

## SAFETY DATA SHEET

according to Regulation (EU) No. 1907/2006  
Version 3.2 Revision Date 12.11.2007  
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### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : Methanol

Product Number : 34860  
Brand : Sigma-Aldrich

Company : Sigma-Aldrich Company Ltd.  
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### 2. HAZARDS IDENTIFICATION

#### Risk advice to man and the environment

Highly flammable. Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : CH<sub>4</sub>O  
Molecular Weight : 32.04 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration
<b>Methanol</b>				
67-56-1	200-659-6	603-001-00-X	F, T, R11 - R23/24/25 - R39/23/24/25	-

### 4. 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

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

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## 5. FIRE-FIGHTING MEASURES

### Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

### Further information

Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Wear respiratory protection. Avoid breathing vapors, 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.

### Environmental precautions

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

### Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

## 7. HANDLING AND STORAGE

### 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.

### Storage

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. Store in cool place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Methanol	67-56-1	STEL	250 ppm 333 mg/m <sup>3</sup>	1997-01-01	UK. Health and Safety Commission, EH 40/2005, Workplace exposure limits
		TWA	200 ppm 266 mg/m <sup>3</sup>	1997-01-01	UK. Health and Safety Commission, EH 40/2005, Workplace exposure limits
		TWA	200 ppm 260 mg/m <sup>3</sup>	2006-02-01	EU. Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC Text with EEA

**Personal protective equipment****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).

**Hand protection**

Handle with gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.

**Eye protection**

Safety glasses

**Skin and body protection**

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**

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

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form	liquid
Colour	colourless

**Safety data**

pH	no data available
Melting point	-98.0 °C
Boiling point	64.0 - 65.0 °C
Flash point	11.0 °C - closed cup
Ignition temperature	455 °C
Lower explosion limit	6 %(V)
Upper explosion limit	36 %(V)
Vapour pressure	546.6 hPa at 50.0 °C 130.3 hPa at 20.0 °C
Density	0.79 g/cm <sup>3</sup>
Water solubility	completely miscible
Partition coefficient: n-octanol/water	log Pow: -0.77

**10. STABILITY AND REACTIVITY****Storage stability**

Stable under recommended storage conditions.

**Conditions to avoid**

Heat, flames and sparks.

**Materials to avoid**

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

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - rat - 5,628 mg/kg

LC50 Inhalation - rat - 4 h - 64000 ppm

LD50 Dermal - rabbit - 15,800 mg/kg

**Irritation and corrosion**

Skin - rabbit - Skin irritation - 24 h

Eyes - rabbit - Eye irritation - 24 h

**Sensitisation**

no data available

**Chronic exposure**

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.

**Signs and Symptoms of Exposure**

Methyl alcohol may be fatal or cause blindness if swallowed., Cannot be made non-poisonous., Effects due to ingestion may include:, Nausea, Headache, Vomiting, Gastrointestinal disturbance, Dizziness, Weakness, Confusion., Drowsiness, Unconsciousness, May cause convulsions.

**Potential Health Effects**

<b>Inhalation</b>	Toxic if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	Toxic if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	Toxic if swallowed.
<b>Target Organs</b>	Eyes, Kidney, Liver, Heart, Central nervous system,

**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

no data available

**Ecotoxicity effects**

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 19,000.00 mg/l - 96 h
	LC50 - Cyprinus carpio (Carp) - 36,000.00 mg/l - 48 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 24,500.00 mg/l - 48 h
	EC100 - Daphnia magna (Water flea) - 10,000.00 mg/l - 24 h

**Further information on ecology**

no data available

### 13. DISPOSAL CONSIDERATIONS

#### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

#### ADR/RID

UN-Number: 1230 Class: 3 (6.1) Packing group: II  
Proper shipping name: METHANOL

#### IMDG

UN-Number: 1230 Class: 3 (6.1) Packing group: II EMS-No: F-E, S-D  
Proper shipping name: METHANOL  
Marine pollutant: No

#### IATA

UN-Number: 1230 Class: 3 (6.1) Packing group: II  
Proper shipping name: Methanol

### 15. REGULATORY INFORMATION

#### Labelling according to EC Directives

EC Label

Hazard symbols

F Highly flammable  
T Toxic

R-phrases(s)

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.

S-phrases(s)

S 7 Keep container tightly closed.  
S16 Keep away from sources of ignition - No smoking.  
S36/37 Wear suitable protective clothing and gloves.  
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### 16. OTHER INFORMATION

#### Further information

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