








Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Personal protective equipment
 	Class B-2: Flammable liquid Class D-1B: Material causing immediate and serious toxic effects (Toxic). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).	  

Section 1. Product and Company Identification

Product name / Trade name	Methyl Hydrate	Associated Product's Item Code	13-394
Synonym	alcool methylique (french); alcool metilico (italian); carbinol; colonial spirit; columbian spirit; columbian spirits (dot); methanol (dot); metanolo (italian); methyl alcohol; methyl alcohol (dot); methylol; methylalkohol (german); methyl hydroxide; metylowy alkohol (polish); monohydroxymethane; pyroxylic spirit; wood alcohol; wood naphtha; wood spirit	CAS #	67-56-1
Chemical family	Alcohol. (Solvent.)	Validation date	Nov. 20 2014
Chemical formula	C-H4-O	Print date	Nov. 24 2014
Manufacturer/Supplier	Recochem Inc. 850 Montee de Liesse Montreal, Quebec 514-341-3550	In case of emergency	Recochem Inc. Communications and Regulatory Affairs Department (905) 878-5544
Material uses	Other non-specified industry: MANUFACTURE OF FORMALDEHYDE AND DIMETHYL TEREPHTHALATE; CHEMICAL SYNTHESIS (METHY AMINES, METHYL CHLORIDE, METHYL METHACRYLATE, AUTOMOTIVE FUELS); ANTIFREEZE; SOLVENT FOR NITROCELLULOSE, ETHYLCELLULOSE, POLYVINYL BUTYRAL, SHELLAC, ROSIN, MANILA RESIN, DYES; DENATURANT FOR ETHYL ALCOHOL; DEHYDRATOR FOR NATURAL GAS; FUEL FOR UTILITY PLANTS (METHYL FUEL); FEEDSTOCK FOR MANUFACTURE OF SYNTHETIC PROTEINS BY CONTINUOUS FERMENTATION; SOURCE OF HYDROGEN FOR FUEL CELLS; HOME HEATING OIL EXTENDER.		

Section 2. Hazards identification

Emergency Overview	WARNING! FLAMMABLE LIQUID AND VAPOR. MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. Flammable liquid. Keep away from heat, sparks and flame. Avoid breathing vapor or mist. Avoid contact with skin and clothing. May cause target organ damage, based on animal data. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use.
Potential Acute Health Effects	See section 11 for more detailed information on health effects and symptoms. Extremely hazardous by the following route of exposure: of ingestion. Hazardous by the following route of exposure: of inhalation. Slightly hazardous by the following route of exposure: of skin contact (irritant, permeator), of eye contact (irritant). Non-sensitizer to skin. Severe over-exposure can result in death.

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**Note to Physician**

Acute exposure to methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Symptoms and signs are usually limited to CNS, eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with ipecac or lavage is indicated in any patient presenting within two hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended.

Section 3. Composition, information on ingredients**Canada**

Name	CAS number	Conc. (% w/w)
Methanol	67-56-1	100

There are no other ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First aid measures

Eye contact	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
Inhalation	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Ingestion	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Notes to physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 5. Fire-fighting measures

Products of combustion	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Fire-fighting media and instructions	Use dry chemical, CQ, water spray (fog) or foam.
Fire Hazards	Explosive in the form of vapor when exposed to heat or flame. Vapor may travel a considerable distance to source of ignition and flash back. Emits acrid smoke and irritating fumes when heated to decomposition.
Explosion Hazards	Highly flammable liquid and vapor.

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Section 6. Accidental release measures

Small spill and leak	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
Large spill and leak	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and Storage

Handling	Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
Storage	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Personal protection	<p>Eyes 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 or dusts. Recommended: splash goggles Possible: face shield</p> <p>Body 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.</p> <p>Respiratory</p>

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Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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. Recommended: 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.

Hands Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. >8 hours (breakthrough time): nitrile rubber

United States

Product name

Methanol

Exposure limits

ACGIH TLV (United States, 1/2008). Absorbed through skin.

TWA: 200 ppm 8 hour(s).

TWA: 262 mg/m³ 8 hour(s).

STEL: 250 ppm 15 minute(s).

STEL: 328 mg/m³ 15 minute(s).

OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.

TWA: 200 ppm 8 hour(s).

TWA: 260 mg/m³ 8 hour(s).

STEL: 250 ppm 15 minute(s).

STEL: 325 mg/m³ 15 minute(s).

NIOSH REL (United States, 6/2008). Absorbed through skin.

TWA: 200 ppm 10 hour(s).

TWA: 260 mg/m³ 10 hour(s).

STEL: 250 ppm 15 minute(s).

STEL: 325 mg/m³ 15 minute(s).

OSHA PEL (United States, 11/2006).

TWA: 200 ppm 8 hour(s).

TWA: 260 mg/m³ 8 hour(s).

Canada

Occupational exposure limits

		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
		ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
Ingredient Methanol	List name										
	US ACGIH 1/2008	200	262	-	250	328	-	-	-	-	[1]
	AB 6/2008	200	262	-	250	328	-	-	-	-	[1]
	BC 6/2008	200	-	-	250	-	-	-	-	-	[1]
	ON 6/2008	200	260	-	250	325	-	-	-	-	[1]
	QC 6/2008	200	262	-	250	328	-	-	-	-	[1]

[1] Absorbed through skin.

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Section 9. Physical and chemical properties

Physical State and Appearance	Liquid.	Odour	FAINTLY SWEET; CHARACTERISTIC PUNGENT [Slight]
Molecular weight	32.05 g/mole	Taste	Not available.
pH	7	Colour	Colorless.
Boiling/condensation point	64.5°C (148.1°F)	Volatility	100% (v/v)
Melting/freezing point	-98°C (-144°F)	Evaporation rate	2.1 compared to butyl acetate
Relative density	0.792	Odour Threshold	2000 ppm
Vapor pressure	96 mm of Hg @ 20°C.	Viscosity	Not available.
Vapour Density	1.11 [Air = 1]	Solubility	Soluble in water, diethyl ether.
VOC content	100 % (w/w)	Other Properties	Not available.

The product is: Flammable.

Auto-ignition temperature 385°C (725°F)

Flash point Closed cup: 11°C (51.8°F) [Tagliabue.]
Open cup: 15.85°C (60.5°F)

Flammable limits Lower: 6%
Upper: 36%

Fire hazards in the presence of various substances Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge. Non-flammable in the presence of the following materials or conditions: heat and shocks and mechanical impacts. Explosive in the form of vapor when exposed to heat or flame. Vapor may travel a considerable distance to source of ignition and flash back. Emits acrid smoke and irritating fumes when heated to decomposition.

Section 10. Stability and reactivity

Stability The product is stable.

Conditions of instability No additional remark.

Incompatibility with various substances Slightly reactive to reactive with oxidizing agents, acids, alkalis.

Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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**Section 11. Toxicological Information****Canada****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
Methanol	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
Conclusion/Summary	Not available.			

Chronic toxicity

Conclusion/Summary Not available.

Carcinogenicity

Conclusion/Summary May be fatal or cause blindness if swallowed.
Chronic Exposure Effects can include one or all of the following: Acute poisoning, headaches, nausea, vomiting, unconsciousness, kidney and liver damage.
Exposure can cause dermatitis.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Methanol	A5	4	-	-	-	None.

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive Toxicity

Conclusion/Summary : Not available.

IDLH

:
6000 ppm

Section 12. Ecological information

For accidental discharges into the environment, see Section 6: "Accidental Release Measures" for suggested instructions.

Ecotoxicity : Readily biodegradable

Canada**Aquatic ecotoxicity**

Product/ingredient name	Result	Species	Exposure
Methanol	Acute LC50 2500000 ug/L Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 3289 to 4395 mg/L Fresh water	Daphnia - Daphnia magna - Neonate - <24 hours	48 hours
	Acute LC50 >100000 ug/L Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours

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Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Section 13. Disposal considerations

Waste information

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Canada TDG Classification

Class Class 3: Flammable liquid.
Subsidiary class Class 6.1: Toxic substance.
Proper Shipping Name (Canada) TDG METHANOL
UN number UN1230
Packing Group II
Special provisions 43



IMDG Classification

Class Class 3: Flammable liquid.
Subsidiary class Class 6.1: Toxic substance.
Proper Shipping Name IMDG METHANOL
UN number UN1230
Packing Group II
Marine pollutant Not a pollutant.



No placard (hazarding and hazard label) required.

Special provisions
Emergency schedules (EmS)
 3-06

Remarks

In containers of 1 L (1Kg) capacity or less this product is classified as a "Limited Quantity" under IMDG regulations

United States DOT (Classification)

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Class Class 3: Flammable liquid.

Subsidiary class Class 6.1: Toxic substance.

Proper Shipping Name (United States) DOT METHANOL

UN number UN1230

Packing Group II

Special provisions IB2, T7, TP2



International Air Transport Association (IATA) For air shipment classification and associated regulations, please refer to the latest edition of IATA Dangerous Goods Regulations.

Section 15. Regulatory information

WHMIS Classification (Canada) Class B-2: Flammable liquid
Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canada Domestic Substances List (DSL) Status This product and/ or all of its components are on the DSL.

HCS Classification (U.S.A.) Flammable liquid
Target organ effects

U.S.A. Regulatory Lists This product and/ or all of its components are on the TSCA inventory list.

Hazardous Material Information System (U.S.A.)

Health	1
Flammability	3
Reactivity	0
Personal protection	B

National Fire Protection Association (U.S.A.)



Section 16. Other information

Validated and verified by Compliance and Technical Information Manager on Nov. 20 2014 ph.# 905-878-5544.

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Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

MSDS are available at www.recochem.com