

PRODUCT NAME: **METHANOL**
MSDS NO: **6000**PAGE 1 OF 9
EFFECTIVE DATE: February 15, 2018**SECTION 1– IDENTIFICATION OF SUBSTANCE AND OF SUPPLIER**PRODUCT NAME: **METHANOL**

SYNONYMS: Methyl alcohol, Methyl hydrate, Carbinol, Methyl hydroxide, Monohydroxymethane

CHEMICAL FAMILY: Alcohols

RECOMMENDED USE: General purpose organic solvent, antifreeze, extractant, soldering plastics, pharmaceuticals, etc.

RESTRICTIONS ON USE:

SUPPLIER: **Greenfield Global Inc.**
6985 Financial Drive, Mississauga, Ontario, Canada L5N 0G3
Web page: <http://www.greenfield.com/>NON-EMERGENCY INFORMATION PHONE NUMBER: (905) 790-7500
EMERGENCY PHONE NUMBER: CANUTEC (613) 996-6666**SECTION 2– HAZARDS IDENTIFICATION**

GHS label elements, including precautionary statements:

Signal Word:
DANGER!**Hazard statement(s)**

H225	Highly flammable liquid and vapor.
H301 +H311	toxic if swallowed or in contact with skin
H315 + H320	Causes skin and eye irritation
H331	Toxic if inhaled
H370	May cause damage to organs.

Precautionary statement(s)

P263	Avoid contact during pregnancy/ while nursing.
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THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN.



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(SECTION 2 HAZARDS IDENTIFICATION CONTINUED)

- P501 Dispose of contents and container to an approved waste disposal site.
- P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray
- P270 Do not eat, drink or smoke when using this product.
- P240 Ground/ bond container and receiving equipment
- P307 + P311 If exposed: Call a POISON CENTER or doctor/ physician.
- P304 + P340 If INHALED: Remove victim to fresh air and keep at rest in a position 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. Seek medical attention.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
- P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P243 Take precautionary measures against static discharge.
- P241 Use explosion-proof electrical, ventilating, and lighting equipment.
- P242 Use only non-sparking tools.
- P271 Use only outdoors or in a well-ventilated area.
- P264 Wash hands thoroughly after handling.
- P280 Wear protective gloves and eye and face protection.

GHS Classification(s)

- Acute Toxicity, Dermal (Category 3).
- Acute Toxicity, Inhalation (Category 3)
- Acute toxicity, Oral (Category 3)
- Flammable Liquids (Category 2)
- Specific target organ toxicity– single exposure (Category 1)
- Specific target organ toxicity - single exposure (Category 2)

Other hazards which do not result in classification:

Potential health Effects:

Organ	Description
Eyes	Can cause eye irritation. Common symptoms include stinging, tearing, and redness.
Ingestion	Toxic if swallowed. Short term overexposure can cause drunkenness, depression of the central nervous system, nausea, vomiting, diarrhea, liver damage, and death.
Inhalation	Toxic if inhaled. Upper respiratory tract irritation, drowsiness and dizziness may occur.
Skin	Toxic if absorbed through the skin. May cause dermatitis by defatting the skin from prolonged or repeated contact.

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SECTION 3– COMPOSITION AND INFORMATION ON INGREDIENTS

CHEMICAL NAME: METHANOL

COMMON NAME/ SYNONYM Methyl alcohol, Methyl hydrate, Carbinol, Methyl hydroxide, Monohydroxymethane

INGREDIENT	% VOLUME	CAS NO.	EINECS NO.
(Methanol)	100	67-56-1	200-659-6

SECTION 4– FIRST AID MEASURES

<u>INGESTION</u>	<ul style="list-style-type: none"> Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing. DO NOT INDUCE VOMITING. Have victim drink about 250ml (8fl. oz.) of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Seek medical assistance immediately.
<u>SKIN</u>	<ul style="list-style-type: none"> Flush contaminated area with water for at least 20 minutes. Remove contaminated clothing under running water. Completely decontaminate clothing before re-use, or discard.
<u>INHALATION</u>	<ul style="list-style-type: none"> Remove victim to fresh air. Artificial respiration should be given if breathing has stopped and cardiopulmonary resuscitation if heart has stopped. Oxygen may be given if necessary. Seek medical attention immediately.
<u>EYES</u>	<ul style="list-style-type: none"> Immediately flush eyes with water for at least 20 minutes, holding the eyelids open. Seek medical attention immediately.
<u>NOTES TO PHYSICIAN</u>	<ul style="list-style-type: none"> Methanol is a very toxic substance which is capable of producing blindness and death. Ethyl alcohol is the accepted antidote. In case of overexposure, the physician should consult an appropriate reference for suitable treatment.

SECTION 5– FIRE FIGHTING MEASURES

<u>EXTINGUISHING MEDIA</u>	<ul style="list-style-type: none"> Apply alcohol-type or all-purpose-type foams by manufacturers' recommended techniques for large fires. Use carbon dioxide or dry chemical media OR DRY SAND for small fires. Water is generally unsuitable for large open pools of alcohol and may help to spread the fire.
<u>UNUSUAL FIRE AND EXPLOSION HAZARDS</u>	<ul style="list-style-type: none"> Vapours form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from handling point.
<u>SPECIAL FIREFIGHTING PROCEDURES</u>	<ul style="list-style-type: none"> Use water spray to cool fire-exposed containers and structures. Use water spray to disperse vapours; reignition is possible. Use self-contained breathing apparatus and protective clothing.



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SECTION 6– ACCIDENTAL RELEASE MEASURES

SPILL

- Contain spilled material.
- Provide adequate ventilation. Provide adequate personnel protective equipment for responders.
- Remove sources of heat, sparks or flames.
- Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal. Such containers used to contain spilled material and absorbent should be sealed off, otherwise the collected alcohol will evaporate from them.

WASTE DISPOSAL

- Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all federal, provincial and local government regulations.

SECTION 7– HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

- Keep away from heat, sparks and flames.
- Keep container closed when not in use.
- Use with adequate ventilation.
- Avoid breathing vapours.
- Avoid contact with eyes and skin.
- Wash exposed skin thoroughly after handling.
- Take precautions to prevent static electricity build-up when transferring contents.

OTHER PRECAUTIONS

- Good personal hygiene practices are suggested, such as abstaining from eating, drinking and smoking in the workplace.

SECTION 8– EXPOSURE CONTROLS/ PERSONNEL PROTECTION

RESPIRATORY EQUIPMENT

- Up to 1000 ppm, an approved organic vapour cartridge respirator can be used.
- For concentrations above 1000 ppm, an air-supplying respirator is recommended.
- The user should consult a respirator guide, such as the Canadian Standards Association's guide Z94.4-M1982.

VENTILATION

- The ventilation system should be non-sparking, grounded and separate from other exhaust ventilation systems.
- Local ventilation is recommended when handling.

PROTECTIVE GLOVES

- Neoprene, butyl or natural rubber.

EYE PROTECTION

- Chemical resistant monogoggles when handling

OTHER PROTECTIVE EQUIPMENT

- Eye bath, safety shower and other protective equipment as required.

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SECTION 9– PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Colourless liquid
ODOUR	Typical lower alcohol odour
ODOUR THRESHOLD	Approximately 4.3 to 5900 ppm for methanol, as reported in appendix 1 of the Canadian Standards Association guide Z94.4-M1982.
PH	Not Applicable
MELTING./ FREEZING POINT	Minus 97.8 deg. C
BOILING POINT RANGE	64.6 deg. C
FLASH POINT	12 (Tag closed cup, ASTM D-56)
EVAPORATION RATE	2.0 (butyl acetate = 1)
LOWER FLAMMABILITY LIMIT	7.3% V/V for 100% methanol
UPPER FLAMMABILITY LIMIT	36 % V/V for 100% methanol
VAPOR PRESSURE	12.8 KPA @ 20 deg. C
VAPOUR DENSITY	1.10 (air=1)
RELATIVE DENSITY (LIQUID)	0.7914 @ 20°C
SOLUBILITY IN WATER	Complete
SOLUBILITY IN OIL- COEFFICIENT OF WATER/OIL DISTRIBUTION	Separates from oil
PARTITION COEFFICIENT N– OCTANOL/ WATER	0.032 approx.
AUTO- IGNITION TEMPERATURE	Approx. 385 deg. C
DECOMPOSITION TEMPERATURE	Specific data not available
VISCOSITY	Approx. 0.6 cp @ 20 deg. C
% VOLATILES BY VOLUME	100
CHEMICAL FORMULA	Methanol: C-H3-OH Molecular weight: 32.04

SECTION 10– STABILITY AND REACTIVITY

CHEMICAL STABILITY/ REACTIVITY	Stable
CONDITIONS TO AVOID	Sources of ignition
POSSIBILITY OF HAZARDOUS REACTIONS/ INCOMPATIBILITIES	Oxidizing materials
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS	Burning can produce carbon monoxide and/or carbon dioxide and/or formaldehyde.
HAZARDOUS POLYMERIZATION	Will not occur
CONDITIONS TO AVOID	None currently known

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SECTION 11– TOXICOLOGICAL INFORMATION

INGREDIENT	% V/V	TLV, ppm	LC50, ppm/4h.	LD50, mg/kg	LD50, mg/kg
			RAT, INHAL.	RAT, ORAL	RABBIT, SKIN
Methanol	100	200	64,000	5,628	20,000

REFERENCES: ACGIH (1988-1989), RTECS (1983).

INGESTION

- Methanol ingestion must be treated as soon as possible, since it can result in blindness and death. The symptoms, following ingestion to methanol, are similar to those produced by ethyl alcohol; dizziness, faintness, headaches, nausea, vomiting, drunkenness and blurred vision. Blindness, unconsciousness and death follow massive exposure to methanol.

SKIN ABSORPTION

- Methanol can be absorbed in toxic and lethal amounts through the skin.

INHALATION

- Methanol vapour inhalation may cause irritation of the eyes, nose and throat, headaches, nausea, vomiting, dizziness, giddiness, difficulty in breathing, dilated pupils and blurred vision. Symptoms may depend on level and duration of exposure. At high concentrations (4000-12000 ppm), methanol vapours may be lethal.

SKIN CONTACT

- Mild irritant.
- Repeated or prolonged exposure may lead to dermatitis.

EYE CONTACT

- Severe eye irritant.
- Vapours can irritate eyes.
- Eye damage from contact with liquid is reversible and proper treatment will result in healing within a few days. Damage is usually mild to moderate conjunctivitis, seen mainly as redness of the conjunctiva.

EFFECT OF REPEATED EXPOSURE

- Long term exposure to methanol has been associated with headaches, giddiness, conjunctivitis, insomnia and impaired vision.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE

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SECTION 12– ECOLOGICAL INFORMATION

Methanol CAS 67-56-1

Ecotoxicity (aquatic and terrestrial, where available):

Acute Fish Toxicity (METHANOL)

LC50 / 96 hours Lepomis macrochirus: 15,400 mg/L / LC50 / 96 hours Fathead minnow: 29,400 mg/L

Toxicity to Aquatic Plants (METHANOL)

EC50 / 96 hours Scenedesmus capricornutum: 22,000 mg/L

Toxicity to daphnia and other aquatic invertebrates

EC50/ 48 hours / Water flea - > 10,000.00 mg/L

Persistence and degradability:

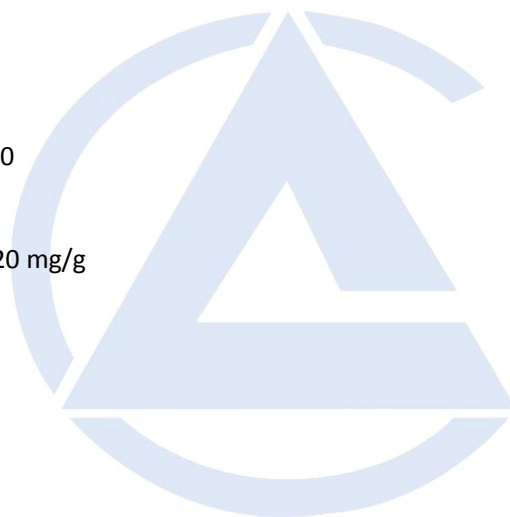
72% - Readily biodegradable.

Bioaccumulative potential:

Bioaccumulation: Carp / 72d / BCF: 1.0

Other adverse effects:

BOD: 600 mg/g - 1120 mg/g COD: 1420 mg/g



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SECTION 13– DISPOSAL CONSIDERATIONS
SPILL

- Contain spilled material.
- Provide adequate ventilation and protective equipment.
- Remove sources of heat, sparks or flames.
- Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal.

**WASTE
DISPOSAL**

- Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all federal, provincial and local government regulations.

SECTION 14– TRANSPORT INFORMATION

CANADA: UN number: 1230
UN proper shipping name METHANOL
Transport hazard class(es) Primary Class 3 Subsidiary Class 6.1
Packing group (if applicable) II

IMDG

UN-Number: UN 1230 Class: 3 (6.1) Packing Group: II
 EMS-No: F-E, S-D
 Proper shipping name: METHANOL
 Marine pollutant: No

IATA

UN-Number: UN 1230 Class: 3 (6.1) Packing Group: II
 Proper shipping name: METHANOL

SECTION 15– REGULATORY INFORMATION

All ingredients are on the following inventories or are exempted from listing:

Country Notification

Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
USA	TSCA

California Prop 65 Components

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. METHANOL CAS-No. 67-56-1 Revision Date 2012-03-16



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SECTION 16– OTHER INFORMATION

PREPARED BY: Alcohol QA, Technical Services, and Regulatory Affairs Department

PHONE NUMBER: (905) 790-7500



GREENFIELD GLOBAL URGES EACH CUSTOMER OR RECIPIENT OF THIS MSDS TO STUDY IT CAREFULLY TO BECOME AWARE OF AND UNDERSTAND THE HAZARDS ASSOCIATED WITH THE PRODUCT. THE READER SHOULD CONSIDER CONSULTING REFERENCE WORKS OR INDIVIDUALS WHO ARE EXPERTS IN VENTILATION, TOXICOLOGY OR FIRE PREVENTION, AS NECESSARY OR APPROPRIATE TO USE AND UNDERSTAND THE DATA CONTAINED IN THIS MSDS.

TO PROMOTE SAFE USE AND HANDLING OF THIS PRODUCT, EACH CUSTOMER OR RECIPIENT SHOULD

- (1) NOTIFY EMPLOYEES, AGENTS, CONTRACTORS AND OTHERS WHO MAY USE THIS MATERIAL, OF THE INFORMATION IN THIS MSDS AND ANY OTHER INFORMATION REGARDING HAZARDS OR SAFETY,
- (2) FURNISH THIS SAME INFORMATION TO EACH CUSTOMER FOR THE PRODUCT, AND
- (3) REQUEST CUSTOMERS TO NOTIFY THEIR EMPLOYEES, CUSTOMERS, AND OTHER USERS OF THE PRODUCT OF THIS INFORMATION.