |
| n) Water solubility                             | slightly soluble   |
| o) Partition coefficient: n-octanol/water       | log Pow: 1,25  |
| p) Auto-ignition temperature                    | 556,1 °C<br>662,0 °C   |
| q) Decomposition temperature                    | No data available  |
| r) Viscosity                                    | No data available  |
| s) Explosive properties                         | No data available  |
| t) Oxidizing properties                         | No data available  |

### 9.2 Other safety information

Relative vapour density 2,93 - (Air = 1.0)

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

Contains the following stabiliser(s):

2-Methyl-2-butene (>0,005 - <0,015 %)

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Heat, flames and sparks. Exposure to sunlight.

### 10.5 Incompatible materials

Alkali metals, Aluminum, Strong oxidizing agents, Bases, Amines, Magnesium, Strong acids and strong bases, Vinyl compounds

### 10.6 Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - > 2.000 mg/kg

LC50 Inhalation - Rat - 52.000 mg/m<sup>3</sup>

LD50 Dermal - Rat - > 2.000 mg/kg  
(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 24 h  
(Draize Test)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irritating to eyes. - 24 h  
(Draize Test)

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

Rat

DNA damage

#### Carcinogenicity

Carcinogenicity - Rat - Inhalation

Tumorigenic: Carcinogenic by RTECS criteria. Endocrine: Tumors.

Limited evidence of carcinogenicity in animal studies

Suspected human carcinogens

#### Reproductive toxicity

No data available

**Specific target organ toxicity - single exposure**

May cause respiratory irritation.

May cause drowsiness or dizziness.

**Specific target organ toxicity - repeated exposure**

Inhalation - May cause damage to organs through prolonged or repeated exposure. - Central nervous system

Oral - May cause damage to organs through prolonged or repeated exposure. - Liver, Blood

**Aspiration hazard**

No data available

**Additional Information**

RTECS: PA8050000

Dichloromethane 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., Acts as a simple asphyxiant by displacing air., anesthetic effects, Difficulty in breathing, Headache, Dizziness, Prolonged or repeated contact with skin may cause:, defatting, Dermatitis, Contact with eyes can cause:, Redness, Blurred vision, Provokes tears., Effects due to ingestion may include:, Gastrointestinal discomfort, Central nervous system depression, Paresthesia., Drowsiness, Convulsions, Conjunctivitis., Pulmonary edema. Effects may be delayed., Irregular breathing., Stomach/intestinal disorders, Nausea, Vomiting, Increased liver enzymes., Weakness, Heavy or prolonged skin exposure may result in the absorption of harmful amounts of material., Abdominal pain

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**SECTION 12: Ecological information****12.1 Toxicity**

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 193,00 mg/l - 96 h

NOEC - Cyprinodon variegatus (sheepshead minnow) - 130 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 1.682,00 mg/l - 48 h

**12.2 Persistence and degradability**

Biodegradability Result: < 26 % - Not readily biodegradable.  
(OECD Test Guideline 301C)

**12.3 Bioaccumulative potential**

Does not bioaccumulate.

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects**

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information**

<b>14.1 UN number</b>	ADR/RID: 1593	IMDG: 1593	IATA: 1593
<b>14.2 UN proper shipping name</b>	ADR/RID: DICHLOROMETHANE		
	IMDG: DICHLOROMETHANE		
	IATA: Dichloromethane		
<b>14.3 Transport hazard class(es)</b>	ADR/RID: 6.1	IMDG: 6.1	IATA: 6.1
<b>14.4 Packaging group</b>	ADR/RID: III	IMDG: III	IATA: III
<b>14.5 Environmental hazards</b>	ADR/RID: no	IMDG Marine pollutant: no	IATA: no
<b>14.6 Special precautions for user</b>	No data available		

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**SECTION 15: Regulatory information**

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Authorisations and/or restrictions on use**

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Methylene chloride

- 15.2 Chemical safety assessment**

A Chemical Safety Assessment has been carried out for this substance.

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**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3.**

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs (/*_2ORG_REP_ORA/*) through prolonged or repeated exposure if swallowed.

**Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.