



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Decree 1496 of August 6, 2018

Issuing Date 30-Sep-2016

Revision Date 12-Dec-2023

Revision Number 2.1

SECTION 1: Product Identification

Product identifier

Product Name Methanol

Other means of identification

UN/ID no UN1230

Synonyms Methyl alcohol, wood alcohol, methyl hydroxide

Other information Chemical Family - Alcohols

Recommended use of the chemical and restrictions on 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

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier

Methanex Chile SpA (Commercial Office)
Rosario Norte 100, 6° floor
Las Condes, Santiago
CHILE
Tel: + 56 2 2374 4000

E-mail address rclatinamerica@methanex.com

Emergency telephone number

Emergency Telephone CHEMTREC Colombia: 01800-710-2151
CHEMTREC (Peru): 51-17071295

SECTION 2: Identification of the hazard or hazards

Classification of the substance or mixture

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

Acute aquatic toxicity	Category 3
Flammable liquids	Category 2

GHS Label elements, including precautionary statements

Skull and crossbones
Health hazard
Flame

Signal word
Danger

Hazard statements

Highly flammable liquid and vapor
Toxic if swallowed
Toxic in contact with skin
Toxic if inhaled
Causes damage to organs
Harmful to aquatic life

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 dust/fume/gas/mist/vapors/spray
Avoid release to the environment
Ground and bond container and receiving equipment
Use non-sparking tools
Take action to prevent static discharges
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Use explosion-proof electrical, ventilating and lighting equipment
Keep cool

Precautionary Statements - Response

Specific treatment (see supplemental first aid instructions in this document)
IF exposed or concerned: Call a POISON CENTER or doctor

Skin

IF ON SKIN: Wash with plenty of water and soap
Call a POISON CENTER or doctor if you feel unwell
Take off immediately all contaminated clothing and wash it before reuse
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor
Rinse mouth

Fire

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

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.

SECTION 3: Composition/information on ingredients**Substance**

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

SECTION 4: First aid measures**Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
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.
Skin contact	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.
Eye contact	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.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
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.

Most important symptoms and effects, both acute and delayed

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	No information available.

Indication of any immediate medical attention and special treatment needed

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.

SECTION 5: Firefighting measures**Suitable Extinguishing Media**

Use water spray to cool fire-exposed containers. Water will not cool methanol below its flash point. Alcohol Resistant Film Forming foam 3 or 6%. 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.

Specific hazards arising from the chemical

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.

Hazardous combustion products

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

Specific/special fire-fighting measures

Methanol: Burns with invisible flame. Flame may not be visible in daylight. Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

Special protective equipment and precautions for fire-fighters

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

SECTION 6: Measures to be taken in the event of accidental spillage**Personal precautions, protective equipment and emergency procedures****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**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 and material for containment and cleaning up**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.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. 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. 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. Wash thoroughly after handling.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	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.

SECTION 8: Exposure controls / personal protection

Control parameters

Exposure Limits

Chemical name	Colombia - Occupational Exposure Limits	ACGIH TLV
Methanol 67-56-1	TWA: 200 ppm STEL: 250 ppm	TWA: 200 ppm STEL: 250 ppm Sk*

Chemical name	Peru
Methanol 67-56-1	Skin STEL: 250ppm STEL: 328mg/m ³ TWA: 200ppm TWA: 262mg/m ³

Biological occupational exposure limits

Chemical name	ACGIH
Methanol 67-56-1	15 mg/L - urine (Methanol) - end of shift

Appropriate engineering controls

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.

Individual protection measures, such as personal protective equipment

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

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	-97.8 °C	No data available
Initial boiling point and boiling range	64.7 °C	No data available
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits	36.5%	No data available
Lower flammability or explosive limits	5.5%	No data available

Flash point	11 °C	No data available
Autoignition temperature	464 °C	No data available
Decomposition temperature		No data available
pH		No data available
pH (as aqueous solution)		No data available
Kinematic viscosity		No data available
Dynamic viscosity	0.8 cP	@ 20 °C
Water solubility	Miscible in water	No data available
Solubility(ies)		No data available
Partition coefficient	-0.77	log Pow
Vapor pressure	12.8 kPa	@ 20 °C
Relative density	0.791 - 0.793	@20°C
Bulk density		No data available
Liquid Density		No data available
Relative vapor density	1.1	@ 20 °C (air = 1)
Particle characteristics		
Particle Size		No data available
Particle Size Distribution		No data available

Other information

Molecular weight	32.04
VOC content	100%

Information with regard to physical hazard classes

Not applicable

Explosive properties Vapors may form explosive mixtures with air

Other safety characteristics

No information available

Sensitivity to mechanical impact No information available**Evaporation rate** 4.1 Butyl acetate = 1**VOC content** 100%**SECTION 10: Stability and reactivity****Reactivity** Containers may rupture or explode if exposed to heat.**Stability** May form flammable/explosive vapor-air mixture.**Explosion data****Sensitivity to mechanical impact** No information available.**Sensitivity to static discharge** Yes.**Possibility of hazardous reactions** None under normal processing.**Conditions to avoid** Containers may rupture or explode if exposed to heat. Heat, flames and sparks. Excessive heat.**Incompatible materials** Lead, Aluminum, Zinc, Oxidizing agent, Strong acids, Strong bases, Polyethylene, Polyvinyl chloride (PVC), Nitriles.**Hazardous decomposition products** Carbon monoxide, Carbon dioxide (CO₂), Formaldehyde.**SECTION 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. MAY BE FATAL OR CAUSE BLINDNESS 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. Coughing and/ or wheezing. Difficulty in breathing.
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Acute toxicity**Numerical measures of toxicity**

Acute Toxicity Estimate (ATE) values provided as a reflection of the hazard classification

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	100.00 mg/kg
ATEmix (dermal)	300.00 mg/kg
ATEmix (inhalation-vapor)	3.00 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Methanol 67-56-1	= 6200 mg/kg (Rat)	= 15840 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Interactive effects	No information available.
Skin corrosion/irritation	May cause skin irritation. Based on available data, the classification criteria are not met.
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.

Aspiration hazard No information available.

Other information No information available.

SECTION 12: Ecotoxicological information

Ecotoxicity Avoid release to the environment. Harmful to aquatic life.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Methanol 67-56-1	-	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)	-	-

Persistence and degradability Readily biodegradable.

Bioaccumulation Not expected to bioaccumulate.

Bioconcentration factor (BCF) <10

Component Information

Chemical name	Partition coefficient
Methanol 67-56-1	-0.77

Mobility in soil Adsorbs on soil.

Mobility No information available.

Other adverse effects No information available.

SECTION 13: Information regarding disposal of products

Disposal methods

Waste from residues/unused products	Do not allow into any sewer, on the ground or into any body of water. Dispose of waste in accordance with environmental legislation as hazardous substance. Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Recover or recycle if possible Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers

SECTION 14: Transport information

ICAO (air)

UN/ID no	UN1230
Proper shipping name	METHANOL
Transport hazard class(es)	3
Subsidiary hazard class	6.1
Packing group	II
Description	UN1230, METHANOL, 3 (6.1), II
Special Provisions	A113

IATA

UN number or ID number	UN1230
UN proper shipping name	Methanol
Transport hazard class(es)	3
Subsidiary hazard class	6.1
Packing group	II
Description	UN1230, Methanol, 3 (6.1), II
Special Provisions	A113
ERG Code	3L

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

DOT

UN/ID no	UN1230
Proper shipping name	METHANOL
Transport hazard class(es)	3
Subsidiary class	6.1
Packing group	II
Reportable Quantity (RQ)	(Methanol: RQ (kg)= 2270.00) Methanol: RQ (lb)= 5000.00
Reportable quantity (kg) (calculated)	Methanol: RQ (kg)= 2270.00
Reportable quantity (lbs) (calculated)	Methanol: RQ (lb)= 5000.00
Special Provisions	IB2, T7, TP2
DOT Marine Pollutant	NP
Description	UN1230, METHANOL, 3 (6.1), II
Emergency Response Guide Number	131

SECTION 15: Information on the regulation

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

International Regulations

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

International Inventories

TSCA	Listed.
DSL/NDL	Listed.
EINECS/ELINCS	Listed.
ENCS	Listed.
IECSC	Listed.
KECI	Listed.
PICCS	Listed.
AICS	Listed.

Legend:

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

DSL/NDL - 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

AICS - Australian Inventory of Industrial Chemicals

SECTION 16: Other informations

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

Legend

SVHC: Substances of Very High Concern for Authorization:

PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances

vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

STOT: Specific Target Organ Toxicity

ATE: Acute Toxicity Estimate

LC50: 50% Lethal Concentration

LD50: 50% Lethal Dose

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
**	Hazard Designation	+	Sensitizers

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

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

Environmental Protection Agency

Acute Exposure Guideline Level(s) (AEL(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)
National Library of Medicine's PubMed database (NLM PUBMED)
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

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Revision Note Emergency telephone number Occupational exposure limits SDS sections updated: 1, 8

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 using this product. Methanex Corporation and its subsidiaries make no representations or warranties, either express or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Methanex Corp. will not be responsible for damages resulting from use of or reliance upon this information.

End of Safety Data Sheet