Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
Methanol
Synonyms
Methyl alcohol, wood alcohol, methyl hydroxide
Chemical Family
Alcohols
Recommended Use
Solvent, Feedstock, fuel
Restrictions on Use
None known
Details of the supplier of the safety data sheet

Methanex Chile SpA Santiago Office
Rosario Norte N° 100, 6th floor
Las Condes, Santiago
Chile
Emergency Phone #:
CITUC Toxicological Emergencies #:
+56 2 2 635 3800
CITUC Chemical Emergencies #:
+56 2 2 247 3600
Phone: +56 2 23744000
Fax: +56 2 23744087

Methanex Chile SpA, Punta Arenas Site
Km 28.5 Ruta 9 Norte, Industrial Complex,
Cabo Negro, Punta Arenas
Chile
Phone: +56 612712265 (Chile)
+1 800 710 2151 (Colombia)
Emergency Phone #: +511 707 1295 (Peru)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
Flammable Liquids - Category 2
Acute Toxicity - Oral - Category 3
Acute Toxicity - Dermal - Category 3
Acute Toxicity - Inhalation - Gas - Category 3
Serious Eye Damage/Eye Irritation - Category 2A
Reproductive Toxicity - Category 1A
Specific Target Organ Toxicity - Single Exposure - Category 1 (body , Central Nervous System , optic nerve , retina , systemic toxicity , eyes , Nervous System)
Specific Target Organ Toxicity - Single Exposure - Category 3
Specific Target Organ Toxicity - Repeated Exposure - Category 1 (eyes , Central Nervous System , retina)
GHS Label Elements
Symbol(s)

Signal Word
Danger
Hazard Statement(s)
Highly flammable liquid and vapor.
Toxic if swallowed, in contact with skin or if inhaled.
Causes serious eye irritation.
May damage fertility or the unborn child.
Causes damage to organs.
May cause respiratory irritation. May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.
Precautionary Statement(s)
Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep container tightly closed.
Keep away from heat/sparks/open flame/hot surfaces - No smoking.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Take precautionary measures against static discharge.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Response
In case of fire: Use appropriate media to extinguish.
If exposed: Call a POISON CENTER or doctor/physician.
If exposed or concerned: Call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
Call a POISON CENTER or doctor if you feel unwell.
Specific treatment (see label).
Storage
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.
Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

Statement of Unknown Toxicity
0% of the mixture consists of ingredient(s) of unknown acute toxicity.
Other Hazards
Poison. May be fatal if swallowed. If swallowed there is a risk of blindness.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
67-56-1	Methanol	100

Section 4 - FIRST AID MEASURES

Description of Necessary Measures
Never give anything by mouth to an unconscious person. Get medical attention/advice if you feel unwell (show the label where possible). Call a POISON CENTER or doctor/physician. Toxic. Flammable. Wear appropriate personal protective equipment. Remove sources of ignition.
Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Administer oxygen if breathing is difficult. Immediately call a POISON CENTER or doctor.
Skin
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Wash with plenty of water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse.
Eyes
IF IN EYES: Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation develops and persists, get medical attention.
Ingestion
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention immediately.
Most Important Symptoms/Effects
Acute
Poison. May be fatal if swallowed. If swallowed there is a risk of blindness. Toxic if swallowed, in contact with skin or if inhaled. Causes serious eye irritation. Causes damage to organs. 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.
Delayed
May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.
Indication of any immediate medical attention and special treatment needed
Treat symptomatically and supportively. The severity of symptoms depends upon the length and concentration of the exposure. If ingested, get immediate medical attention.
Note to Physicians
Treat symptomatically. 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 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, regular dry powder, water spray, alcohol resistant foam, sand. Use water spray to cool fire fire-exposed containers. Water will not cool methanol below its flash point. Collect spillage.

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Specific hazards arising from the chemical

Highly flammable liquid and vapor. Mixtures >20% methanol with water: flammable. May form explosive mixture with air. Vapors are heavier than air and may travel along the ground to some distant source of ignition and flash back. Containers may rupture or explode if exposed to heat. Dangerous gases may accumulate in confined spaces. Toxic.

Hazardous Combustion Products

Releases toxic gases, vapors. Carbon monoxide, carbon dioxide, formaldehyde.

Advice for firefighters

Methanol: Burns with invisible flame. Flame may not be visible in daylight. Cool containers with water spray until well after the fire is out.

Fire Fighting Measures

Do not allow run-off from fire-fighting to enter drains or water courses. Keep unnecessary people away, isolate hazard area and deny entry.

Special Protective Actions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear appropriate personal protective equipment. Move container from fire area if it can be done without risk. Do not breath gas/vapor/spray. Avoid contact with eyes and skin.

Environmental Precautions

Avoid release to the environment. 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. Dispose in accordance with all applicable federal, state/regional and local laws and regulations.

Methods and Materials for Containment and Cleaning Up

Wear suitable protective clothing and eye/face protection. Stop leak if this can be done without risk. Do not touch or walk through spilled material. Evacuate the area promptly and keep upwind of the spilled material. Ensure adequate ventilation. Avoid inhalation of mists or vapors. Avoid contact with eyes, skin and clothing. Remove all sources of ignition. Avoid friction, static electricity and sparks. Small spills: Absorb with sand or other non-combustible material. Use non-sparking tools and equipment. Collect spilled material in appropriate container for disposal. Clean contaminated surface thoroughly. Large spills: Contain the released material by diking the containment area with absorbent. A vapor suppressing foam may be used to reduce vapors. Collect spilled material in appropriate container for reuse or disposal.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Use in a well ventilated area. Wear personal protective clothing and equipment, see Section 8. Eliminate all sources of ignition. No smoking. Do not enter confined spaces unless adequately ventilated. Clean up contamination/spills as soon as they occur. Decontaminate personnel, spill area and all tools and equipment. Use explosion-proof equipment. Use good industrial hygiene practices in handling this material. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and leaving work. Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care. Do not breathe vapor.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.
Keep/Store only in original container. Keep out of direct sunlight, and away from heat, water, and incompatible materials. Ground/Bond container and receiving equipment. Provide appropriate fire extinguishers and spill cleanup equipment in or near storage area. Store at room temperature. Store in a dry area. Store in fireproof room. Keep unauthorized personnel away. Store in receptacles with relief valves, grounding and bonding, and secondary containment.

Incompatible Materials

Lead, aluminum, zinc, oxidizing agents, strong acids, strong bases, polyethylene, PVC (Polyvinyl chloride), nitrile

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Methanol	**67-56-1**
ACGIH:	200 ppm TWA
	250 ppm STEL
	Skin - potential significant contribution to overall exposure by the cutaneous route
Argentina	200 ppm TWA [CMP]
	250 ppm STEL [CMP-CPT]
	Skin notation
Chile	175 ppm TWA LPP
	250 ppm STEL LPT
	Potential for cutaneous absorption
Colombia	200 ppm TWA
	250 ppm STEL
Nicaragua	200 ppm TWA
	250 ppm STEL

Panama	260 mg/m3 TWA ; 200 ppm TWA
	325 mg/m3 STEL ; 250 ppm STEL
Peru	200 ppm TWA ; 262 mg/m3 TWA
	250 ppm STEL ; 328 mg/m3 STEL
	Skin - potential significant contribution to overall exposure by the cutaneous route
Uruguay	200 ppm TWA
	250 ppm STEL
Venezuela	200 ppm TWA [VTRE-L-8/40 indicative limit value
	250 ppm STEL [VTRE-LB
	Skin - potential significant contribution to overall exposure by the cutaneous route

Biological Exposure Indices

Methanol (67-56-1)

Argentina: 15 mg/L urine end of shift Methanol (Background, nonspecific)

Chile: 7 mg/g Creatinine Medium: urine Time: not critical Parameter: Methanol

Venezuela: 15 mg/L urine end of shift Methanol (F,Ne)

ACGIH: 15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)

Appropriate engineering controls

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits. Use explosion-proof electrical/ventilating/lighting equipment. Handle substance within a closed system. Ground/Bond container and receiving equipment. Maintain eye wash fountain and quick-drench shower in work area.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear safety glasses with side shields or goggles, face shield.

Skin Protection

Wear appropriate chemical resistant clothing: butyl rubber.

Glove Recommendations

Wear appropriate chemical resistant gloves: butyl rubber.

Respiratory Protection

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode. 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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	clear	**Physical State**	liquid
Odor	alcohol odor	**Color**	colorless
Odor Threshold	4.2 - 5960 ppm	**pH**	Not applicable

Melting Point	-97.8 °C	**Boiling Point**	64.7 °C
Boiling Point Range	Not available	**Freezing point**	-97.6 °C
Evaporation Rate	4.1 (butyl acetate = 1)	**Flammability (solid, gas)**	Not applicable
Autoignition Temperature	464 °C	**Flash Point**	11 °C
Lower Explosive Limit	5.5 %	**Decomposition temperature**	Not available
Upper Explosive Limit	36.5 %	**Vapor Pressure**	12.8 kPa (@ 20 °C)
Vapor Density (air=1)	1.1 (@ 20 °C)	**Specific Gravity (water=1)**	792 kg/m³
Water Solubility	Not available	**Partition coefficient: n-octanol/water**	-0.77 (log value)
Viscosity	0.8 cP (20 °C, dynamic)	**Kinematic viscosity**	Not available
Solubility (Other)	Not available	**Density**	0.791 - 0.793 at 20 °C
VOC	100 %	**Molecular Weight**	32.04 (g/mol)
Critical Temperature	239.4 °C	**Oxidising properties**	Not oxidising
Explosive properties	Vapors may form explosive mixtures with air		

Solvent Miscibility
Miscible
Miscible with water.

Section 10 - STABILITY AND REACTIVITY

Reactivity
Containers may rupture or explode if exposed to heat.
Chemical Stability
Stable under normal conditions of use. In use, may form flammable/explosive vapor-air mixture. Product is hygroscopic.
Possibility of Hazardous Reactions
Will not polymerize.
Conditions to Avoid
Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.
Incompatible Materials
Lead, aluminum, zinc, oxidizing agents, strong acids, strong bases, polyethylene, PVC (Polyvinyl chloride), nitrile

Hazardous decomposition products
Heat, carbon monoxide, carbon dioxide, flammable gases, formaldehyde

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure
Inhalation
Toxic if inhaled.
Skin Contact
Toxic in contact with skin.
Eye Contact
Causes serious eye irritation.
Ingestion
Poison. May be fatal if swallowed. If swallowed there is a risk of blindness. Toxic if inhaled.
Acute and Chronic Toxicity
May be fatal if swallowed. If swallowed there is a risk of blindness. Toxic if swallowed, in contact with skin or if inhaled.
Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:
Methanol (67-56-1)
Oral LD50 Rat 5600 mg/kg
Dermal LD50 Rabbit 15800 mg/kg
Inhalation LC50 Rat 64000 ppm 4 h
Product Toxicity Data
Acute Toxicity Estimate
No data available.
Immediate Effects
Poison. Toxic if swallowed, in contact with skin or if inhaled. May be fatal if swallowed. If swallowed there is a risk of blindness. Causes serious eye irritation. Causes damage to organs. 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.
Delayed Effects
May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.
Irritation/Corrosivity Data
Causes serious eye irritation. May cause respiratory irritation.
Respiratory Sensitization
No data available.
Dermal Sensitization
No data available.
Component Carcinogenicity
None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA
Germ Cell Mutagenicity
No data available.
Tumorigenic Data
No data available
Reproductive Toxicity
May damage fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure
body, Central Nervous System, optic nerve, retina, systemic system, eyes, Nervous System
Specific Target Organ Toxicity - Repeated Exposure
eyes, Central Nervous System, retina
Aspiration hazard
No data available.
Medical Conditions Aggravated by Exposure
No data available.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity
Avoid release to the environment.
Component Analysis - Aquatic Toxicity

Methanol	**67-56-1**
Fish:	LC50 96 h Pimephales promelas 28200 mg/L [flow-through]; LC50 96 h Pimephales promelas >100 mg/L [static]; LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through]
Algae:	EC50 72 hr Selenastrum capricornutum 22000 mg/l
Invertebrate:	EC50 48 hr Daphnia >10000 mg/l

Persistence and Degradability
Rapidly degradable.
Bioaccumulative Potential
No indication of bioaccumulation potential.
Mobility
mobile
Bioconcentration
BCF: < 10

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of contents/container in accordance with local/regional/national/international regulations. Incineration is the preferred disposal method.

Section 14 - TRANSPORT INFORMATION

IATA Information:
Shipping Name: METHANOL
Hazard Class: 3
UN#: UN1230
Packing Group: II
Required Label(s): 3, 6.1

IMDG Information:
Shipping Name: METHANOL
Hazard Class: 3
UN#: UN1230
Packing Group: II
Required Label(s): 3, 6.1

TDG Information:
Shipping Name: METHANOL
Hazard Class: 3
UN#: UN1230
Packing Group: II
Required Label(s): 3, 6.1

UN Information:
Shipping Name: METHANOL
Hazard Class: 3
UN#: UN1230
Packing Group: II
Required Label(s): 3, 6.1

Section 15 - REGULATORY INFORMATION

Bolivia Regulations
Banned Substances
None of this product's components are on the list.
Hazardous substance
None of this product's components are on the list.
Chile Regulations
List of Dangerous Substances to Health

Methanol	**67-56-1**
	Present

Ecuador Regulations
Hazardous Chemical Substances - Acute Toxicity
None of this product's components are on the list.
Hazardous Chemical Substances - Chronic Toxicity

Methanol	**67-56-1**
	Chronic toxicity (I)

Prohibited Hazardous Substances
None of this product's components are on the list.
El Salvador Regulations
Prohibited Hazardous Substances
None of this product's components are on the list.
Regulated Hazardous Substances

None of this product's components are on the list.

Peru Regulations

Control of Chemical Raw Materials and Supervised Products

None of this product's components are on the list.

Prohibited Carcinogenic Substances

None of this product's components are on the list.

Uruguay Regulations

Prohibited Chemical Substances and Preparations

None of this product's components are on the list.

International Regulations

Stockholm Convention

No components of this material are listed.

Montreal Protocol

No components of this material are listed.

UN/FAO/Rotterdam Convention - Chemicals Subject to Prior Informed Consent (PIC)

No components of this material are listed.

Component Analysis - Inventory

Methanol (67-56-1)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

Summary of Changes

New SDS: 30 September 2016

NFPA Ratings

Health: 1 Fire: 3 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC – European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KECI - Korea Existing Chemicals Inventory; KECL – Korea Existing Chemicals List; KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX –

Mexico; NDSL – Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

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