

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.3 Revision Date 18.11.2013

Print Date 20.11.2013

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 : Methanol

Product Number : 34860

Brand : Sigma-Aldrich

Index-No. : 603-001-00-X

REACH No. : 01-2119433307-44-XXXX

CAS-No. : 67-56-1

**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 Chemie BV  
Stationsplein 4  
3331 LL ZWIJNDRECHT  
NETHERLANDS

Telephone : +31 78-620-5411

Fax : +31 78-620-5421

E-mail address : eurtechserv@sial.com

**1.4 Emergency telephone number**

Emergency Phone # : 112

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

Flammable liquids (Category 2), H225  
Acute toxicity, Oral (Category 3), H301  
Acute toxicity, Inhalation (Category 3), H331  
Acute toxicity, Dermal (Category 3), H311  
Specific target organ toxicity - single exposure (Category 1), H370

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

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

F Highly flammable R11  
T Toxic R23/24/25, R39/23/24/25

For the full text of the R-phrases mentioned in this Section, see Section 16.

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

Pictogram



Signal word Danger

Hazard statement(s)  
H225

Highly flammable liquid and vapour.

H301 + H311 + H331 H370	Toxic if swallowed, in contact with skin or if inhaled Causes damage to organs.
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P311	Call a POISON CENTER or doctor/ physician.
Supplemental Hazard Statements	none

### 2.3 Other hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	:	Methyl alcohol
Formula	:	CH <sub>4</sub> O
Molecular Weight	:	32,04 g/mol
CAS-No.	:	67-56-1
EC-No.	:	200-659-6
Index-No.	:	603-001-00-X
Registration number	:	01-2119433307-44-XXXX

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

Component	Classification	Concentration
<b>Methanol</b>		
CAS-No. 67-56-1 EC-No. 200-659-6 Index-No. 603-001-00-X Registration number 01-2119433307-44-XXXX	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301 + H311 + H331, H370	<= 100 %

#### Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
<b>Methanol</b>		
CAS-No. 67-56-1 EC-No. 200-659-6 Index-No. 603-001-00-X Registration number 01-2119433307-44-XXXX	F, T, R11 - R23/24/25 - R39/23/24/25	<= 100 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

## 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. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

**If swallowed**

Do NOT induce vomiting. 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

---

**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**

Carbon oxides

**5.3 Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

---

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

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low 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**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

**6.4 Reference to other sections**

For disposal see section 13.

---

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

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.  
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.  
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.

**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 local effects	260 mg/m <sup>3</sup>
Workers	Inhalation	Acute systemic effects	260 mg/m <sup>3</sup>
Workers	Skin contact	Long-term systemic effects	40mg/kg BW/d
Workers	Inhalation	Long-term systemic effects	260 mg/m <sup>3</sup>
Workers	Inhalation	Long-term local effects	260 mg/m <sup>3</sup>
Consumers	Skin contact	Acute local effects	8mg/kg BW/d
Consumers	Inhalation	Acute local effects	50 mg/m <sup>3</sup>
Consumers	Ingestion	Acute local effects	8mg/kg BW/d
Consumers	Inhalation	Acute systemic effects	50 mg/m <sup>3</sup>
Consumers	Skin contact	Long-term systemic effects	8mg/kg BW/d
Consumers	Inhalation	Long-term systemic effects	50 mg/m <sup>3</sup>
Consumers	Ingestion	Long-term systemic effects	8mg/kg BW/d
Consumers	Inhalation	Long-term local effects	50 mg/m <sup>3</sup>
Workers	Skin contact	Acute local effects	40mg/kg BW/d

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

Compartment	Value
Soil	23,5 mg/kg
Marine water	15,4 mg/l
Fresh water	154 mg/l
Fresh water sediment	570,4 mg/kg
Onsite sewage treatment plant	100 mg/kg

### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses 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.

##### Full contact

Material: butyl-rubber

Minimum layer thickness: 0,3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

##### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm

Break through time: 31 min  
Material tested: Camatril® (KCL 730 / Aldrich Z677442, 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, Flame retardant antistatic protective clothing, 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.

---

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |   |   |
|---|---|
| a) Appearance                                   | Form: liquid<br>Colour: colourless                                    |
| b) Odour  | pungent   |
| c) Odour Threshold                              | no data available   |
| d) pH   | no data available   |
| e) Melting point/freezing point                 | Melting point/range: -98 °C   |
| f) Initial boiling point and boiling range      | 64,7 °C   |
| g) Flash point                                  | 9,7 °C - closed cup   |
| h) Evaporation rate                             | no data available   |
| i) Flammability (solid, gas)                    | no data available   |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 36 %(V)<br>Lower explosion limit: 6 %(V)       |
| k) Vapour pressure                              | 130,3 hPa at 20,0 °C<br>546,6 hPa at 50,0 °C<br>169,27 hPa at 25,0 °C |
| l) Vapour density                               | 1,11  |
| m) Relative density                             | 0,791 g/mL at 25 °C   |
| n) Water solubility                             | completely miscible   |
| o) Partition coefficient: n-octanol/water       | log Pow: -0,77  |
| p) Auto-ignition temperature                    | 455,0 °C at 1.013 hPa   |

- q) Decomposition temperature no data available
- r) Viscosity no data available
- s) Explosive properties Not explosive
- t) Oxidizing properties The substance or mixture is not classified as oxidizing.

## 9.2 Other safety information

Minimum ignition energy	0,14 mJ
Conductivity	< 1 µS/cm
Relative vapour density	1,11

---

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

---

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LDLO Oral - Human - 143 mg/kg

Remarks: Lungs, Thorax, or Respiration:Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

LD50 Oral - rat - 1.187 - 2.769 mg/kg

LC50 Inhalation - rat - 4 h - 128,2 mg/l

LC50 Inhalation - rat - 6 h - 87,6 mg/l

LD50 Dermal - rabbit - 17.100 mg/kg

#### Skin corrosion/irritation

Skin - rabbit

Result: No skin irritation

#### Serious eye damage/eye irritation

Eyes - rabbit

Result: No eye irritation

#### Respiratory or skin sensitisation

Maximisation Test - guinea pig

Does not cause skin sensitisation.

(OECD Test Guideline 406)

### **Germ cell mutagenicity**

Ames test

S. typhimurium

Result: negative

in vitro assay

fibroblast

Result: negative

Mutation in mammalian somatic cells.

Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)

mouse - male and female

Result: negative

### **Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

### **Reproductive toxicity**

Damage to fetus not classifiable

Fertility classification not possible from current data.

### **Specific target organ toxicity - single exposure**

Causes damage to organs.

### **Specific target organ toxicity - repeated exposure**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### **Aspiration hazard**

No aspiration toxicity classification

### **Additional Information**

RTECS: PC1400000

Methyl alcohol may be fatal or cause blindness if swallowed.

Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures.

Symptoms may be delayed., Damage of the:, Liver, Kidney

---

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Toxicity to fish	mortality LC50 - Lepomis macrochirus (Bluegill) - 15.400,0 mg/l - 96 h NOEC - Oryzias latipes - 7.900 mg/l - 200 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - > 10.000,00 mg/l - 48 h
Toxicity to algae	Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 22.000,0 mg/l - 96 h

### **12.2 Persistence and degradability**

Biodegradability	aerobic - Exposure time 5 d Result: 72 % - rapidly biodegradable
Biochemical Oxygen Demand (BOD)	600 - 1.120 mg/g
Chemical Oxygen Demand (COD)	1.420 mg/g
Theoretical oxygen demand	1.500 mg/g

### 12.3 Bioaccumulative potential

Bioaccumulation                      Cyprinus carpio (Carp) - 72 d  
at 20 °C - 5 mg/l

Bioconcentration factor (BCF): 1,0

### 12.4 Mobility in soil

Will not adsorb on soil.

### 12.5 Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

### 12.6 Other adverse effects

Additional ecological                      Avoid release to the environment.  
information

Stability in water                      at 19 °C 83 - 91 % - 72 h  
Remarks: Hydrolyses on contact with water. Hydrolyses readily.

---

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Dispose of as unused product.

---

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1230                                      IMDG: 1230                                      IATA: 1230

### 14.2 UN proper shipping name

ADR/RID:    METHANOL  
IMDG:        METHANOL  
IATA:        Methanol

### 14.3 Transport hazard class(es)

ADR/RID: 3 (6.1)                                      IMDG: 3 (6.1)                                      IATA: 3 (6.1)

### 14.4 Packaging group

ADR/RID: II    IMDG: II    IATA: II

### 14.5 Environmental hazards

ADR/RID: no    IMDG Marine pollutant: no                                      IATA: no

### 14.6 Special precautions for user

no data available

---

## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

### 15.2 Chemical Safety Assessment

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



---

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

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.

**Full text of R-phrases referred to under sections 2 and 3**

F	Highly flammable
T	Toxic
R11	Highly flammable.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

**Further information**

Copyright 2013 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

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.