

# Safety Data Sheet

According to Hazardous Products Regulation (SOR/2015-17)

Revision date: 04.11.2022

Version: 1.0

Print date: 04.11.2022

## SECTION 1: Identification

### Product identifier

Trade name/designation:	Methanol
Product No.:	BDH85800
Synonymes:	none
CAS No.:	67-56-1
Other means of identification:	

### Relevant identified uses of the substance or mixture and uses advised against

Recommended Use:	For Further Manufacturing Use Only
Uses advised against:	Not for Human or Animal Drug Use

### Details of the supplier of the safety data sheet

#### Supplier

##### **VWR International**

Street	2360 Argentia Road
Postal code/City	Mississauga, Ontario Canada L5N 5Z7
Telephone	+1-800-932-5000 toll-free within US/Canada
Telefax:	+1-610-728-2103

### Emergency phone number

Telephone +1-613-996-6666 (Canutec, 24 hrs/day, 7 days/week, Canada)

### Preparation Information

VWR International - Product Information Compliance

E-mail SDS@avantorsciences.com

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

#### Classification according to Hazardous Products Regulation (SOR/2015-17)

Hazard classes and hazard categories	Hazard statements
Flammable liquid, category 2	H225
Acute toxicity, category 3, oral	H301
Eye irritation, category 2	H319
Reproductive toxicity, category 1B	H360
Specific target organ toxicity (single exposure), category 2	H371
Specific target organ toxicity (single exposure), category 3, narcotic effect	H336

### 2.2 Label elements

#### Labelling in accordance with (SOR/2015-17)

#### Hazard pictograms



Signal word: Danger

Hazard statements	
H225	Highly flammable liquid and vapor.
H301	Toxic if swallowed.
H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child.
H371	May cause damage to organs.
H336	May cause drowsiness or dizziness.

Precautionary statements	
P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
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+P311	IF exposed or concerned: Call a POISON CENTER/doctor/...
P403+P235	Store in a well-ventilated place. Keep cool.

#### Hazards not otherwise classified (HNOC)

none

## SECTION 3: Composition / information on ingredients

### 3.1 Substances

Substance name	Methanol
Molecular formula	H <sub>3</sub> COH
Molecular weight	32.04 g/mol
CAS No.	67-56-1

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

Do not leave affected person unattended. If unconscious but breathing normally, place in recovery position and seek medical advice. Take off immediately all contaminated clothing. Highly flammable liquid and vapor. Wash contaminated clothing before reuse. When in doubt or if symptoms are observed, get medical advice.

#### In case of inhalation

Remove casualty to fresh air and keep warm and at rest. In case of respiratory tract irritation, consult a physician. When in doubt or if symptoms are observed, get medical advice.

#### In case of skin contact

Remove contaminated, saturated clothing immediately. Wash off any skin contamination immediately.

#### After eye contact:

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist. Call a POISON CENTER or doctor/physician.

#### In case of ingestion

Rinse mouth thoroughly with water. Immediately call a POISON CENTER/doctor. Never give anything by mouth to an unconscious person or a person with cramps.

### Self-protection of the first aider

First aider: Pay attention to self-protection! Wear personal protection equipment (refer to section 8). In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

### 4.2 Most important symptoms/effects, acute and delayed

Headache. Dizziness. Nausea. Respiratory disorders. Coma. Acidosis Risk of blindness.

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

Treat symptomatically. Following ingestion: Administer 50 mL of pure ethanol in a drinkable concentration. Methanol is metabolized to the highly toxic compounds formaldehyde and formic acid that are responsible for the acidosis and blindness characteristic of methanol poisoning. The onset of symptoms may be delayed for 18 to 72 hours after ingestion. Toxicity is related to the degree of acidosis produced.

## SECTION 5: Fire fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Water spray

ABC-powder

Carbon dioxide (CO<sub>2</sub>)

Nitrogen

#### Extinguishing media which must not be used for safety reasons

Full water jet

### 5.2 Specific hazards arising from the chemical

In case of fire may be liberated:

Carbon monoxide

Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

Combustible toxic substances (liquid)

In case of fire and/or explosion do not breathe fumes.

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Vapors are heavier than air, spread along floors and form explosive mixtures with air.

Protective equipment and precautions for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Use water spray/stream to protect personnel and to cool endangered containers.

DO NOT fight fire when fire reaches explosives.

#### Additional information

Do not allow run-off from fire-fighting to enter drains or water courses.

Do not inhale explosion and combustion gases.

Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen.

Use water spray/stream to protect personnel and to cool endangered containers.

In case of fire: Evacuate area.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Wear personal protection equipment (refer to section 8). Do not breathe gas/fume/vapor/spray. Avoid contact with skin, eyes and clothes. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Provide adequate ventilation.

### 6.2 Environmental precautions

Discharge into the environment must be avoided. Do not allow to enter into surface water or drains. Explosion risk.

### 6.3 Methods and material for containment and cleaning up

Cover drains. Absorb spillage to prevent material damage. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Dispose according to legislation.

### 6.4 Additional information

Personal protection equipment (PPE): see section 8 SECTION 13. Information regarding the disposal of the products

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advices on safe handling

Wear personal protection equipment (refer to section 8).

Avoid contact with eyes and skin.

Avoid inhalation of the product.

Use extractor hood (laboratory).

Provide adequate ventilation.

Measures to prevent fire, aerosol and dust generation

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Take precautionary measures against static discharges.

Measures required to protect the environment

Due to danger of explosion, prevent leakage of vapors into cellars, flues and ditches.

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

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

Recommended storage temperature: Ambient temperature

Storage: Keep container tightly closed and in a well-ventilated place. Keep/Store away from combustible materials. Protect from sunlight. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Suitable container/equipment material:

Glass Steel Stainless steel Unsuitable container/equipment material: Aluminium Polyethylene PVC (polyvinyl chloride)

### 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

Ingredient (Designation)	Source	Country	parameter	Limit value
Methanol	CNESST	CA	VECD	328 mg/m <sup>3</sup> - 250 ppm
Methanol	CNESST	CA	VEMP	262 mg/m <sup>3</sup> - 200 ppm

### 8.2 Engineering controls

#### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

#### Personal protection equipment (PPE)

Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

#### *Eye/face protection*

Eye glasses with side protection

#### *Skin protection*

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

#### By short-term hand contact

Suitable material: NBR (Nitrile rubber)  
 Thickness of the glove material: 0,38 mm  
 Breakthrough time: -

#### By long-term hand contact

Suitable material: Butyl caoutchouc (butyl rubber)  
 Thickness of the glove material: 0,30 mm  
 Breakthrough time: > 480 min

#### *Respiratory protection*

Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

#### *Additional information*

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

#### *Environmental exposure controls*

no data available

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Color:	colorless
(b) Odor:	characteristic
(c) Odor threshold:	no data available

#### Safety relevant basic data

(d) pH:	7 (20 °C)
(e) Melting point/freezing point:	-98 °C
(f) Initial boiling point and boiling range:	64.6 °C (1013 hPa)
(g) Flash point:	11 °C (closed cup)
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	Highly flammable liquid and vapor.
(j) Flammability or explosive limits	
Lower explosion limit:	5.5 % (v/v)
Upper explosion limit:	36.5 % (v/v)
(k) Vapor pressure:	128 hPa (20 °C)
(l) Vapor density:	1.11 (20 °C)
(m) Density:	0.7918 g/cm <sup>3</sup> (20 °C)
(n) Solubility(ies)	
Water solubility:	soluble (20 °C)
(o) Partition coefficient: n-octanol/water:	-0.77 (20 °C)
(p) Auto-ignition temperature:	455 °C (DIN 51794)
(q) Decomposition temperature:	not applicable
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	0.614 mPa*s (20 °C)
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable
(u) Particle characteristics:	does not apply to liquids

### 9.2 Other information

Bulk density:	no data available
Refraction index:	1.33066 (589 nm; 20 °C)
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is non-reactive under normal conditions.

Chemical stability

Vapor may form explosive mixtures with air.

## 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

## 10.3 Possibility of hazardous reactions

Formation of explosive mixtures with:

Oxidising agent

Nitrogen oxides (NO<sub>x</sub>)

Chlorates

Nitric acid

Sulfuric acid.

Exothermic reaction with:

Reducing agent

Acid

Acid halides

Alkali (lye), concentrated

Violent reaction with:

Alkali metals

Alkaline earth metal

Formation of:

Hydrogen

## 10.4 Conditions to avoid

UV-radiation/sunlight

Heat

Sparks.

Flame

## 10.5 Incompatible materials

Acids

Alkali metals

Oxidising agent

## 10.6 Hazardous decomposition products

Formaldehyde

## 10.7 Additional information

Slowly corrodes aluminium and zinc under hydrogen evolution.



## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute effects

*Acute oral toxicity:*

LDLo: > 143 mg/kg - Human - (RTECS)

LD50: 1187 - 2769 mg/kg - Rat - (OECD 401)

*Acute dermal toxicity:*

LD50: 17100 mg/kg - Rabbit - (ECHA)

*Acute inhalation toxicity:*

TCLo: > 160 ppm (4 h) - Human

LD50: 43700 mg/m<sup>3</sup> (6 h) - Cat - (J Appl Toxicol 14(4): 309-313)

#### Irritant and corrosive effects

*Primary irritation to the skin:*

not applicable

*Irritation to eyes:*

Causes serious eye irritation.

*Irritation to respiratory tract:*

not applicable

#### Respiratory or skin sensitization

In case of skin contact: not sensitizing

In case of inhalation: not sensitizing

#### STOT-single exposure

May cause drowsiness or dizziness.

#### STOT-repeated exposure

not applicable

#### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

##### Carcinogenicity

No indication of human carcinogenicity.

##### Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

##### Reproductive toxicity

May damage fertility or the unborn child.

##### Aspiration hazard

not applicable

**Other adverse effects**

no data available

**Additional information**

no data available

## SECTION 12: Ecological information

### 12.1 Ecotoxicity

**Fish toxicity:**

LC50: 24000 mg/l (96 h) - Poirier, S.H., M.L. Knuth, C.D. Anderson-Buchou, L.T. Brooke, A.R. Lima, and P.J. Shubat 1986. Comparative Toxicity of Methanol and N,N-Dimethylformamide to Freshwater Fish and Invertebrates. Bull. Environ. Contam. Toxicol. 37(4):615-621

**Daphnia toxicity:**

LC50: 3290 mg/l (48 h) - Guilhermino, L., T. Diamantino, M.C. Silva, and A.M.V.M. Soares 2000. Acute Toxicity Test with Daphnia magna: An Alternative to Mammals in the Prescreening of Chemical Toxicity?. Ecotoxicol. Environ. Saf. 46(3):357-362

EC50: 24500 mg/l (48 h) - Randall, T.L., and P.V. Knopp 1980. Detoxification of Specific Organic Substances by Wet Oxidation. J. Water Pollut. Control Fed. 52(8):2117-2130

**Algae toxicity:**

EC50: 22 000 mg/l (96 h) Pseudokirchneriella subcapitata - IUCLID

**Bacteria toxicity:**

no data available

### 12.2 Persistence and degradability

Biodegradable.

### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: -0.77 (20 °C)

### 12.4 Mobility in soil:

no data available

### 12.5 Results of PBT/vPvB assessment

not applicable

### 12.6 Other adverse effects

no data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: 070104

#### Appropriate disposal / Package

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself. This material and its container must be disposed of as hazardous waste. Do not open container by force. Warning: Do not refill! Do not pierce or burn, even after use.

#### Additional information

no data available

## SECTION 14: Transport information

### Land transport (TDG)

UN-No.:	1230
Proper Shipping Name:	METHANOL
Class(es):	3 (6.1)
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	

### Sea transport (IMDG)

UN-No.:	1230
Proper Shipping Name:	METHANOL
Class(es):	3 (6.1)
Classification code:	
Hazard label(s):	3+6.1
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	
Segregation group:	-
EmS-No.	F-E S-D
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	not relevant

### Air transport (ICAO-TI / IATA-DGR)

UN-No.:	1230
Proper Shipping Name:	METHANOL
Class(es):	3 (6.1)

Classification code:  
Hazard label(s): 3+6.1  
Packing group: II  
Special precautions for user:

## SECTION 15: Regulatory information

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

Domestic Substance List:

## SECTION 16: Other information

### Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists  
DOT - Department of Transportation  
IARC - International Agency for Research on Cancer  
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations  
ICAO-TI - International Civil Aviation Organization-Technical Instructions  
IMDG - International Maritime Code for Dangerous Goods  
LTV - Long Term Value  
NIOSH - National Institute for Occupational Safety and Health  
NTP - National Toxicology Program  
OSHA - Occupational Safety & Health Administration  
PBT - Persistent, Bioaccumulative and Toxic  
PEL - Permissible Exposure Limit  
STV - Short Term Value  
SVHC - Substances of Very High Concern  
TDG - Transport of Dangerous Goods  
TLV - Threshold Limit Value  
vPvB - very Persistent, very Bioaccumulative

### Key literature references and sources for data

This Safety Data Sheet has been prepared based on information available for public as TOXNET information, European Chemicals Agency (ECHA) substance dossier, papers from international cancer research institutes (IARC Monographs), U.S. National Toxicology Program data, U.S. Agency for Toxic Substances and Disease Control (ATSDR), PubChem websites and SDS from our raw material manufacturers.

Revision date	Version	Print date
04.11.2022	1.0	04.11.2022

### Additional information

Indication of changes          none/none

*The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state 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. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.*