SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Indonesia, SNI 9030-1:2021, and, SNI 9030-2:2021

Issuing Date 23-Nov-2022 **Revision Date** 08-Mar-2024 **Revision Number** 1.1

1. Identification

Product identifier

Product Name Methanol

Other means of identification

Synonyms Methyl alcohol, wood alcohol, methyl hydroxide

Molecular weight 32.04

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 None known

Other information Chemical Family - Alcohols

Detailed information about the manufacturer, supplier, and/or importer

Manufacturer
Methanex Methanol Company
5850 Granite Parkway Suite 400
Plano, TX 75024
USA
Tel: +1 972 702 0909
Fax: +1 972 233 1266

Atlas Methanol Company Unlimited
Point Lisas Industrial Estate
Point Lisas
Republic of Trinidad and Tobago
Tel: +1 868 679 4400
Fax: +1 868 679 2400

Methanex New Zealand Limited
409 Main North Road, SH3, Motunui
Private Bag 2011
New Plymouth 4342
New Zealand
Phone: +64 (6) 7549700

Methanex Chile SpA
Rosario Norte 100, Piso 6
Las Condes, Santiago, Región Metropolitana
Zip code: 7561258
Chile
Tel: +562 23744000

Emergency telephone number

Emergency telephone NCEC Carechem 24 service
Indonesia Republic +007 803 011 0293 (toll-free, access from Indonesia only)

2. Hazard(s) identification

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
Flammable liquids	Category 2

Label elements

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

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
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Use explosion-proof electrical/ ventilating / lighting/ .? / equipment
Ground and bond container and receiving equipment
Use only non-sparking tools
Take action to prevent static discharges
Keep cool
Precautionary Statements - Response
Specific treatment (see supplemental first aid instructions on this label)
IF exposed or concerned: Call a POISON CENTER or doctor
Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
Call a POISON CENTER or doctor if you feel unwell
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. Harmful to aquatic life.

3. Composition/information on ingredients

Substance

Synonyms Methyl alcohol, wood alcohol, methyl hydroxide

CAS No 67-56-1

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.

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.

For emergency responders

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/effects, 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. May cause blindness.

Effects of Exposure No information available.

Indication of immediate medical attention and special treatment needed, if necessary

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.

5. Fire-fighting measures

Suitable Extinguishing Media

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. Dry sand.

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

Specific hazards arising from the chemical

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. Methanol: Burns with invisible flame. Flame may not be visible in daylight.

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

Special protective equipment and precautions for fire-fighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

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	Take precautionary measures against static discharges. Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Small spill: Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use non-sparking tools. Collect spillage. Place in appropriate chemical waste container. Clean contaminated surface thoroughly. Large spill: Dike far ahead of spill; use dry sand to contain the flow of material. Use clean non-sparking tools to collect absorbed material.
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

Precautions for safe handling

Advice on safe handling	Use according to package label instructions. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use personal protection equipment. 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. 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. Do not enter confined area unless adequately ventilated.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. 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.

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.

8. Exposure controls/personal protection

Control parameters

Exposure guidelines

Chemical name	ACGIH TLV	Indonesia
Methanol 67-56-1	TWA: 200 ppm STEL: 250 ppm Sk*	TWA: 200 ppm STEL: 250 ppm Sk*

Biological occupational exposure limits

Chemical name	ACGIH	Indonesia
Methanol 67-56-1	15 mg/L - urine (Methanol) - end of shift	No data available

Appropriate engineering controls

Engineering controls Provide local exhaust ventilation. Handle product only in closed system or provide appropriate exhaust ventilation. Use explosion-proof ventilating equipment. All equipment used when handling the product must be grounded. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment

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

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves. Impervious gloves. Butyl rubber.

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

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. 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.

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

Property	**Values**	**Remarks • Method**
pH		No data available
Melting point / freezing point	-97.8 °C / -144 °F	No data available
Initial boiling point and boiling range	64.7 °C / 148.5 °F	No data available
Flash point	11 °C / 51.8 °F	No data available
Evaporation rate	4.1	Butyl acetate = 1
Flammability		Not applicable
Upper/lower flammability or explosive limits		
Upper flammability or explosive limits	36.5%	No data available
Lower flammability or explosive limits	5.5%	No data available
Vapor pressure	12.8 kPa	@ 20 °C
Relative vapor density	1.1	@ 20 °C (air = 1)
Relative density	0.791 - 0.793	@20°C
Solubility(ies)		
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

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

Reactivity

Reactivity Containers may rupture or explode if exposed to heat.

Chemical stability

Stability Stable under normal conditions. May form flammable/explosive vapor-air mixture. Hygroscopic.

Explosion data

Sensitivity to mechanical impact	None
Sensitivity to static discharge	Yes.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

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

Incompatible materials

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

Hazardous decomposition products

Hazardous decomposition products Carbon monoxide, Carbon dioxide (CO2), Formaldehyde.

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 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.

Interactions with Other Chemicals
No information available.

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 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

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

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.

Aspiration hazard No information available.

12. Ecological information

Ecotoxicity

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	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)*	-	-

Terrestrial ecotoxicity
There is no data for this product.

Chemical name	Earthworm	Avian	Honeybees
Methanol	*Acute Toxicity: LC50 > 1 mg/cm2 (Eisenia foetida, 48 h filter paper)*	-	-

Persistence and degradability

Readily biodegradable.

Bioaccumulative potential

Not expected to bioaccumulate.
BCF: <10.

Component Information

Chemical name	Partition coefficient
Methanol	*-0.77*

Mobility

Mobility in soil
Adsorbs on soil. No information available.

Other adverse effects
No information available.

13. Disposal considerations

Disposal methods

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.

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

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

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

ADR

UN number or ID number	UN1230
UN proper shipping name	METHANOL
Description	UN1230, METHANOL, 3 (6.1), II
Transport hazard class(es)	3

Subsidiary hazard class	6.1
Packing group	II
Classification code	FT1
Special Provisions	279

RID

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
Classification code	FT1

ADN

UN/ID no	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	279, 802
Classification code	FT1
Ventilation	VE01, VE02
Equipment Requirements	PP, EP, EX, TOX, A

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

Indonesia - Applicable regulations:

Regulation No. 74/2001, regarding management of hazardous and poisonous substances

Chemical name	Indonesia - Hazardous and Poisonous Substances (B3)
Methanol	Permitted

Control of hazardous chemicals in the workplace (KEP. 187/MEN/1999)

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/NDSL	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/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

16. Other information

Date of preparation of the SDS 23-Nov-2022

Revision Date 08-Mar-2024

Revision Note SDS sections updated: 1. Supplier Identification.

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
IMDG International Maritime Dangerous Goods (IMDG)
IATA International Air Transport Association (IATA)
ADR European Agreement concerning the International Carriage of Dangerous Goods by Road

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
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
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

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End of Safety Data Sheet