







Material Safety Data Sheet

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

Section 1. Product and Company Identification

Product name / Trade name	N-OAT-M V5 Coolant concentrate from 9.3X WBSC	Associated Product's Item Code	WIP-16930FCYB
Synonym	Not available.	CAS #	Not available.
Chemical family	Not available.	Validation date	2013-04-25.
Chemical formula	CH ₂ OHCH ₂ OH	Print date	2013-05-01.
Manufacturer/Supplier	Recochem Inc. 850 Montee de Liesse Montreal, Quebec H4T 1P4 (514) 341-3550 www.recochem.com	In case of emergency	Recochem Inc. Communications and Regulatory Affairs Department (905) 878-5544
Material uses	Industrial applications: Coolant and antifreeze formulations.		

Section 2. Hazards identification

Emergency Overview	WARNING! MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. Harmful by inhalation, in contact with skin and if swallowed. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or 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. Wash thoroughly after handling.
Potential Acute Health Effects	See section 11 for more detailed information on health effects and symptoms. Toxic by ingestion. May cause abdominal discomfort or pain, nausea, vomiting, dizziness, central nervous system effects and coma. Cardiac failure, pulmonary edema and severe kidney damage may develop. May cause mild eye irritation. May cause mild skin irritation. Unlikely to be inhaled because of physical characteristics, however, heated material may produce vapours, which may cause irritation to lungs if inhaled excessively. Inhalation, particularly of mist, may cause irritation of the nose and throat with headache. High vapour concentrations may produce nausea, vomiting, headache, dizziness and irregular eye movement..
Note to Physician	The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, central nervous system depression and kidney injury. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia. Treatment with ethanol to inhibit the metabolism of glycol to oxalate. Early administration of ethanol may counter the toxic effects of ethylene glycol (cardiopulmonary effects attributed to metabolic acidosis and renal damage). Hemodialysis or peritoneal dialysis have been of benefit. Pre-existing respiratory and skin disorders may be aggravated by over-exposure to this product. Treat symptomatically and supportively.

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Section 3. Composition, information on ingredients

Canada

Name	CAS number	Conc. (% w/w)
Ethylene glycol	107-21-1	90 - 98
Carboxylic acid.	98-73-7	0.7 - 3.9
Sodium Benzoate	532-32-1	0.49 - 1.69
Sebacic Acid	111-20-6	0.49 - 1.69
Alkanoic Acid	CBI, deemed	CBI, deemed
Registry number: pending	valid	valid
Sodium tolyltriazole	64665-57-2	0.21 - 0.91

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 30 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 30 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	See section 2 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 an extinguishing agent suitable for the surrounding fire.
Fire Hazards	Emits acrid smoke and irritating fumes when heated to decomposition. May be combustible at high temperature.
Explosion Hazards	Not a product presenting risks of explosion.

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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. 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). 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. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
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 other engineering controls to keep worker exposure below any recommended or statutory limits.
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</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 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.</p> <p>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</p>

United States

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**Product name**

Ethylene glycol

Dodecandioic Acid

Exposure limits**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**DuPont (United States).**TWA: 10 mg/m³**Canada****Occupational exposure limits**

Ingredient	List name	TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
		ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
Ethylene glycol	US ACGIH 1/2008	-	-	-	-	-	-	-	100	-	[a]
	AB 6/2008	-	-	-	-	-	-	-	100	-	[b]
	BC 6/2008	-	-	-	-	100	-	-	-	-	[a]
		-	10	-	-	20	-	-	-	-	[c]
	ON 6/2008	-	-	-	50	-	-	-	-	-	[d]
		QC 6/2008	-	-	-	50	127	-	-	100	-

Form: [a]Aerosol [b]aerosol [c]Particulate [d]Vapour [e]vapour and mist**Section 9. Physical and chemical properties**

Physical State and Appearance	Clear viscous liquid.	Odour	Odorless.
Molecular weight	Not applicable.	Taste	Sweet.
pH	7.8 to 8.5 [Conc. (% w/w): 50%]	Colour	Yellow.
Boiling/condensation point	197°C (386.6°F)	Volatility	Not available.
Melting/freezing point	-13°C (8.6°F)	Evaporation rate	0.01 (Butyl acetate. = 1)
Relative density	1.065 to 1.085	Odour Threshold	25 ppm
Vapor pressure	0.008 kPa (0.06 mm Hg)	Viscosity	Dynamic: 21 mPa-s (21 cP)
Vapour Density	2.1 [Air = 1]	Solubility	Soluble in water, methanol, diethyl ether.
VOC content	103.7 % (w/w) [ISO 11890-1]	Other Properties	Not available.

The product is: May be combustible at high temperature.**Auto-ignition temperature** Not available.**Flash point**
Values for 100% EG
Closed cup: 116°C (240.8°F) [Tagliabue.]
Open cup: 115.6°C (240.1°F) [Cleveland]**Continued on next page**



Flammable limits	Lower: 3.2% Upper: 15.3%
Fire hazards in the presence of various substances	Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts

Section 10. Stability and reactivity

Stability	The product is stable.
Conditions of instability	Not available.
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis. Avoid contamination with reactive substances.
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
Ethylene glycol	LC50 Inhalation Dusts and mists	Rat	2725 mg/m ³	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	-
	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	-	
Carboxylic acid.	LC50 Inhalation Dusts and mists	Rat	>1900 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>900 mg/kg	-
	LD50 Dermal	Rat	300 mg/kg	-
	LD50 Oral	Rat	473 mg/kg	-
LD50 Oral	Rat	5000 mg/kg	-	

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	LD50 Oral	Rat - Male	720 mg/kg	-
Sodium tolyltriazole	LD50 Oral	Rat - Female	640 mg/kg	-
Alkanoic Acid	LD50 Dermal	Rabbit	>6000 mg/kg	-
	LD50 Oral	Rat	>17000 mg/kg	-
Sebacic Acid	LD50 Oral	Rat	5000 mg/kg	-
Sodium Benzoate	LD50 Oral	Rat	4070 mg/kg	-
	LD50 Oral	Rat	4070 mg/kg	-
Conclusion/Summary	(Ethylene glycol) The most common effects seen from ingestion of ethylene glycol are central nervous system (CNS) depression (muscular incoordination, lethargy, coma) and harmful effects on the kidneys including inflammation, degeneration, tissue death (necrosis), tubule dilation and oxalate crystal or stone deposition.			

Chronic toxicity**Conclusion/Summary** Not available.**Carcinogenicity****Conclusion/Summary** Exposure can cause dermatitis.**Classification**

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Ethylene glycol	A4	-	-	-	-	-

Mutagenicity**Conclusion/Summary** : Not available.**Teratogenicity**

Conclusion/Summary : (Ethylene Glycol) Embryotoxicity (late resorptions), fetotoxicity (reduced fetal body weight) and teratogenicity (external, soft tissue and skeletal defects) have been observed in rats and mice exposed to at high oral doses that caused no or minimal maternal toxicity. The US National Toxicology Program-Center for the Evaluation of Risks to Human Reproduction (NTP-CERHR) has also concluded that oral exposure to high doses of ethylene glycol causes developmental toxicity in rats and mice.

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 : This product shows a low bioaccumulation potential.**Canada****Aquatic ecotoxicity**

Product/ingredient name	Result	Species	Exposure
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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 - Adult	48 hours	
	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	
	Carboxylic acid.	Acute LC50 4000 ug/L Fresh water	Fish - Carassius auratus - 3.3 g	96 hours
	Sodium Benzoate	Acute LC50 >100000 ug/L Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	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. 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.

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**Section 14. Transport information****Canada TDG Classification**

Class _____ Not a TDG-controlled material.

Subsidiary class -

Proper Shipping Name (Canada) TDG Not applicable.

UN number Not applicable.

Packing Group Not applicable.

Special provisions Not applicable.

No placard (handling and hazard label) required.

IMDG Classification

Class _____ Not controlled under IMDG.

Subsidiary class Not applicable.

Proper Shipping Name (IMDG) Not applicable.

UN number Not applicable.

Packing Group Not applicable.

Marine pollutant Not a pollutant.

Special provisions Not applicable.

No placard (handling and hazard label) required.

No placard (handling and hazard label) required.

United States DOT (Classification)

Class _____ Class 9: Miscellaneous hazardous material.

Subsidiary class -

Proper Shipping Name (United States) DOT Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol)

UN number UN 3082

Packing Group III

Special provisions In single containers of 5000 lbs capacity or less this product is exempt from DOT regulations (not regulated). Does not require label or placards.
Reportable Quantity (RQ)= 5000 lbs (2268 kg) (as ethylene glycol)
For bulk shipments equal to or greater than Reportable Quantity (RQ), please adhere to classification as outlined in DOT Classification section.

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

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**Section 15. Regulatory information**

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

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

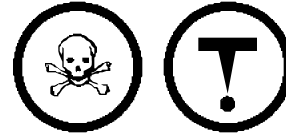
HCS Classification (U.S.A.) Target organ effects

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	2
Flammability	1
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 2013-04-25 ph.# 905-878-5544.

Printed 2013-05-01.

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

Antifreeze/Coolant 50/50 Premixed

SECTION 1. IDENTIFICATION

Product Identifier	Antifreeze/Coolant 50/50 Premixed
Other Means of Identification	16-914, 16-919, 26-919, 26-919-1000, 86-914, 36-914AMSEXP, 36-919AMSEXP-1K, 26-919R-1000, 26-919R, 16-914R
Recommended Use	Please refer to Product label.
Restrictions on Use	None known.
Manufacturer/Supplier Identifier	Recochem Inc., 850 Montee de Liesse, Montreal, QC, H4T 1P4, Compliance and Regulatory Department, 905-878-5544, www.recochem.com
Emergency Phone No.	CANUTEC, 613-996-6666, 24 Hours
SDS No.	1972

SECTION 2. HAZARD IDENTIFICATION

Classification

Acute toxicity (Oral) - Category 4; Reproductive toxicity - Category 1A; Specific target organ toxicity (repeated exposure) - Category 2

Label Elements



Signal Word:
Danger

Hazard Statement(s):

- H302 Harmful if swallowed.
- H360 May damage fertility or the unborn child.
- H373 May cause damage to organs (kidneys) through prolonged or repeated exposure if swallowed.

Precautionary Statement(s):

Prevention:

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe fume, mist, vapours, spray.
- P264 Wash hands and skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves, eye protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

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P330 Rinse mouth.
P308 + P313 IF exposed or concerned: Get medical advice or attention.

Storage:
Store in a well ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Ethylene glycol	107-21-1	30-60		
4-tert-Butylbenzoic acid	98-73-7	1-5		

Notes

Use of Generic SDS:

If the concentration or actual concentration range of an ingredient of a particular hazardous product in the series is different from the concentration or actual concentration range disclosed for the rest of the series, either the concentration or the actual concentration range must be indicated beside that ingredient under item 3 (Composition/Information on ingredients) of the SDS. Furthermore, if any other specific information element(s) (such as flash point, numerical measure of toxicity, etc.) for a particular hazardous product in the series differs from that of the other products in the series (without affecting the classification), the information element relevant to that hazardous product must be disclosed on the SDS with an indication to which hazardous product each relates.

Source: Health Canada - Technical Guidance on the Requirements of the Hazardous Products Act and the Hazardous Products Regulations WHMIS 2015 Supplier Requirements - pg 117

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Call a Poison Centre or doctor if you feel unwell.

Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Call a Poison Centre or doctor if you feel unwell. Clean clothing, shoes and leather goods.

Eye Contact

If eye irritation persists, get medical advice or attention. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open.

Ingestion

Rinse mouth with water. Call a Poison Centre or doctor if you feel unwell.

Most Important Symptoms and Effects, Acute and Delayed

If swallowed: There are 3 stages of effects, which can overlap. Early symptoms can include upset stomach, slurred speech, clumsiness, drowsiness, and convulsions. Second stage symptoms can include rapid heartbeat and breathing, bluish lips and skin, fluid in the lungs and heart failure. In the last stage, there can be kidney stones and kidney damage with lower back pain, and increased then decreased urine production. There may be delayed nervous system effects such as paralysis of the face, clumsiness, impaired hearing and blurred vision. Death can occur at any stage.

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Immediate Medical Attention and Special Treatment

Target Organs

Digestive system, nervous system, heart, digestive system, kidneys, skin.

Special Instructions

The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, central nervous system depression and kidney injury. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia. Treatment with ethanol to inhibit the metabolism of glycol to oxalate. Early administration of ethanol may counter the toxic effects of ethylene glycol (cardiopulmonary effects attributed to metabolic acidosis and renal damage).

Hemodialysis or peritoneal dialysis have been of benefit. Pre-existing respiratory and skin disorders may be aggravated by over-exposure to this product. Treat symptomatically and supportively.

Medical Conditions Aggravated by Exposure

Dermatitis.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder or appropriate foam.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Can ignite if strongly heated.

In a fire, the following hazardous materials may be generated: irritating chemicals.

Special Protective Equipment and Precautions for Fire-fighters

Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills.

See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

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

Precautions for Safe Handling

When handling concentrated product: avoid breathing in this product. Prevent skin contact. Avoid repeated or prolonged skin contact. Do not swallow. Avoid generating vapours or mists. Avoid heating that will increase the amount of vapours. Avoid repeated or prolonged skin contact with product or with contaminated equipment/surfaces. For large-scale use: do NOT eat, drink or store food in work areas. Remove contaminated clothing and protective equipment before entering eating areas or leaving work area. Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area.

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Conditions for Safe 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

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Ethylene glycol	10 mg/m ³	100 mg/m ³	Not established	50 ppm		
4-tert-Butylbenzoic acid	Not established	Not established	Not established	Not established		

Appropriate Engineering Controls

The hazard potential of this product is relatively low. General ventilation is usually adequate. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air.

Individual Protection Measures

Eye/Face Protection

Not required but it is good practice to wear safety glasses or chemical safety goggles.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.
Nitrile rubber.

Respiratory Protection

Not normally required if product is used as directed. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Available in these colours: Clear, Yellow, Gold, Red, Blue, Green, Amber, Pink, Orange, Purple, White, Brown, Grey, Teal.
Odour	Odourless
Odour Threshold	Not available
pH	7.8 - 9.5
Melting Point/Freezing Point	-17 - -52 °C (1 - -62 °F) (melting); -17 - -52 °C (1 - -62 °F) (freezing)
Initial Boiling Point/Range	121 - 132 °C (250 - 270 °F)
Flash Point	Not available
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.05 - 1.12 at 20 °C
Solubility	Not available in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available

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Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

None known.

Incompatible Materials

Slightly reactive or incompatible with the following materials: oxidizing agents (e.g. peroxides), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide).

Not corrosive to metals.

Hazardous Decomposition Products

None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Skin contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Ethylene glycol	2725 mg/m ³ (rat) (4-hour exposure)	1560 mg/kg Human - Male	9530 mg/kg (rabbit)
4-tert-Butylbenzoic acid	> 1802 mg/m ³ (rat) (4-hour exposure)	568 mg/kg (mouse)	300 mg/kg (mouse)

LC50: No information was located.

LD50 (oral): No information was located.

LD50 (dermal): No information was located.

Skin Corrosion/Irritation

Human experience and animal tests show mild irritation.

Serious Eye Damage/Irritation

May cause serious eye irritation based on information for closely related materials. Symptoms include sore, red eyes, and tearing.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

At high concentrations as a mist nose and throat irritation. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest.

Skin Absorption

At high concentrations may cause Symptoms may include redness, rash, swelling and itching.

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Ingestion

Toxic, can cause death based on information for closely related materials. depression of the central nervous system, and effects on the heart and kidneys. In some cases, there may be delayed effects on the nervous system. There are 3 stages of effects, which can overlap. Early symptoms can include upset stomach, slurred speech, clumsiness, drowsiness, and convulsions. Second stage symptoms can include rapid heartbeat and breathing, bluish lips and skin, fluid in the lungs and heart failure. In the last stage, there can be kidney stones and kidney damage with lower back pain, and increased then decreased urine production. There may be delayed nervous system effects such as paralysis of the face, clumsiness, impaired hearing and blurred vision. Death can occur at any stage.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause dermatitis. Symptoms may include dry, red, cracked skin (dermatitis).
May cause Following skin contact and/or if swallowed: harmful effects on the kidneys.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Ethylene glycol	Not Listed	A4	Not Listed	Not Listed
4-tert-Butylbenzoic acid	Not Listed	Not designated	Not Listed	Not Listed

Reproductive Toxicity

Development of Offspring

Studies in people and animals show effects on the unborn child.

Sexual Function and Fertility

Studies in people and animals show effects on sexual function and/or fertility.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

Other Information

TOXIC SUBSTANCE: KEEP AWAY FROM ANIMALS AND SMALL CHILDREN.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

Ecotoxicity

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Ethylene glycol	39140 mg/L (Oncorhynchus mykiss (rainbow trout))		24000 mg/L (Daphnia magna (water flea))	
4-tert-Butylbenzoic acid	Not available		Not available	

Persistence and Degradability

No information was located.

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Bioaccumulative Potential

This product and its degradation products are not expected to bioaccumulate.

Mobility in Soil

No information was located.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

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.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations.

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID (Ethylene glycol)	9	III

Environmental Hazards Not applicable (Ethylene glycol)

Special Precautions Please note: In single containers of 5000 lbs capacity or less this product is exempt from DOT regulations (non regulated). Does not require label or placards. Regulated Quantity (RQ)= 5000 lbs (2268 kg) (as ethylene glycol) For bulk shipments equal to or greater than Regulated Quantity (RQ), please adhere to classification as outlined in DOT Classification section.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Proof of Dangerous Goods Classification

Date of Classification January 11, 2017
Technical Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID
Classification 9 PG III
Classification Method As per regulation for ethylene glycol.

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

California Proposition 65: WARNING: Birth Defects and other Reproductive Harm - www.P65Warnings.ca.gov/product.

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Custom Regulatory 1

Consumer Product Safety Improvement Act of 2008 General Conformity Certification

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product container.

SECTION 16. OTHER INFORMATION

SDS Prepared By Compliance and Regulatory Department
Phone No. 905-878-5544
Date of Preparation August 21, 2019
Date of Last Revision August 21, 2020
Revision Indicators Product Codes: 16-914, 16-919, 26-919, 26-919-1000, 86-914 have been reclassified on 21-Aug-19 to this SDS

The following SDS content was changed on October 21, 2019:
SECTION 1. IDENTIFICATION; Other Means of Identification; Other Identification.
The following SDS content was changed on August 21, 2020:
SECTION 1. IDENTIFICATION; Other Means of Identification.

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

Additional Information We are committed to uphold the Industry Consumer Ingredient Communication Voluntary Initiative.
Please send us your request by visiting our website at www.recochem.com.

Ingredients present (intentionally added ingredients) at a concentration of greater than one percent (1%) shall be listed in descending order of predominance. Ingredients present at a concentration of not more than one percent shall be listed but may be disclosed without respect to order of predominance.

Disclaimer 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.

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