## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 09/22/2005 Revision date: 05/28/2015 Supersedes: 02/10/2015



SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Substance
Trade name : Methanol
Chemical name : methanol
CAS No : 67-56-1
Formula : CH₃OH

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Solvent, Fuel, Feedstock

### 1.3. Details of the supplier of the safety data sheet

Methanex Methanol Company 15301 Dallas Parkway Ste 900 Addison, TX 75001 - USA T +1 972 702 0909 - F +1 972 233 1266

Methanex Corporation 1800 Waterfront Centre,

200 Burrard Street, V6C 3M1 - Canada

T (604).661.2600

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC Emergency Tel. #: 1-800-424-9300 (Canada and USA)
CANUTEC Emergency Tel.# (613)-996-6666 (Canada) \*666 (cellular)

### SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

### **Classification (GHS-US)**

Flam. Liq. 2 H225
Acute Tox. 3 (Oral) H301
Acute Tox. 3 (Dermal) H311
Acute Tox. 3 (Inhalation) H331
Eye Irrit. 2A H319
STOT SE 1 H370

### 2.2. Label elements

### **GHS-US** labeling

Hazard pictograms (GHS-US)





Version: 4.0



GHS02

2 GHS06

GHS07

GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapor

H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled

H319 - Causes serious eye irritation H370 - Causes damage to organs

Precautionary statements (GHS-US) : P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking

P233 - Keep container tightly closed

P240 - Ground/bond container and receiving equipment

P241 - Use explosion-proof electrical, ventilating, lighting equipment

P242 - Use only non-sparking tools

P243 - Take precautionary measures against static discharge

P261 - Avoid breathing vapors

P264 - Wash hands thoroughly after handling

P270 - Do not eat, drink or smoke when using this product P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves, protective clothing, eye protection, face protection

P301+P310 - If swallowed: Immediately call a doctor

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P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

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 P307+P311 - If exposed: Call a poison center/doctor

P330 - Rinse mouth

P361 - Take off immediately all contaminated clothing P363 - Wash contaminated clothing before reuse

P370+P378 - In case of fire: Use Water spray to extinguish

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

P405 - Store locked up

P501 - Dispose of contents/container to licensed waste management site

### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

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

#### 3.1. Substance

 Name
 : Methanol

 CAS No
 : 67-56-1

 EC no
 : 200-659-6

 EC index no
 : 603-001-00-X

Name	Product identifier	%	Classification (GHS-US)
Methanol (Main constituent)	(CAS No) 67-56-1	100	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Eye Irrit. 2A, H319 STOT SE 1. H370

Full text of H-phrases: see section 16

### 3.2. Mixture

Not applicable

### **SECTION 4: First aid measures**

4.1	Description	of first a	id measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a POISON CENTER or doctor/physician. Methanol is toxic and flammable. Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment and remove any sources of ignition).

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Obtain medical attention.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing.

Immediately call a poison center or doctor/physician. Wash contaminated clothing before reuse.

First-aid measures after eye contact

: Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes

: Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do. Continue rinsing. Ensure that folded skin of eyelids is thoroughly washed with water. Obtain medical attention if pain, blinking or redness persist

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Never give anything by mouth to an unconscious person.

#### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Symptoms may include dizziness, headache, nausea and loss of coordination. CNS depression. Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not

received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.

Symptoms/injuries after skin contact : Repeated exposure to this material can result in absorption through skin causing significant

health hazard. Repeated and/or prolonged skin contact may cause irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

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Symptoms/injuries after ingestion

: Ingestion of as little as 10 ml of methanol can cause blindness and 30 ml (1 ounce) can cause death if victim is not treated. Ingestion causes mild central nervous system (CNS) depression with nausea, headache, vomiting, dizziness, incoordination and an appearance of drunkenness. Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.

Chronic symptoms

: Some teratogenic and fetotoxic effects, were observed in animal studies but are inconclusive.

### 4.3. Indication of any immediate medical attention and special treatment needed

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. Antidote is fomepizole which enhances elimination of metabolic formic acid. This must be administered by a trained medical professional only. For specialist advice physicians should contact the Poison Control Centre.

### **SECTION 5: Firefighting measures**

### 5.1. Extinguishing media

Suitable extinguishing media

: Synthetic Fire fighting foam AR-FFF (3% solution). Dry powder. Carbon dioxide. Water spray.

Unsuitable extinguishing media

Do not use a heavy water stream. Water may be effective for cooling, diluting, or dispersing methanol, but may not be effective for extinguishing a fire because it will not cool methanol below its flash point. If water is used for cooling, the solution will spread if not contained. Mixtures of methanol and water at concentrations greater than 20% methanol are still considered flammable.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard

: Highly flammable liquid and vapor. Can accumulate in confined spaces, resulting in a toxicity and flammability hazard. Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases. Under fire conditions closed containers may rupture or explode. Flame may be invisible during the day. The use of infrared and or heat detection devices is recommended.

Explosion hazard

: May form flammable/explosive vapor-air mixture.

Reactivity

: Stable under normal conditions.

### 5.3. Advice for firefighters

Firefighting instructions

: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting

: Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

### **SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures

: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

### 6.1.1. For non-emergency personnel

Protective equipment

: Wear suitable protective clothing, gloves and eye or face protection.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment

: Wear suitable protective clothing and eye or face protection.

Emergency procedures

: Remove ignition sources. Ensure adequate ventilation. Avoid inhalation of vapors. Avoid contact with eyes, skin and clothing.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Methanol's main physical behavior if spilled to water is described as "dissolves/evaporates" in the European Behaviour Classification system for chemicals (reported in IMO (2011)). GESAMP hazard profile: methanol does not bioaccumulate and is readily biodegradeable in the aquatic environment (IMO2011). Methanol is fully miscible in water and cannot be recovered.

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#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up

: Stop leak if safe to do so. Remove all sources of ignition. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Use a non-sparking shovel. Wash spill area with soapy water. Large spills: Dike to collect large liquid spills. Alcohol resistant foams may be applied to spill to diminish vapour and fire hazard. Remove liquid by intrinsically safe pumps or vacuum equipment designed for vacuuming flammable materials (i.e. equipped with inert gases and ignition sources controlled). Place in suitable, covered, labelled containers.

#### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

### **SECTION 7: Handling and storage**

#### 7.1. Precautions for safe handling

Additional hazards when processed

: Handle empty containers with care because residual vapors are flammable.

Precautions for safe handling

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Use only explosion-proof equipment. Use only non-sparking tools. Do not breathe Vapors.

Hygiene measures

Do not eat, drink or smoke when using this product. Wash hands and forearms thoroughly after handling.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures

: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment. Have appropriate fire extinguishers and spill cleanup equipment in or near storage area.

Storage conditions

: Keep only in the original container in a cool, well ventilated place away from : Ignition sources, Oxidising agents. Keep in fireproof place. Keep container tightly closed. Do not store in confined spaces.

Storage area

: Store at room temperature. Keep out of direct sunlight. Store in a dry area. Keep container in a well-ventilated place. Fireproof storeroom. Keep locked up. Provide the tank with earthing. Unauthorized persons are not admitted.

Packaging materials

: SUITABLE MATERIAL: Steel. Stainless steel. Iron. Glass. MATERIAL TO AVOID: Lead. Aluminum. zinc. Polyethylene. PVC.

### 7.3. Specific end use(s)

Solvent, Fuel, Feedstock.

### **SECTION 8: Exposure controls/personal protection**

### 8.1. Control parameters

Methanol (67-56-1)		
USA ACGIH	ACGIH TWA (mg/m³)	262 mg/m³
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (mg/m³)	327 mg/m³
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
USA OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm

### 8.2. Exposure controls

Appropriate engineering controls

: Carry out operations in the open/under local exhaust/ventilation or with respiratory protection. Both local exhaust and good general room ventilation must be provided not only to control exposure but also to prevent formation of flammable mixtures. Emergency safety showers should be available in the immediate vicinity of any potential exposure. Use only explosion-proof equipment.

Personal protective equipment

: Avoid all unnecessary exposure.

Hand protection

: Wear natural rubber, neoprene, butyl rubber gloves. Disposal gloves must be replaced after each

Eye protection

: Chemical goggles or safety glasses. Face-shield. (EN166).

Skin and body protection

: Wear chemical resistant overall.

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Respiratory protection

: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear a positive pressure full face self-contained breathing apprartus or a full face

supplied air respirator.

Other information : Smoking, eating and drinking should be prohibited in areas of storage and use.

## **SECTION 9: Physical and chemical properties**

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear.
Molecular mass : 32.04 g/mol
Color : Colorless.
Odor : alcohol odor.
Odor threshold : 4.2 - 5960 ppm
pH : Not applicable

Relative evaporation rate (butyl acetate=1) : 4.1 Melting point : -97.8 °C Freezing point : -97.6 °C Boiling point : 64.7 °C Flash point : 11 °C : 464 °C Auto-ignition temperature Decomposition temperature : Not available Flammability (solid, gas) : No data available 12.8 kPa @ 20°C Vapor pressure

Relative vapor density at 20 °C : 1.1

Relative density : 0.791 - 0.793 @ 20°C

Relative density of saturated gas/air mixture : 1.0

Specific gravity / density : 792 kg/m³

Solubility : Miscible with water.

Log Pow : 0.82

Log Kow : No data available Viscosity, kinematic : No data available Viscosity, dynamic : 0.8 cP (25 °C)

Explosive properties : vapors may form explosive mixture with air.

Oxidizing properties : Not oxidizing.

Explosive limits : 5.5 - 36.5 vol %

9.2. Other information

VOC content : 100 %

### **SECTION 10: Stability and reactivity**

### 10.1. Reactivity

Stable under normal conditions.

## 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures. Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture. Hygroscopic.

### 10.3. Possibility of hazardous reactions

Under fire conditions closed containers may rupture or explode.

### 10.4. Conditions to avoid

Direct sunlight. High temperature. Open flame. Ignition sources.

#### 10.5. Incompatible materials

Oxidizing agents. Strong acids. Strong bases. Methanol is not compatible with gasket and O-rings materials made of Buna-N and Nitrile.

### 10.6. Hazardous decomposition products

Heat. Carbon monoxide. Carbon dioxide. Releases flammable gases. Formaldehyde.

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## **SECTION 11: Toxicological information**

### 11.1. Information on toxicological effects

Acute toxicity : Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

(Based on available data, the classification criteria are not met) pH: Not applicable Serious eye damage/irritation  Serious seye damage/irritation  PH: Not applicable  Respiratory or skin sensitization  Not classified  (Based on available data, the classification criteria are not met)  Serm cell mutagenicity  Not classified  Based on available data, the classification criteria are not met  Carcinogenicity  Not classified  (Based on available data, the classification criteria are not met)  Reproductive toxicity  Not classified  (Based on available data, the classification criteria are not met)  Specific target organ toxicity (single exposure)  Causes damage to organs.  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met)  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met)  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met  Symptoms and passed on available data, the classification criteria are not met  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after skin contact  Repeated exposure to this material can result in absorption through skin causing significant health hazard. Repeated exposure to this material can result in absorption through skin causing significant health hazard. Repeated and/or prolonged skin contact may cause irritation.  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Causes and death, usually due to respiratory	Methanol ( \f )67-56-1	
LC50 inhalation rat (ppm)  64000 ppm/4h rat  Skin corrosion/irritation  7 Not classified (Based on available data, the classification criteria are not met) pH: Not applicable  8espiratory or skin sensitization  8espiratory or skin sensitization  8espiratory or skin sensitization  9 Not classified (Based on available data, the classification criteria are not met)  6erm cell mutagenicity  1 Not classified Based on available data, the classification criteria are not met  8erproductive toxicity  1 Not classified (Based on available data, the classification criteria are not met)  8erproductive toxicity  1 Not classified (Based on available data, the classification criteria are not met)  8erproductive toxicity  8erproductive toxicity  8erproductive toxicity (single exposure)  8erproductive toxicity (single exposure)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproductive toxicity (repeated (Based on available data, the classification criteria are not met)  8erproducti	LD50 oral rat	5600 mg/kg
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(Based on available data, the classification criteria are not met) pH: Not applicable Serious eye damage/irritation  Serious seye damage/irritation  PH: Not applicable  Respiratory or skin sensitization  Not classified  (Based on available data, the classification criteria are not met)  Serm cell mutagenicity  Not classified  Based on available data, the classification criteria are not met  Carcinogenicity  Not classified  (Based on available data, the classification criteria are not met)  Reproductive toxicity  Not classified  (Based on available data, the classification criteria are not met)  Specific target organ toxicity (single exposure)  Causes damage to organs.  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met)  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met)  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met  Specific target organ toxicity (repeated symptomic passed on available data, the classification criteria are not met  Symptoms and passed on available data, the classification criteria are not met  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after skin contact  Repeated exposure to this material can result in absorption through skin causing significant health hazard. Repeated exposure to this material can result in absorption through skin causing significant health hazard. Repeated and/or prolonged skin contact may cause irritation.  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Causes and death, usually due to respiratory	LC50 inhalation rat (ppm)	64000 ppm/4h rat
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Germ cell mutagenicity  In Not classified Based on available data, the classification criteria are not met  Not classified (Based on available data, the classification criteria are not met)  Reproductive toxicity  In Not classified (Based on available data, the classification criteria are not met)  Specific target organ toxicity (single exposure)  In Not classified (Based on available data, the classification criteria are not met)  Specific target organ toxicity (repeated exposure)  In Not classified Based on available data, the classification criteria are not met  Specific target organ toxicity (repeated exposure)  In Not classified Based on available data, the classification criteria are not met  Not classified Based on available data, the classification criteria are not met  Specific target organ toxicity (repeated exposure)  In Not classified Based on available data, the classification criteria are not met  Specific target organ toxicity (repeated exposure)  In Not classified Based on available data, the classification criteria are not met  Specific target organ toxicity (repeated exposure)  In Specific target organ toxicity (repeated exposure)	Respiratory or skin sensitization	: Not classified
Based on available data, the classification criteria are not met  Carcinogenicity:  Not classified (Based on available data, the classification criteria are not met)  Reproductive toxicity:  Not classified (Based on available data, the classification criteria are not met)  Specific target organ toxicity (single exposure):  Causes damage to organs.  Specific target organ toxicity (repeated exposure):  Not classified Based on available data, the classification criteria are not met  Not classified Based on available data, the classification criteria are not met  Not classified Based on available data, the classification criteria are not met  Potential Adverse human health effects and symptoms  Symptoms/injuries after inhalation:  Symptoms may include dizziness, headache, nausea and loss of coordination. CNS depression Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.  Symptoms/injuries after eye contact:  Symptoms/injuries after ingestion:  Symptoms/injuries after ingestion:  Causes serious eye damage.  Ingestion of as little as 10 ml of methanol can cause blindness and 30 ml (1 ounce) can cause death if victim is not treated. Ingestion causes mild central nervous system (CNS) depression with nausea, headache, vomiting, dizziness, incoordination and an appearance of drunkenness Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.	•	(Based on available data, the classification criteria are not met)
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Based on available data, the classification criteria are not met  Symptoms Potential Adverse human health effects and symptoms  Symptoms/injuries after inhalation  Symptoms/injuries after skin contact  Symptoms/injuries after skin contact  Symptoms/injuries after skin contact  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after skin contact  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Causes serious eye damage.  Ingestion of as little as 10 ml of methanol can cause blindness and 30 ml (1 ounce) can cause death if victim is not treated. Ingestion causes mild central nervous system (CNS) depression with nausea, headache, vomiting, dizziness, incoordination and an appearance of drunkenness Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.	Specific target organ toxicity (single exposure)	: Causes damage to organs.
Based on available data, the classification criteria are not met  Symptoms Potential Adverse human health effects and symptoms  Symptoms/injuries after inhalation  Symptoms/injuries after skin contact  Symptoms/injuries after skin contact  Symptoms/injuries after skin contact  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after skin contact  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Causes serious eye damage.  Ingestion of as little as 10 ml of methanol can cause blindness and 30 ml (1 ounce) can cause death if victim is not treated. Ingestion causes mild central nervous system (CNS) depression with nausea, headache, vomiting, dizziness, incoordination and an appearance of drunkenness Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.		
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Based on available data, the classification criteria are not met  Potential Adverse human health effects and symptoms  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after skin contact  Symptoms/injuries after skin contact  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Based on available data, the classification criteria are not met  Toxic if swallowed. Toxic in contact with skin.  Symptoms headache, nausea and loss of coordination. CNS depression Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Com and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.  Symptoms/injuries after eye contact  Causes serious eye damage.  Ingestion of as little as 10 ml of methanol can cause blindness and 30 ml (1 ounce) can cause death if victim is not treated. Ingestion causes mild central nervous system (CNS) depression with nausea, headache, vomiting, dizziness, incoordination and an appearance of drunkenness Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Com and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.	exposure)	Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after skin contact  Symptoms/injuries after skin contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion factors and sovere insulation and sovere insulation and an appearance of drunkenness Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period.  Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.	Aspiration hazard	: Not classified
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Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after inhalation  Symptoms/injuries after skin contact  Symptoms/injuries after skin contact  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Symptoms/injuries after ingestion  Symptoms/injuries after ingestion  Symptoms/injuries after ingestion  Symptoms/injuries after eye contact  Causes serious eye damage.  Ingestion of as little as 10 ml of methanol can cause blindness and 30 ml (1 ounce) can cause death if victim is not treated. Ingestion causes mild central nervous system (CNS) depression with nausea, headache, vomiting, dizziness, incoordination and an appearance of drunkenness Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.	Potential Adverse human health effects and	: Toxic if swallowed. Toxic in contact with skin.
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	Symptoms/injuries after ingestion	death if victim is not treated. Ingestion causes mild central nervous system (CNS) depression with nausea, headache, vomiting, dizziness, incoordination and an appearance of drunkenness Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light,
	Chronic symptoms	: Some teratogenic and fetotoxic effects, were observed in animal studies but are inconclusive.

## **SECTION 12: Ecological information**

### 12.1. Toxicity

Methanol (67-56-1)	
LC50 fish	15400 - 29400 mg/l 96 h - Fish
EC50 Daphnia	> 10000 mg/l 48 h - Daphnia
EC50 other aquatic organisms 1	22000 mg/l 72h - Selenastrum carpricornutum (Pseudokichnerela subcapitata)

## 12.2. Persistence and degradability

Methanol (67-56-1)		
Persistence and degradability	Rapidly degradable.	
05/00/0045	EN (Facilies 110)	0/0

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### 12.3. Bioaccumulative potential

Methanol (67-56-1)	
BCF fish 1	< 10 (Leuciscus idus)
Log Pow	0.82
Bioaccumulative potential	Bioaccumulation unlikely. Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

### 12.4. Mobility in soil

Methanol (67-56-1)	
Mobility in soil	Mobile

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

### **SECTION 13: Disposal considerations**

### 13.1. Waste treatment methods

Waste treatment methods

: Methanol waste should be handled and stored in a similar manner to methanol products or mixtures. Avoid release to the environment. Collect methanol waste in secure and sealable containers. Refer to section 6 and 7 for information on accidental releases, handling and storage conditions. Methanol waste shall not be mixed together with other waste. Dispose methanol waste in a safe manner in accordance with local and/or national regulations. Use qualified hazardous waste companies to transport and dispose of methanol waste. Recycle wherever possible. Large volumes may be suitable for re-distillation. Empty containers may contain hazardous residue. Never weld, cut or grind empty containers. Empty containers should be thoroughly rinsed with large quantities of clean water. Rinse water should be disposed of as methanol waste.

## **SECTION 14: Transport information**

In accordance with DOT

Transport document description : UN1230 Methanol, 3, II

UN-No.(DOT) : 1230
DOT NA no. : UN1230
Proper Shipping Name (DOT) : Methanol

Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Flammable liquid

6.1 - Poison inhalation hazard



Packing group (DOT) : II - Medium Danger

DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Quantity Limitations Passenger aircraft/rail : 1 L

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 60 L

CFR 175.75)

Marine pollutant : No

**Additional information** 

Other information : Not classified.

Transport by sea

UN-No. (IMDG) : 1230
Proper Shipping Name (IMDG) : METHANOL

Class (IMDG) : 3 - Flammable liquids

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Packing group (IMDG) : II - substances presenting medium danger

Subsidiary risks (IMDG) : 6.1

Air transport

UN-No. (IATA) : 1230
Proper Shipping Name (IATA) : METHANOL

Class (IATA) : 3 - Flammable Liquids
Packing group (IATA) : II - Medium Danger

Subsidiary risks (IATA) : 6.1

## **SECTION 15: Regulatory information**

### 15.1. US Federal regulations

Methanol (67-56-1)	Methanol (67-56-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313		
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb	
SARA Section 302 Threshold Planning Quantity (TPQ)	Listed	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard	

### 15.2. International regulations

### **CANADA**

Methanol (67-56-1)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

### 15.2.2. National regulations

No additional information available

### 15.3. US State regulations

Methanol(67-56-1)	Methanol(67-56-1)	
U.S California - Proposition 65 - Developmental Toxicity	Yes	
State or local regulations	U.S Massachusetts - Right To Know List U.S New Jersey - Right to Know Hazardous Substance List U.S Pennsylvania - RTK (Right to Know) List	

### **SECTION 16: Other information**

Other information

: 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.

### Full text of H-phrases: see section 16:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3

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Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H319	Causes serious eye irritation
H331	Toxic if inhaled
H370	Causes damage to organs

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual

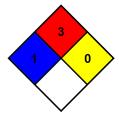
injury even if no treatment is given.

NFPA fire hazard : 3 - Liquids and solids that can be ignited under almost all

ambient conditions.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions,

and are not reactive with water.



### **HMIS III Rating**

Health : 2 Moderate Hazard - Temporary or minor injury may occur

\* Chronic Hazard - Chronic (long-term) health effects may result from repeated overexposure

Flammability : 3 Serious Hazard
Physical : 0 Minimal Hazard

NCEC SDS US Methanex

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.

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