

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Methanol  
Product Number : M3641  
Brand : Sigma  
Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +18003255832  
Fax : +18003255052  
Emergency Phone # : (314) 776-6555

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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

CAS-No.	EC-No.	Index-No.	Concentration
<b>Methanol</b>			
67-56-1	200-659-6	603-001-00-X	-

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Flammable Liquid  
Target Organ Effect  
Toxic by inhalation.  
Toxic by ingestion  
Toxic by skin absorption  
Irritant

##### Target Organs

Eyes, Kidney, Liver, Heart, Central nervous system

#### HMIS Classification

Health Hazard: 2

Chronic Health Hazard: \*

Flammability: 3

Physical hazards: 0

#### NFPA Rating

Health Hazard: 2

Fire : 3

Reactivity Hazard: 0

## Potential Health Effects

<b>Inhalation</b>	Toxic if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	Toxic if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.
<b>Ingestion</b>	Toxic if swallowed.

## 4. FIRST AID MEASURES

### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### 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

### Flammable properties

Flash point 11.0 °C (51.8 °F) - **closed cup**

**Ignition temperature** 455 °C (851 °F)

### 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	TWA	200 ppm 262 mg/m <sup>3</sup>	1994-09-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs ) and Biological Exposure Indices (BEIs)
Remarks	Substances for which there is a Biological Exposure Index or Indices.				
		STEL	250 ppm 328 mg/m <sup>3</sup>	1994-09-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs ) and Biological Exposure Indices (BEIs)
<b>Substances for which there is a Biological Exposure Index or Indices.</b>					
		TWA	200 ppm 260 mg/m <sup>3</sup>	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		STEL	250 ppm 325 mg/m <sup>3</sup>	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		TWA	200 ppm 260 mg/m <sup>3</sup>	1993-06-30	US. Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air Contaminants.

## 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.

### 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 (-144.4 °F)

Boiling point 64.0 - 65.0 °C (147.2 - 149.0 °F)

Flash point 11.0 °C (51.8 °F) - closed cup

Ignition temperature 455 °C (851 °F)

Lower explosion limit 6 %(V)

Upper explosion limit 36 %(V)

Vapour pressure 546.6 hPa (410.0 mmHg) at 50.0 °C (122.0 °F)  
130.3 hPa (97.7 mmHg) at 20.0 °C (68.0 °F)

Density 0.79 g/cm<sup>3</sup>

Water solubility completely miscible

Partition coefficient: log Pow: -0.77  
n-octanol/water

## 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

**Hazardous reactions**

Vapours may form explosive mixture with air.

**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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**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. Causes respiratory tract irritation.
<b>Skin</b>	Toxic if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes 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**

<b>Toxicity to fish</b>	LC50 - Oncorhynchus mykiss (rainbow trout) - 19,000.00 mg/l - 96 h
	<b>LC50 - Cyprinus carpio (Carp) - 36,000.00 mg/l - 48 h</b>
<b>Toxicity to daphnia</b>	<b>EC50 - Daphnia magna (Water flea) - 24,500.00 mg/l - 48 h</b>

**and other aquatic invertebrates.**

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**

**DOT (US)**

UN-Number: 1230 Class: 3 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**

**OSHA Hazards**

Flammable Liquid, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Irritant

**TSCA Status**

On TSCA Inventory

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

	CAS-No.	Revision Date
Methanol	67-56-1	1987-01-01

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Methanol	67-56-1	1987-01-01

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Methanol	67-56-1	1987-01-01

**New Jersey Right To Know Components**

Methanol

CAS-No.  
67-56-1Revision Date  
1987-01-01**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

**16. OTHER INFORMATION****Further information**

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