SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
NOM-018-STPS-2015

Issuing Date 25-May-2022 **Revision Date** 25-May-2022 **Revision Number** 1

1. 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 rclatinamerica@methanex.com

Emergency telephone number

Emergency telephone CHEMTREC (México): 01-800-681-9531

2. Hazard(s) identification

Classification

Acute toxicity - Oral	Category 3 - (H301)
Acute toxicity - Dermal	Category 3 - (H311)

Acute toxicity - Inhalation (Vapors)	Category 3 - (H331)
Specific target organ toxicity (single exposure)	Category 1 - (H370)
Flammable liquids	Category 2 - (H225)

Label elements

Danger

Hazard statements
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H370 - Causes damage to organs
H225 - Highly flammable liquid and vapor

Skull and crossbones
Health hazard
Flame

Precautionary Statements - Prevention
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P271 - Use only outdoors or in a well-ventilated area
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P240 - Ground and bond container and receiving equipment
P242 - Use non-sparking tools
P243 - Take action to prevent static discharges
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 - Keep container tightly closed
P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment
P235 - Keep cool

Precautionary Statements - Response
P321 - Specific treatment (see supplemental first aid instructions on this label)
P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor

Skin
P312 - Call a POISON CENTER or doctor if you feel unwell
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]

Inhalation
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P311 - Call a POISON CENTER or doctor

Ingestion
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
P330 - Rinse mouth

Fire
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Precautionary Statements - Storage
P405 - Store locked up

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other information
Risk of blindness after swallowing the product. Harmful to aquatic life.

3. Composition/information on ingredients

Substance

Synonyms Methyl alcohol, wood alcohol, methyl hydroxide

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

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.

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.

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.

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.

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.

5. Fire-fighting 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.

Specific hazards arising from the chemical 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.

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

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

Special protective actions for fire-fighters Cool containers with flooding quantities of water until well after fire is out. 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.

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

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.

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 Handle product only in closed system or provide appropriate exhaust ventilation. 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. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

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. Keep away from Incompatible materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits NOM-010-STPS-2014

Chemical name	Exposure Limits
Methanol 67-56-1	* Mexico: TWA 200 ppm Mexico: STEL 250 ppm

Biological occupational exposure limits

Chemical name	Mexico
Methanol 67-56-1	15 mg/L Medium: urine Time: end of work shift Parameter: Methanol (background, nonspecific)

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.

Hand protection Wear suitable gloves. Impervious gloves.

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

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.

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

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing must 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

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		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
Vapor pressure	12.8 kPa	@ 20 °C
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

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 Containers may rupture or explode if exposed to heat.

Chemical stability May form flammable/explosive vapor-air mixture.

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). May release flammable gases: 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. 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.

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 67-56-1	= 6200 mg/kg (Rat)	= 15840 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 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.

12. Ecological 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.

Other adverse effects No information available.

13. Disposal considerations

Waste treatment 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.

14. Transport information

MEX

UN/ID no UN1230
Proper shipping name METHANOL
Transport hazard class(es) 3
Subsidiary class 6.1
Special Provisions 279
Packing group II
Description UN1230, METHANOL, 3 (6.1), II

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

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
Special Provisions A113
Description UN1230, Methanol, 3 (6.1), II
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
EmS-No F-E, S-D
Special Provisions 279
Marine pollutant NP

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

15. Regulatory information

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/NDSL	Listed.
EINECS/ELINCS	Listed.
ENCS	Listed.
IECSC	Listed.
KECL	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
AICS - Australian Inventory of Chemical Substances

16. Other information

NFPA	**Health hazards** 3	**Flammability** 3	**Instability** 0	**Special hazards** -
HMIS	**Health hazards** 3 *	**Flammability** 3	**Physical hazards** 0	**Personal protection** X

** = Chronic Health Hazard*

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	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)
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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The information is believed to be accurate, but it is not exhaustive and must be used only as guidance. It is based on the current state of knowledge of the chemical substance or mixture and is applicable to the appropriate safety precautions for the product.

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