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	Washer Fluid and De-Icer -40°C	**Associated Product's Item Code**	35-204PRES
Synonym	Not available.	**CAS #**	Mixture.
Chemical family	Not available.	**Validation date**	Apr. 25 2013
Chemical formula	Not available.	**Print date**	May 01 2013
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	Consumer products: Windshield de-icing fluid.		

Section 2. Hazards identification

Emergency Overview

WARNING!

NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.

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.

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	40 - 50
Ethylene glycol	107-21-1	1 - 5

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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	Immediately flush eyes with plenty of water for at least 30 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation	Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if symptoms occur. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ingestion	Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms occur. 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 a collar, tie, belt or waistband.
Notes to physician	See section 2 Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 5. Fire-fighting measures

Products of combustion	No specific data.
Fire-fighting media and instructions	Use an extinguishing agent suitable for the surrounding fire.
Fire Hazards	Explosive in the form of vapor when exposed to heat or flame. Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition, it emits acrid smoke and irritating fumes.
Explosion Hazards	Highly flammable liquid and vapor.

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. Dispose of via a licensed waste disposal contractor.
Large spill and leak	Stop leak if without risk. Move containers from spill area. 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). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

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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.

Storage

Store in accordance with local regulations. 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. 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

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or othe engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

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

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.

Respiratory 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.

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 i necessary. >8 hours (breakthrough time): nitrile rubber

United States

Product name	**Exposure limits**
Methanol	**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).

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	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). **OSHA (United States, 2003).** TWA: 200 ppm 8 hour(s). TWA: 260 mg/m³ 8 hour(s).
Ethylene glyco	**OSHA PEL 1989 (United States, 3/1989).** CEIL: 50 ppm CEIL: 125 mg/m³ **ACGIH TLV (United States, 1/2008).** C: 100 mg/m³ Form: Aerosol

Canada
Occupational exposure limits

		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	**List name**	**ppm**	**mg/m³**	**Other**	**ppm**	**mg/m³**	**Other**	**ppm**	**mg/m³**	**Other**	**Notations**
Methanol	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]
Ethylene glycol	US ACGIH 1/2008	-	-	-	-	-	-	-	100	-	[a]
	AB 6/2008	-	-	-	-	-	-	-	100	-	[b]
	BC 6/2008	-	-	-	-	100	-	-	-	-	[a]
		-	10	-	-	20	-	-	-	-	[c]
		-	-	-	50	-	-	-	-	-	[d]
	ON 6/2008	-	-	-	-	-	-	-	100	-	
	QC 6/2008	-	-	-	50	127	-	-	-	-	[e]

[1]Absorbed through skin.
Form: [a]Aerosol [b]aerosol [c]Particulate [d]Vapour [e]vapour and mist

Section 9. Physical and chemical properties

Physical State and Appearance	Liquid.	**Odour**	Alcohol. [Slight]
Molecular weight	Not available.	**Taste**	Not available.
pH	8 to 11	**Colour**	Yellow.
Boiling/condensation point	Not available.	**Volatility**	Not available.
Melting/freezing point	Not available.	**Evaporation rate**	2.1 compared to Butyl acetate.
Relative density	0.9 to 0.97	**Odour Threshold**	Not available.
Vapor pressure	<12.8 kPa (<96 mm Hg)	**Viscosity**	Not available.
Vapour Density	<1.11 [Air = 1]	**Solubility**	Soluble in water.

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VOC content	Not available.	**Other Properties**	Not available.

The product is:	May be combustible at high temperature.
Auto-ignition temperature	385°C (725°F)
Flash point	Closed cup: 28°C (82.4°F) [Tagliabue.]
Flammable limits	Lower: 6% Upper: 36%
Fire hazards in the presence of various substances	Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat. Non-flammable in the presence of the following materials or conditions: shocks and mechanical impacts. Explosive in the form of vapor when exposed to heat or flame. Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition, it emits acrid smoke and irritating fumes.

Section 10. Stability and reactivity

Stability	The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions of instability	Not available.
Incompatibility with various substances	Slightly reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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 Dermal	Rabbit	15840 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
Ethylene glycol	LC50 Inhalation Dusts and mists	Rat	2725 mg/m³	4 hours
	LD50 Dermal	Rabbit	9500 mg/kg	-
	LD50 Dermal	Rabbit	9500 mg/kg	-
	LD50 Dermal	Rabbit	9530 uL/kg	-
	LD50 Intraperitoneal	Mouse	5614 mg/kg	-
	LD50 Intraperitoneal	Rat	5010 mg/kg	-
	LD50 Intravenous	Rat	3260 mg/kg	-
	LD50 Oral	Cat	1650 mg/kg	-
	LD50 Oral	Dog	5500 mg/kg	-

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	LD50 Oral	Mouse	5500 mg/kg	-
	LD50 Oral	Rat	4000 mg/kg	-
	LD50 Oral	Rat	4700 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
	LD50 Subcutaneous	Rat	2800 mg/kg	-
	LD50 Unreported	Mouse	8050 mg/kg	-
	LD50 Unreported	Rabbit	5017 mg/kg	-
	LD50 Unreported	Rat	13 g/kg	-

Conclusion/Summary Not available.

Chronic toxicity

Conclusion/Summary Not available.

Carcinogenicity

Conclusion/Summary May be fatal or cause blindness if swallowed.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Methanol	A5	4	-	-	-	None.
Ethylene glycol	A4	-	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive Toxicity

Conclusion/Summary : Not available.

Section 12. Ecological information

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

Ecotoxicity : No known significant effects or critical hazards.

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
Ethylene glycol	Acute EC50 >100 mg/L	Daphnia	4 hours
	Acute EC50 >100 mg/L	Daphnia	4 hours
	Acute IC50 >100 mg/L	Algae	1 hours
	Acute IC50 >100 mg/L	Algae	1 hours
	Acute LC50 >100000 ug/L Marine water	Crustaceans - Crangon crangon -	48 hours

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		Adult	
	Acute LC50 6900000 to 8800000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 >100 mg/L	Fish	24 hours
	Acute LC50 >100 mg/L	Fish	24 hours
	Acute LC50 8050000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours
	Chronic NOEC 11610000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - <=24 hours	48 hours
	Chronic NOEC 6090000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours

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. 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

No placard (handling and hazard label) required.

Class	Not applicable.
Subsidiary class	Not applicable.
Proper Shipping Name (Canada) TDG	Windshield washer antifreeze, Alcohol exempt.
UN number	Not applicable.
Packing Group	Not applicable.
Special provisions	In containers of 450L or less, this product meets the requirements for exemption under TDG regulation special provisions, part 1, section 1.36b: Class 3, Flammable liquids: Alcohol Exemption.

IMDG Classification

Class	Class 3: Flammable liquid.
Subsidiary class	-

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Proper Shipping Name IMDG	Alcohols, n.o.s. (Methanol)
UN number	UN 1987
Packing Group	III
Marine pollutant	Not a pollutant.
Special provisions	**Emergency schedules (EmS)** 3-06 **Remarks** In a means of containment of 5 L capacity or less this product is classified as a "Limited Quantity".

No placard (handling and hazard label) required.

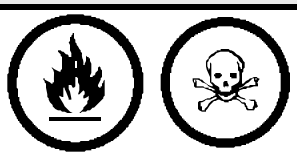
United States DOT (Classification)

Class	Class 3: Flammable liquid.
Subsidiary class	-
Proper Shipping Name (United States) DOT	Alcohols, n.o.s. (Methanol)
UN number	UN 1987
Packing Group	III
Special provisions	In containers of 5 L (5Kg) capacity or less this product is classified as a "Consumer Commodity" under DOT regulations.

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.

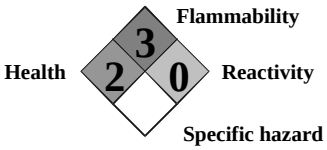


HCS Classification (U.S.A.)	Not regulated.
U.S.A. Regulatory Lists	This product and/ or all of its components are on the TSCA inventory list.

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

Health	2
Flammability	3
Reactivity	0
Personal protection	B

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



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Section 16. Other information

Validated and verified by Compliance and Technical Information Manager on Apr. 25 2013 **ph.# 905-878-5544.**

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