# **SAFETY DATA SHEET**

This safety data sheet was created pursuant to the requirements of: Vietnam, Decree No. 113/2017/ND-CP, Circular no. 32/2017/TT-BCT



Chemical codes and product name

CAS No 67-56-1

UN number or ID number UN1230 EC No (EU Index No) 200-659-6

Hazard rating of standard rating organizations (if applicable): No information available

Health hazards

Flammability

Instability

Special hazards

Registration number in other countries (if applicable):

3

No information available

Issuing Date 03-Jul-2018 Revision Date 03-Nov-2023 Revision Number 2

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1. Identification

Common name of chemical Methyl alcohol

Trading name Methanol

Other names

Other names Methyl alcohol, wood alcohol, methyl hydroxide

Other information Chemical Family - Alcohols

Name and address of supplier or importer

**Supplier** Methanex Corporation

1800 Waterfront Centre

200 Burrard Street, V6C 3M1 - Canada

Phone: +1 604 661 2600

Name and address of manufacturer

Manufacturer Methanex Corporation

1800 Waterfront Centre

200 Burrard Street, V6C 3M1 - Canada

Phone: +1 604 661 2600

Intended use

Recommended use Industrial use, Professional use, Consumer use: Solvent

Fuels Raw material Cleaning agent Laboratory reagent

Use in oil and gas field drilling and production operations

Water treatment chemicals, wastewater Consumer use of cleaning agents and de-icers

Uses advised against None known.

Contact in emergency:

Emergency telephone NCEC Vietnam: +84 28 4458 2388

NCEC East/Southeast Asia: +65 3158 1074

## 2. Hazard(s) identification

1 GHS Classification

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Specific target organ toxicity (single exposure)	Category 1
Flammable liquids	Category 2

#### 2 Hazard warning

## Signal word





#### **Hazard statements**

Highly flammable liquid and vapor

Toxic if swallowed
Toxic in contact with skin

Toxic if inhaled

Causes damage to organs

#### **Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/clothing and eye/face protection

Use only outdoors or in a well-ventilated area

Do not breathe vapor or mist

Avoid release to the environment

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

Keep container tightly closed

Ground and bond container and receiving equipment

Use only non-sparking tools

Take action to prevent static discharges

Use explosion-proof electrical/ventilating/lighting/machinery/equipment

Keep cool

## **Precautionary Statements - Response**

Specific treatment (see information on this label)

IF exposed: Call a POISON CENTER or doctor

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

Call a POISON CENTER or doctor/physician if you feel unwell

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Call a POISON CENTER or doctor/physician

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Rinse mouth

In case of fire: Use CO2, dry chemical, or foam for extinction

## **Precautionary Statements - Storage**

Store locked up

Store in a well-ventilated place. Keep container tightly closed

# **Precautionary Statements - Disposal**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

#### Other hazards which do not result in classification

Risk of blindness after swallowing the product

#### 3 Route of exposure and symptoms

Eye contact

May cause irritation.

**Inhalation** Toxic by inhalation.

**Skin contact** Toxic in contact with skin.

**Ingestion** Toxic if swallowed.

**Symptoms** Ingestion causes nausea, weakness and central nervous system effects, headache,

vomiting, dizziness, symptoms of drunkenness. Coma and death due to respiratory failure may follow severe exposures: Medical treatment necessary. A latent period of several hours may occur between exposure and the onset of symptoms. May cause blindness.

# 3. Composition/information on ingredients

#### Substance

Chemical name	CAS No.	Weight-%
Methanol	67-56-1	100

## 4. First-aid measures

#### Description of necessary first aid measures

#### General advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

#### 1 For accidents with exposure of eye

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical attention.

## 2 For accidents with exposure of skin

Remove/Take off immediately all contaminated clothing. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.

## 3 For accidents with exposure by inhalation

Remove to fresh air. IF exposed or concerned: Get medical advice/attention. If breathing has stopped, give artificial respiration. Get medical attention immediately. Immediate medical attention is required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen.

## 4 For accidents with exposure by swallowing

Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.

### 5 Note to physicians

The severity of outcome following methanol ingestion may be more related to the time between ingestion and treatment, rather than the amount ingested; therefore, there is a need for rapid treatment of any ingestion exposure. Call a Poison Center. Antidote: Fomepizole enhances elimination of metabolic formic acid. Antidote should be administered by qualified medical personnel.

## **Symptoms**

Exposure may cause nausea, weakness and central nervous system effects, headache, vomiting, dizziness, symptoms of drunkenness. Coma and death due to respiratory failure may follow severe exposures: Medical treatment necessary. A latent period of several hours may occur between exposure and the onset of symptoms. Coughing and/ or wheezing. Difficulty in breathing.

#### **Effects of Exposure**

Causes damage to organs: Eyes.

**Self-protection of the first aider** Remove all sources of ignition. Ensure that medical personnel are aware of the material(s)

> involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not breathe vapor or mist.

# 5. Fire-fighting measures

### 1 Flammable properties

Highly flammable liquid and vapor.

#### 2 Hazardous combustion products

Toxic gases or vapors, Carbon monoxide, Carbon dioxide (CO2), Formaldehyde.

## 3 Agents that cause fire and explosion or other specific hazards

Methanol: Burns with invisible flame. Flame may not be visible in daylight. Mixtures >20% methanol with water: flammable. Highly flammable liquid and vapor. Vapors are heavier than air and may spread along floors. Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

#### 4 Appropriate fire extinguishers and fire fighting instructions, other combined measures

#### **Suitable Extinguishing Media**

Use water spray to cool fire-exposed containers. Water will not cool methanol below its flash point. Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

## Unsuitable extinguishing media

Do not use straight streams. Do not scatter spilled material with high pressure water streams.

# 5 Special protective equipment and precautions for

# fire-fighters

Small spill

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6 Special attention to fire and explosion

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge

## 6. Accidental release measures

## 1 When there is small scale leakage or spilling

Do not clean-up or dispose of unless adequately trained to do so, or under the supervision of a specialist. Use personal protective equipment as required. See Sections 8 & 13 for additional information.

#### 2 When there is large scale leakage or spilling

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See

> section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not breathe

vapor or mist.

**Environmental precautions** 

Avoid release to the environment. Dispose of contents/containers in accordance with local regulations. Biodegradable at low concentrations. Soluble in water. When released, this product is expected to evaporate. Contact authorities in the event of pollution of soil and

aquatic environment or discharge into drains. Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from

entering drains.

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor

suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other

non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Small spill: Absorb or cover with dry earth, sand or other non-combustible material and

transfer to containers. Use non-sparking tools. Collect spillage. Large spill: Take

precautionary measures against static discharges. Dam up. Soak up with inert absorbent

material. Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Other information** Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

Reference to other sections Safe handling: see Section 7. Personal protection equipment (PPE): see Section 8.

Disposal: see Section 13.

# 7. Handling and storage

#### 1 Measures and conditions to be applied when using or working with dangerous chemicals

Do not enter confined area unless adequately ventilated. Use personal protection equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. Do not breathe vapor or mist. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product.

## 2 Measures and conditions to be applied when storing chemicals

Keep unauthorized personnel away. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up.

Incompatible materials Lead, Aluminum, Zinc, Oxidizing agent, Strong acids, Strong bases, Polyethylene, Polyvinyl

chloride (PVC), Nitriles.

# 8. Exposure controls/personal protection

### 1 Measures necessary to limit exposure

**Exposure guidelines**Users are advised to consider national Occupational Exposure Limits or other equivalent values.

Chemical name	Vietnam	ACGIH TLV
Methanol	TWA: 50mg/m <sup>3</sup>	STEL: 250 ppm
	STEL: 100mg/m <sup>3</sup>	TWA: 200 ppm
		S*

### **Biological occupational exposure limits**

Chemical name	ACGIH
Methanol	15 mg/L - urine (Methanol) - end of shift

## Appropriate engineering controls

Provide local exhaust ventilation. Handle product only in closed system or provide appropriate exhaust ventilation. All equipment used when handling the product must be grounded.

# 2 Personal protective equipment when working

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Antistatic boots.

Hand protection Wear suitable gloves. Impervious gloves.

Respiratory protection Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or

> other positive-pressure mode. Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator

#### 3 Protective equipment when responding to an incident

Additional protective equipment such as chemically resistant suit, boots and face shield should be used based upon task being performed.

Avoid release to the environment. Prevent entry into waterways, sewers, basements or confined areas.

## 4 Hygiene Measures

General hygiene considerations

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Do not breathe vapor or mist.

# 9. Physical and chemical properties

### Information on basic physical and chemical properties

Clear liquid **Appearance** Physical state Liquid Color Clear Odor Alcohol 4.2 - 5960 ppm Odor threshold

<u>Property</u>	<u>Values</u>	Remarks • Method
рН		No data available
Melting point / freezing point	-97.78 °C / -144 °F	No data available
Initial boiling point and boiling	64.72 °C / 148.5 °F	No data available
range		
Flash point	11 °C / 51.8 °F	No data available
Evaporation rate	4.1	Butyl acetate = 1
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive	36.5%	No data available
limits		
Lower flammability or explosive	5.5%	No data available
limits		
Vapor pressure	12.8 kPa	@ 20 °C
Relative vapor density	1.1	@ 20 °C (air = 1)
Relative density	0.791 - 0.793	@20°C
Water solubility	Miscible in water	No data available
Solubility in other solvents		No data available
Partition coefficient	-0.77	log Pow
Autoignition temperature	464 °C / 867.2 °F	No data available
Decomposition temperature		No data available
Kinematic viscosity		No data available
Dynamic viscosity	0.8 cP	@ 20 °C
- ,	*** **	S =

Other information

**Explosive properties** Vapors may form explosive mixtures with air.

Oxidizing properties No information available. Softening point No information available

Molecular weight 32.04 VOC content 100%

Liquid Density

No information available

Bulk density

No information available

# 10. Stability and reactivity

#### 1 Stability

May form flammable/explosive vapor-air mixture.

### 2 Reactivity

Containers may rupture or explode if exposed to heat.

#### Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors, Carbon monoxide, Carbon dioxide (CO2), Ketones, Formaldehyde.

#### Possibility of hazardous reactions

None under normal processing.

### Incompatible materials

Lead, Aluminum, Zinc, Oxidizing agent, Strong acids, Strong bases, Polyethylene, Polyvinyl chloride (PVC), Nitriles.

#### Conditions to avoid

Containers may rupture or explode if exposed to heat. Heat, flames and sparks. Excessive heat.

#### **Hazardous polymerization**

None under normal processing.

# 11. Toxicological information

#### Information on likely routes of exposure

#### **Product Information**

**Inhalation** Toxic by inhalation.

**Eye contact** May cause irritation.

**Skin contact** Toxic in contact with skin.

**Ingestion** Toxic if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Ingestion causes nausea, weakness and central nervous system effects, headache,

vomiting, dizziness, symptoms of drunkenness. Coma and death due to respiratory failure may follow severe exposures: Medical treatment necessary. A latent period of several hours may occur between exposure and the onset of symptoms. May cause blindness.

**Acute toxicity** Toxic if swallowed. Toxic in contact with skin. Toxic by inhalation.

ATEmix (oral) 100 mg/kg ATEmix (dermal) 300 mg/kg

ATEmix (inhalation-vapor) 3 mg/l

**Component Information** 

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Methanol	= 6200 mg/kg (Rat)	= 15840 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h
			= 64000 ppm ( Rat ) 4 h

### 1 Long-term impact to humans

**Skin corrosion/irritation**No information available.

**Serious eye damage/eye irritation** May cause mild to moderate irritation.

**Respiratory or skin sensitization** No information available.

Germ cell mutagenicity No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

Reproductive toxicity No information available.

**STOT - single exposure** Causes damage to organs.

**STOT - repeated exposure**No information available.

Target organ effects Central nervous system. Optic nerve.

2 Other toxic effects

**Aspiration hazard** No information available.

# 12. Ecological information

## 1 Toxicity to organisms

Avoid release to the environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Methanol	-	LC50: =28200mg/L (96h,	-
		Pimephales promelas)	
		LC50: >100mg/L (96h,	
		Pimephales promelas)	
		LC50: 19500 - 20700mg/L (96h,	
		Oncorhynchus mykiss)	
		LC50: 18 - 20mL/L (96h,	
		Oncorhynchus mykiss)	
		LC50: 13500 - 17600mg/L (96h,	
		Lepomis macrochirus)	

## 2 Environmental impact Persistence and degradability

Readily biodegradable.

#### Bioaccumulation

Not expected to bioaccumulate. BCF: <10.

#### **Component Information**

Chemical name	Partition coefficient
Methanol	-0.77

## Mobility in soil

Adsorbs on soil.

#### **Mobility**

No information available.

#### Other adverse effects

No information available.

# 13. Disposal considerations

#### 1 Information on disposal requirements

Take note of national technical regulations on the environment.

#### 2 Hazardous waste classification

#### National Technical Regulation on the threshold for hazardous waste

Chemical name	Threshold concentration	Leaching threshold concentration
Methanol - 67-56-1	3000ppm	-

#### 3 Waste treatment measures

### Waste from residues/unused products

Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

#### 4 Waste destruction by-products, disposal measures

#### Contaminated packaging

Recover or recycle if possible. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

# 14. Transport information

Decree no. 104/2009/ND-CP, Regulations on dangerous goods transport by road motor vehicle

UN number or ID	UN proper shipping	Transport hazard	Packing group	Labels	
number	name	class(es)	II	3 + 6.1	
UN1230	METHANOL	3			

Additional information

Decree No. 29/2005/ND-CP dated 10/03/2005 of government on list of dangerous goods and the transport of dangerous goods on inland waterways

#### **IMDG**

UN number or ID number UN1230
UN proper shipping name METHANOL

Transport hazard class(es) 3
Subsidiary hazard class 6.1
Packing group II
Marine pollutant NP

**Description** UN1230, METHANOL, 3 (6.1), II, (11°C C.C.)

**Special Provisions** 279 **EmS-No.** F-E, S-D

**IATA** 

UN1230 **UN** number or ID number **UN proper shipping name** Methanol Transport hazard class(es) Subsidiary hazard class 6.1 Packing group Ш

Description UN1230, Methanol, 3 (6.1), II

**Special Provisions** A113 **ERG Code** 3L

ADR

UN number or ID number UN1230 **UN proper shipping name METHANOL** 

UN1230, METHANOL, 3 (6.1), II Description

Transport hazard class(es) Subsidiary hazard class 6.1 Packing group Ш Classification code FT1 **Special Provisions** 279

# 15. Regulatory information

## 1 Declaration status, registered in the regional countries of the world

**TSCA** Listed. **DSL/NDSL** Listed. **EINECS/ELINCS** Listed. **ENCS** Listed. **IECSC** Listed. **KECL** Listed. Listed. **PICCS AICS** Listed.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC - Australian Inventory of Industrial Chemicals

## 2 Classifying of risk by country

Hazard rating of standard rating organizations (if applicable): No information available

Health hazards **Flammability Instability** Special hazards

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

## 3 Compliance with technical regulations

Applicable regulations:

Consolidated Document No. 10/VBHN-VPQH on Law on Chemicals Decree No. 113/2017/ND-CP specifying a number of articles of the Law on Chemicals

- Appendix II. The list of production and trading restrictions chemicals
- Appendix IV. The list of hazardous chemicals requiring to develop plans to prevent and respond to chemical incidents and establish a safe distance
- Appendix V. The list of chemicals subject to declaration
- Circular no. 32/2017/TT-BCT, Regulations on chemical declaration
- Decree no. 104/2009/ND-CP, Regulations on dangerous goods transport by road motor vehicle
- Decree No. 29/2005/ND-CP dated 10/03/2005 of government on list of dangerous goods and the transport of dangerous goods on inland waterways

## 16. Other information

Note to the reader:

The information in the chemical safety data sheet is compiled with the newest and most valid knowledge of dangerous chemicals and must be used to implement measures to prevent risks and accidents

Dangerous chemicals in these sheets have other hazardous properties depending on the circumstances of use and exposure

Issuing Date 03-Jul-2018

Revision Date 03-Nov-2023

Revision Note Updated format.

## Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)

IMDG International Maritime Dangerous Goods (IMDG)
IATA International Air Transport Association (IATA)

ADR European Agreement concerning the International Carriage of Dangerous Goods by Road

NFPA National Fire Protection Association (NFPA), United States of America

Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value Sk\* Skin designation

## Key literature references and sources for data used to compile the SDS

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA) EPA (Environmental Protection Agency) Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

U.S. National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

#### **Disclaimer**

The information above is believed to be accurate and represents the best information currently available to us. Users should make their own investigations to determine the suitability of the information for their particular purposes. This document is intended as a guide to the appropriate precautionary handling of the material by a properly trained person

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**End of Safety Data Sheet**