Safety Data Sheet - GHS
Methanol

Date of Revision: March 15, 2022

Section 1 - Chemical Product and Company Identification

Product Name	Methanol
Synonyms	methyl alcohol, wood alcohol, wood spirits, methyl hydroxide, Methyl hydrate, carbinol.
Product Use	Alcohol Solvent, Various Use
Restriction on Use	None identified
Manufacturer/Supplier	CFR Chemicals 38451 Range Road 22 County of Red Deer T4E 2N6
General Assistance	1 (877) 269-3419
Emergency Telephone	**613-966-6666 (CANUTEC 24 Hour Phone Number)**
Date of Preparation of SDS	April 1, 2017

Section 2 – Hazard Identification

Signal Word Danger

GHS Pictogram(s)

Hazard Statement:

H225	Highly flammable liquid and vapour.
H301 +H311 +H331	Toxic if swallowed, in contact with skin or if inhaled.
H370	Causes damage to organs.

Precautionary Statement

Prevention

P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking
P233	Keep Container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use non sparking tools.
P243	Take action to prevent static discharges.
P260	Do no breathe dust/fume/gas/mist/vapours/spray.
P264	Wash 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.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P302 + P352 +P312	IF ON SKIN: Wash with plenty of water. Call a POISON CENTRE or doctor/physician if you feel unwell.
P303 + P361 + P353	IF ON SKIN (or hair) Take off immediately all contaminated clothing, rinse skin with water (or shower).

P304 + P340 + P311	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor/physician.
P308 + P311	IF exposed or concerned: Call a POISON CENTRE or doctor/physician.
P321	Specific Treatment (see label)
P330	Rinse mouth.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: use appropriate media to extinguish.

Storage

P235	Keep Cool.
P403 + P233	Store in well-ventilated place. Keep contained tightly closed.
P405	Store locked up.

Disposal

P501	Dispose of contents/container to an approved waste disposal unit.

GHS Classification

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

HMIS Classification

Health Hazard	**2**
Chronic Health Hazard	*****
Flammability	**3**
Physical Hazards	**0**

Potential Health Effects

Inhalation	Toxic if inhaled. May cause respiratory tract irritation.
Skin	Toxic if absorbed through skin. May cause skin irritation.
Eye	May cause eye irritation.
Ingestion	Toxic if swallowed.

Section 3 – Composition Information on Ingredients

HAZARDOUS INGREDIENT	Hazardous Ingredient, Synonyms	PERCENT	CAS NUMBER
Methanol	Methyl alcohol, wood alcohol, carbinol, wood spirits, methyl hydroxide, methyl hydrate	≤100%	67-56-1

* = Various ** = Mixture *** = Proprietary

Chemical Formula CH_4O

Section 4 - First Aid Measures

Inhalation

Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Eye Contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower lids. Check for and remove contact lenses. Continue to rinse for at least 15 minutes. Get medical attention.
Skin Contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	Get medical attention immediately. Call a poison control center or physician. Wash out mouth with water and give one half to one glass of water to dilute stomach contents. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do NOT induce vomiting. If vomiting occurs, the head should be kept low so vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.
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 Physician	When plasma methanol concentration is higher than 20mg/dL, a 10% solution of ethanol in 5% aqueous dextrose is an effective intravenous antidote.

Section 5 – Fire-Fighting Measures

Flash Point (°C)	11°C
Flash Point Method	PMCC
Auto Ignition Temperature	464°C
Conditions of Flammability	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/ hot surface. No smoking.
Extinguishing Media	Use water fog, alcohol-resistant foam, dry chemical or carbon dioxide
Unsuitable Extinguising Media	Water jet.
Unusual Fire/ Explosion Hazard	Vapors may collect in low spots and “flash back” from ignition sources. Lower explosive limit = 6%, upper explosive limit = 36.5%
Hazardous Combustion Products	Carbon oxides
Special Protective Equipment and Precautions for Firefighters	Wear full firefighting gear and self-contained breathing apparatus (SCBA) for protection against possible exposure..

Section 6 – Accidental Release Measures

Personal precautions	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environmentmust be avoided.
Methods and materials for containment and cleaning up	Contain free liquid if possible. Pick up by covering with an activated carbon absorbent or other suitable inert absorbent material (e.g. sand, sawdust, general-purpose binder). Take up & place in closed containers. Ventilate area & wash spill site after material pickup is complete. Contain and dispose of wash water in accordance with local regulations.

Section 7 – Handling and Storage

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.
Conditions for safe storage	Keep container tightly closed in a dry and well-ventilated place.
Incompatible Conditions	Heat, Flames, Sparks.
Incompatible Materials	Oxidizing materials. Acids, Acid anhydrides, Acyl halides and Alkyl halides. Attacks copper, aluminum , zinc, nickel and cast iron.

Section 8 – Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient Name	**Exposure Limits**
Methanol	**Canada, Alberta, Occupational Health and Safety Cote (table 2: OEL)** TWA: 200ppm STEL: 250ppm **ACGIH TLV** TLV: 200ppm (SKIN) STEL: 250ppm **OSHA PEL** 200ppm (skin)

Personal protective equipment

Eye/face protection	Chemical safety glasses with side shields to prevent eye contact. As a general rule do not wear contact lenses when handling chemicals. If contact is possible, the following protection should be worn: Splash goggles. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts. If inhalation hazards exist, a full-face respirator may be required instead.
Skin protection	Wear chemical resistant gloves, impermeable protective clothing and safety shoes. Personal protective equipment for the body should be selected based on

	the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary.
General hygiene Considerations	Handle in accordance with good industrial hygiene and safety practices. Eye wash fountains and safety showers must be easily accessible.
Specific engineering controls	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.

Section 9 – Physical and Chemical Properties

Physical State	Liquid	**Water Solubility**	Completely miscible
Appearance & Odour	Clear, colourless, alcohol-like odour.	**Boiling Point**	64.7°C
Vapour Pressure	97.7 mmHg @ 20.0°C	**Boiling Range**	Not Applicable
Odour Threshold	4.2 – 5960 ppm	**Melting Point**	-98°C
Evaporation Rate	4.1 (Butyl acetate = 1)	**Freezing Point**	-98°C
Vapour Density	1.11 (air = 1)	**Lower Explosive Limit (LEL)**	6 %
Specific Gravity	0.791 @20°C 0.7961 @15°C	**Upper Explosive Limit (UEL)**	36 %
pH	No data available.	**Partition coefficient (n-octonal/water)**	-0.77
Flammability (Solid, Gas)	Not applicable.		
Decomposition Temperature	Not available.	**Viscosity**	0.8 cP (20°C)

Section 10 – Stability and Reactivity

Reactivity	Containers may rupture or explode if exposed to heat.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous Reactions	Vapours may form explosive mixture with air.
Conditions to avoid	Heat, flames and sparks.
Materials to avoid	Oxidizing materials. Acids, Acid anhydrides, Acyl halides and Alkyl halides. Attacks copper, aluminum , zinc, nickel and cast iron.
Hazardous decomposition Products	Hazardous decomposition products formed under fire conditions. - Carbon oxides. Other decomposition products - No data available

Section 11- Toxicological Information

Information on Likely Routes of Exposure

Inhalation:

May cause headache, nausea, dizziness, loss of coordination, central nervous system depression, respiratory tract irritation, sensitivity to light, and/or blurred vision. 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.

Skin contact

Harmful 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.

Acute and Chronic Toxicity

Poison. Toxic if swallowed, in contact with skin or if inhaled. If swallowed there is a risk of blindness.

Acute toxicity

Product/Ingredient Name	Result	Species	Dose	Exposure
Methanol	LC50 Inhalation, vapour	Rat	128.2mg/L	4 Hr
	LD50 Oral	Rat	1187-2769mg/kg	-
	LD50 Dermal	Rabbit	17100mg/kg	-

Skin corrosion/irritation No skin irritation in animal (rabbit) testing.

Serious eye damage/eye irritation

No eye irritation in animal (rabbit) testing.

Respiratory or skin sensitization

Does not cause skin sensitization.

Germ cell Mutagenicity No known significant effects or critical hazards.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity Methanol may cause teratogenic/embryotoxic effects based on studies in laboratory animals.

Specific target organ toxicity - single exposure (Globally Harmonized System)

Causes damage to organs.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

This substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard No aspiration toxicity classification.

Delayed and Immediate Effects and also Chronic Effects from Short and Long Term Exposure

Short Term Exposure

Potential immediate Health 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.

Potential Delayed Health Effects

Symptoms may be delayed. Toxic by ingestion, inhalation or skin contact. Can cause metabolic acidosis, blindness, seizures, liver and kidney damage, unconsciousness, coma and death.

Long Term Exposure

Potential immediate Health Effects No data available**.**

Potential Delayed Health Effects No data available.

Potential Chronic Effects May cause liver and kidney damage.

Synergistic effects Alcohols may interact synergistically with chlorinated solvents (example - carbon tetrachloride, chloroform, bromotrichloromethane), dithiocarbamates (example - disulfiram), dimethylnitrosamine and thioacetamide.

Section 12 – Ecological Information

Toxicity

Product / Ingredient Name	Result	Species	Exposure
Methanol	Acute LC50 15400mg/L	Fish – Lepomis macrochirus	96 Hr
	NOEC 7900mg/L	Fish – Oryzias Latipes	200 Hr
	Acute EC50 >10000mg/L	Daphnia – Daphnia magna	48 Hr

Persistence and degradability

Biodegradability: aerobic
Result: 72 % - readily biodegradable
Method: OECD Test Guideline 3-1D

Bioaccumulative potential Does not bioaccumulate.

Mobility in soil This product is mobile in the soil. Does not adsorb on soil.

PBT and vPvB assessment This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Other adverse effects

Biochemical Oxygen demand (BOD)	600 – 1200mg/g
Chemical Oxygen Demand (COD)	1420mg/g
Additional ecological information	Avoid release to the environment

Section 13 – Disposal Considerations

Product This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging Dispose of as unused product.

Section 14 - Transportation Information

CANADA Transportation of Dangerous Goods (TDG)

Shipping Name UN1230, Methanol, 3. PG II
Class 3 (6.1)
UN Number UN1230
Packaging Group: II
Label

Environmental hazards Not a marine pollutant.
Transportation in bulk, if applicable No data available
Special Precautions No data available

Section 15 – Regulatory Information

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act)
All components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

TSCA Inventory (8b) All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

Section 16 – Other Information

REVISION SUMMARY:

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Date of Revision	March 15, 2022

SDS Prepared by: CFR Lab Manager

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