

Safety Data Sheet

Material Name: Methanol

SDS ID: Methanol-PH

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

Methanol

Synonyms

Methyl alcohol, wood alcohol, methyl hydroxide

Chemical Family

Alcohols

Product Description

CAS #: 67-56-1 . EC #: 200-659-6. UN #: 1230 .

Product Use

Industrial use: Manufacture of substance. Distribution of substance. Formulation & (re)packing of substances and mixtures. Use as a fuel. Use in cleaning agents. Use as laboratory reagent. Water treatment chemicals, wastewater. Professional use: Use as a fuel. Use in cleaning agents. Use as laboratory reagent. Use in oil and gas field drilling and production operations. Consumer use: Consumer use of cleaning agents and de-icers. Consumer use of fuels.

Restrictions on Use

None identified

Details of the supplier of the safety data sheet

Methanex Asia Pacific Ltd.
Unit 3802, The Lee Gardens
33 Hysan Avenue, Causeway Bay
Hong Kong

Phone: 852-2918-1398

CHEMTREC Philippines (Toll Free in Country): 1-800-1-116-1020. CHEMTREC Philippines (Manila): +(63) 2-395-3308. NCEC: +44 (0) 1235 239 670 (24h/7d).

Fax: 852-2918-1331

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with the Philippine EMB Memorandum Circular No. 2015-011 Guidance Manual.

Flammable Liquids - Category 2

Acute Toxicity - Oral - Category 3

Acute Toxicity - Dermal - Category 3

Acute Toxicity - Inhalation - Vapor - Category 3

Serious Eye Damage/Eye Irritation - Category 2

Reproductive Toxicity - Category 1B

Specific Target Organ Toxicity - Single Exposure - Category 1 (central nervous system , retina , systemic toxicity , optic nerve)

Specific Target Organ Toxicity - Single Exposure - Category 3

Labeling according to Philippine EMB Memorandum Circular No. 2015-011 Guidance Manual

Symbol(s)

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Signal Word

Danger

Hazard Statement(s)

H225 Highly flammable liquid and vapor.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H331 Toxic if inhaled.
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child.
H370 Causes damage to organs.
H336 May cause drowsiness or dizziness.

Precautionary Statement(s)

Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P233 Keep container tightly closed.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 Ground/Bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P243 Take action to prevent static discharges.
P242 Use non-sparking tools.
P271 Use only outdoors or in a well-ventilated area.
P281 Use Personal Protective equipment as required.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Response

P370+P378 In case of fire: Use appropriate media to extinguish.
P308+P311 If exposed or concerned: Call a POISON CENTER or doctor/physician.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P330 Rinse mouth.
P311 Call a POISON CENTER or doctor.
P321 Specific treatment (see label).

Storage

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

P235 Keep cool.

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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.

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. Antidote: Fomepizole enhances elimination of metabolic formic acid. Antidote should be administered by qualified medical personnel.

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. 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.

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.

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Section 5 - FIRE FIGHTING MEASURES

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.

Special Hazards Arising from the Chemical

Highly flammable liquid and vapor. Mixtures >20% methanol with water are 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 Equipment and Precautions for Firefighters

Wear full protective firefighting 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 breathe gas/fume/vapor/spray. Avoid contact with eyes and skin.

Personal precautions, protective equipment and emergency procedures for non-emergency personnel

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



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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.

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 |
| NIOSH: | 200 ppm TWA ; 260 mg/m3 TWA |
| | 250 ppm STEL ; 325 mg/m3 STEL |
| | Potential for dermal absorption |
| | 6000 ppm IDLH |
| Europe: | 200 ppm TWA ; 260 mg/m3 TWA |
| | Possibility of significant uptake through the skin |
| OSHA (US): | 200 ppm TWA ; 260 mg/m3 TWA |
| Mexico: | 200 ppm TWA [VLE-PPT] |
| | 250 ppm STEL [PPT-CT] |
| | Skin - potential for cutaneous absorption |

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

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Methanol (67-56-1)

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

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 splash resistant safety goggles with a faceshield.

Skin Protection

Wear chemical resistant clothing to prevent skin contact.

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.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Protective Materials

natural rubber, neoprene, butyl rubber

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/m ³ |
| Water Solubility | Not available | Partition coefficient: n-octanol/water | -0.77 (log value) |

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| | | | |
|----------------------|---|----------------------|------------------------|
| 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. Avoid direct sunlight.

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. May cause respiratory irritation. May cause drowsiness or dizziness.

Skin Contact

Toxic in contact with skin.

Eye Contact

Causes serious eye irritation.

Ingestion

Toxic if swallowed.

Acute and Chronic Toxicity

Poison. 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:



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

Product Toxicity Data

Acute Toxicity Estimate

No data available.

Irritation/Corrosivity Data

Causes serious eye irritation. May cause respiratory irritation.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Germ Cell Mutagenicity

No data available.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

Tumorigenic Data

No data available

Reproductive Toxicity

Based on component information, may cause reproductive effects.

Specific Target Organ Toxicity - Single Exposure

central nervous system, retina, systemic system, optic nerve

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

Aspiration hazard

Not applicable

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, respiratory tract irritation. 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.

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- |

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| | |
|--|---|
| | through]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through] |
|--|---|

Persistence and Degradability

Rapidly degradable.

Bioaccumulative Potential

No indication of bioaccumulation potential.

Bioconcentration

Bioconcentration factor (BCF): <10

Mobility

mobile

Other Toxicity

No additional information available for the product.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents/container in accordance with local/regional/national/international regulations. Do not pressurize, cut, heat or weld containers. Empty product containers may contain product residue. Do not reuse empty containers. Recycle if possible.

Section 14 - TRANSPORT INFORMATION

IATA Information:

Shipping Name: METHANOL

Hazard Class: 3

UN#: UN1230

Packing Group: II

Required Label(s): 3, 6.1

ICAO 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

UN Information:

Shipping Name: METHANOL

Hazard Class: 3

UN#: UN1230



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Packing Group: II
 Required Label(s): 3, 6.1

Section 15 - REGULATORY INFORMATION

Philippines - Priority Chemical List

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

Philippines - Air Quality

None of this product's components are on the list

Philippines - Drinking Water Standards

None of this product's components are on the list

Philippines - Substances Subject to Chemical Control Orders (CCO)

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

List of High Volume Chemicals (HVCs)

| | | |
|----------|---------|---------|
| Methanol | 67-56-1 | Present |
|----------|---------|---------|

Montreal Protocol

No components of this material are listed.

Stockholm Convention

No components of this material are listed.

Rotterdam Convention

No components of this material are listed.

Component Analysis - Inventory

Methanol (67-56-1)

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|
| US | CA | AU | CN | EU | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 |
| Yes | DSL | Yes | Yes | EIN | Yes | Yes | Yes | No |

| | | | | | | |
|----------------|-----|-----|-----|---------|-----|------------|
| KR - REACH CCA | MX | NZ | PH | TH-TECI | TW | VN (Draft) |
| Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Section 16 - OTHER INFORMATION

Preparation Date

04-18-2019

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; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); 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 -

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Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); 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; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , 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; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); 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; Sc - Semi-quantitative; 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); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

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.