



NORTHERN LIQUID ICE COOLANT SYSTEM TREATMENT

Material Safety Data Sheet - Prepared According to OSHA Hazard Communication Standard 29CFR 1910.1200
Page 1 of 9 MSDS # Z14008 - Effective Date: APRIL 1ST 2009

MATERIAL SAFETY DATA SHEET

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

Product:

Product Name: NORTHERN LIQUID ICE COOLANT SYSTEM TREATMENT
Product Description: Coolant System (Complete Radiator & Engine) Treatment
Chemical Name: Glycol Ether Mixture
Product Code: Z14008
MSDS Number: Z14008
Intended Use: Gasoline & Diesel Coolant System Applications.

Company Identification:

Manufacturer: NORTHERN FACTORY SALES, INC.
Address: 2701 4th Avenue SW
Willmar, MN 56201
Company Phone: (320) 235-2288
Internet Address: www.northernfactory.com

SECTION 2

PRODUCT INGREDIENT COMPOSITION

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
Dilsopropyl Alcohol Ether		30%
Trilsopropyl Alcohol DiEther		30%
Dihydrated Methanol		8%
Sodium Potassium Molybdate		10%
Tolytriazole acetate		5%
PolySiloxane Polymer AD		<4%

CAS Number:

Not applicable for these Proprietary Additives Mixtures.

Hazardous Ingredients:

This material has no known hazards under applicable laws.
This material is not known to contain greater than 0.1% of any carcinogen required to be listed under the OSHA Communication Standard 29CFR 1910.1200

See Section(s) 9, 11, 17 for complete health hazard information.



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SECTION 3

STABILITY AND REACTIVITY

Stability:	Material is stable under normal conditions.
Conditions to Avoid:	Excessive heat. High energy sources of ignition.
Materials to Avoid:	none
Hazardous	
Decomposition Products:	Material does not decompose at ambient temperatures.
Thermal Decomposition:	Oxides of carbon including carbon monoxide.
Incompatibility:	Strong acids, oxidizing agents.
Polymerization:	Will not occur.

SECTION 4

HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance:	Light Blue liquid
Odor:	Faint Oder

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage. This material is not considered to be hazardous according to regulatory guidelines (see MSDS Section 15).

POTENTIAL HEALTH EFFECTS

NFPA Hazard ID:	Health: 1	Flammability: 0	Reactivity: 0
HMIS Hazard ID:	Health: 1	Flammability: 0	Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 5

FIRST AID MEASURES

Inhalation:	Remove exposed person to fresh air if adverse effects are observed. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.
Skin Contact:	Remove contaminated clothing and shoes and wipe excess from skin. Wash contact areas with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.
Eye Contact:	Flush thoroughly with water for at least 30 minutes. If eye irritation develops or persists, get medical assistance.



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Ingestion: INDUCE VOMITING. IN general, If conscious, give large 2 glasses of water or milk. Immediately seek medical attention.

SECTION 6 FIRE FIGHTING MEASURES

Flammability Properties

Flash Point: 150°C, 310°F PMCC (Typical)

Extinguishing Media

Appropriate Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Media: Straight Streams of Water

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

NO SPECIAL OR UNUSUAL FIREFIGHTING PROCEDURES.

SECTION 7 ACCIDENTAL RELEASE MEASURES

Proactive Measures: Wear appropriate personal protective equipment when cleaning spills. May burn although not readily ignitable.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. National Response Center can be reached at (800)424-8802.

Spill Management: FOR LARGE SPILLS: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas. Remove with vacuum truck or pump to storage/salvage vessel/container.
FOR SMALL SPILLS: soak up residue with an absorbent such as clay, sand or suitable material. Place in a non-leaking container and seal tightly for proper disposal. PLACE IN CONTAINER FOR PROPER DISPOSAL.

Reporting: CERCLA: Product is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act. (CERCLA) petroleum exclusion. Releases to air, land or water are not reportable under CERCLA (Superfund).

Clean Water Act: This product is NOT defined under section 311 of EPA's Clean Water Act (CWA). Spills into to leading to Surface waters that cause sheen, must be reported to the National Response Center 1-800-424-8802

SECTION 8 HANDLING AND STORAGE

Pumping Temperature: Not Determined. **Loading Temperature:** Not Determined.

Handling Maximum Temp: Not Determined. **Storage Maximum Temp:** Not Determined.

Storage Procedures: Do not store in open or unlabelled containers.

Handling Procedures: Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Keep containers closed when not in use. Wash thoroughly after handling.



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SECTION 9

EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:	None established.
Other Exposure Limits:	Under conditions which may generate mists, When mists /aerosols can occur, the following are recommended: 5 mg/m ³ - ACGIH TLV, 10 mg/m ³ - ACGIH STEL, 5 mg/m ³ - OSHA PEL.
Engineering/Ventilation:	If use generates a mist or vapor, local exhaust ventilation is recommended.
Respiratory Protection:	Under normal use conditions, respirator is not usually required. Use NIOSH/MSHA Approved disposable dust/mist mask if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.
Clothing Recommendations:	Long sleeve shirt is recommended, Launder contaminated clothing after use. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin reaction. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.
Eye Protection:	When eye contact may occur, safety glasses with side shields or splash goggles.
Skin and Body Protection:	No skin protection is ordinarily required under normal conditions of use.
Hand Protection:	No protection is ordinarily required under normal conditions of use. Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly affect glove durability; inspect and replace worn or damaged gloves. Types to be considered include Oil or chemical resistant gloves.
Specific Hygiene Measures:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Environmental Controls: See Sections 7, 8, 13, 14.

SECTION 10

PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below.
Consult the Supplier in Section 1 for additional data.

Viscosity:	Miscible@25°C Centistokes (25°C)	Appearance:	Light Blue Liquid.
Specific Gravity:	1.08	Odor Threshold:	Unknown
Vapor Density:	Heavier than Air.	Lower Flammability:	Not determined.
Flash Point:	149°C, >300°F	Water Solubility:	Yes.
Boiling Point:	Not determined.	Percent Solid:	Not determined.
Pour Point Temperature:	Not determined.		
Melting/Freezing Point:	Not determined.		
Physical State:	Liquid		
Odor:	Faint Odor		
Upper Flammability:	Not determined.		
Auto-Ignition point:	Not determined.		
PH:	8:1 (10% solution)		



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Percent Volatile:	Unknown.	Percent VOC:	Not determined.
Evaporation Rate:	Not determined.		
Explosion Data:	Material does not have explosive properties		

SECTION 11	TOXICOLOGICAL INFORMATION
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-ACCUTE EXPOSURE -

Skin Irritation:	May cause skin irritation, based on data from components or similar materials. Not expected to meet EU R38 criteria. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying and cracking of the skin.
Eye Irritation:	May cause eye irritation. Does not meet Canadian D2B or EU criteria. Based on data from components or similar materials.
Respiratory Irritation:	If material is misted or if vapors are generated from heating, exposure may cause irritation of the mucous membranes and the upper respiratory tract. Based on data for components and similar materials.
Dermal Toxicity:	The LD50 is >2000mg/Kg. Based on data from components or similar materials.
Inhalation Toxicity:	No data available to indicate components may be a toxic inhalation hazard.
Oral Toxicity:	The LD50 in rats is >5000mg/kg. Based on data from components or similar materials. Material can be aspirated into the lungs during the act of swallowing or vomiting. This could result in sever injury to the lungs and death.
Dermal Sensitization:	No data available to indicate product or components may be a skin sensitization.
Inhalation Sensitization:	No data available to indicate components may be a respiratory sensitization.

-CHRONIC EXPOSURE-

Chronic Toxicity:	No data available to indicate product or components presents greater than 1% are chronic health hazards.
Carcinogenicity:	This product formulation with considered not considered to be carcinogenic under IARC.
Mutagenicity:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive Toxicity:	No data available to indicate product or any components present at greater than 0.1% that may cause reproductive toxicity.
Teratogenicity:	No data available to indicate product or any components present at greater than 0.1% may cause birth defects.

-ADDITIONAL INFORMATION-

Other:	No other health hazards are known.
Contents:	Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans. Additional information is available by request.



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SECTION 12

ECOLOGICAL INFORMATION

-ENVIRONMENTAL TOXICITY-

Bacteria Toxicity:	Not determined.		
Freshwater Fish Toxicity:	Not determined.		
Freshwater Invertebrates Toxicity:	Not determined.	Algal Inhibition:	Not determined.
Saltwater Fish Toxicity:	Not determined.	Miscellaneous Toxicity:	Not determined

-ENVIRONMENTAL FATE-

Biodegradation:	Not determined.
Bioaccumulation:	Not determined.
Soil Mobility:	Not determined.

The information given is based on data available for the material, components of the material & similar materials.

SECTION 13

DISPOSAL CONSIDERATIONS

Waste Disposal:	This material, if discarded, in our opinion is not hazardous waste under RCRA (Reg. 40 CFR Part 261D). nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated. Contains This material has not been reviewed under RCRA toxicity characteristic criteria published March 29, 1990 (55 FR 11798.)
RCRA Information:	Under RCRA, it is the responsibility of the user of the material to determine, at the time of disposal whether the material meets RCRA criteria for hazardous waste. This is because material uses, transformations, mixtures, processes, etc. may effect the classification. Refer to the latest EPA, state and local regulations regarding proper disposal.
Empty Container Warning:	Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SIMILAR SOURCES OF IGNITION. MAY EXPLODE AND CAUSE INJURY OR DEATH.

Contains > 2% Molybdenum .

SECTION 14

TRANSPORT INFORMATION

Bulk Quantity:	85000 liters, 22457 Gallons.
Non-Bulk Quantity:	207.8 liters, 55 Gallons.
US Barge:	DO NOT TRANSPORT-ADDITIONAL INFORMATION REQUIRED.
IMO Marine Vessel:	DO NOT TRANSPORT-ADDITIONAL INFORMATION REQUIRED.



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ICAO/IATA (US):	Not regulated.	ICAO/IATA (International):	Not regulated.
IMDG:	Not regulated.	IMDG EMS Fire:	Not applicable.
IMDG EMS Spill:	Not applicable.	IMDG MFAG	Not applicable.
USCG Compatibility:	Not determined.	US DOT Bulk:	Not regulated.
US DOT Non-Bulk:	Not regulated.	DOT NAERG:	Not applicable.
TDG Bulk:	Not regulated.	TDG Non-Bulk:	Not regulated.
Mexico:	Not regulated.	Mexico Non-Bulk	Not regulated.

Review classification requirements before shipping materials at elevated temperatures.

SECTION 15

REGULATORY INFORMATION

-US FEDERAL REGULATIONS-

OSHA Classification:	Product when used for its intended purposes, is not hazardous according to the OSHA Hazard Communication Standard OSHA 29 CFR 1910.1200		
SARA Extremely Hazardous Substance:	This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substance List.		
SARA Section 313:	This product does not contain greater than 1.0% (greater than 0.1% for carcinogenic substance) of any chemical substances under SARA Section 313.		
SARA 311 Classifications:	Acute Hazard	(NO)	
	Chronic Hazard	(NO)	
	Fire Hazard	(NO)	
	Reactivity Hazard	(NO)	
SARA Toxic Release Inventory (TRI) 313:	Moly compounds.	CERCLA Haz. Sub:	None Known.
FDA Approval:	Not Applicable.		

-STATE REGULATIONS-

This product is not regulated by California Prop 65 does not intentionally contain any chemicals known by the State of California to cause cancer and/or birth defects, New Jersey Right-to-Know Chemical List or Pennsylvania Right-to-Know Chemical List. However for details on your regulation requirements you should contact the appropriate agency in your state.

-GLOBAL CHEMICAL INVENTORIES-

USA:	All components of this material are on the US TSCA Inventory or are exempt. Section 4a (Nonane). May be subject to export notification under TSCA Sec.12(b). This product requires notification under EC 7th Amendment Directive 92/32/EEC. This product may be imported to Japan only by Titan Japan. All component(s) of this product have been notified and assessed under the Industrial Chemicals (Notification and Assessment) Act, 1989. This product may only be imported by Titan Australia. All component(s) are in compliance with the Canadian Environment Protection Act and are present on the Domestic Substances List.
Other TSCA Regulations:	
EU:	
Japan:	
Australia:	
Canada:	

-PRODUCT REGISTRATIONS-

US Fuel Registration:	Not applicable.
US Dept of Agriculture:	This product has not been filed with the USDA to support H2 approvals.



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NSF Nonfood Compounds: This product has not been filed with the NSF to support H1 or H2 approvals.

-OTHER/INTERNATIONAL-

TDG Regulated Limit: None known.
US Tariff Heading Number: 3403.19.50.00
Schedule B Number: 3403.19.0000

SECTION 16

LABEL INFORMATION

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER REGULATORY REQUIREMENTS.

Product Code: Z14008
Product Name: NORTHERN LIQUID ICE COOLANT SYSTEM TREATMENT.

ATTENTION: The following organs and/or organ systems may be damaged by over exposure to the material and/or its components. **PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE OIL ACNE OR DERMATITIS. USED GASOLINE ENGINE AND OTHER SIMILAR TYPE OIL(S) HAS BEEN SHOWN TO CAUSE CANCER IN LABORATORY ANIMALS.**

Precautions: *Avoid prolonged or repeated contact with eyes, skin & clothing wash thoroughly after handling.*

FIRST AID

Inhalation: Remove victim to fresh air & provide oxygen if breathing is difficult. Get medical attention.
Skin Contact: Remove contaminated clothing and shoes and wipe excess from skin. Flush, wash and cleanse skin with soap and water. If irritation occurs, seek medical attention. Do not reuse clothing until cleansed.
Eye Contact: Flush with water. If irritation occurs, seek medical attention.
Ingestion: Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, seek medical attention.

FIRE

In case of fire: Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water. Material will float & can be re-ignited on surface of water.

SPILL OR LEAK

Dike & Contain Spill.
FOR LARGE SPILLS: Remove with vacuum truck or pump to storage container/salvage vessels.
FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in container and seal tightly for proper disposal.
CONTENTS: Mixture; Proprietary additives.

NFPA Rating: (Health, Fire, Reactivity): 1, 0, 0



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TRANSPORTATION

US Department of Transportation Classification

This Material is not subject to DOT regulations under section 49 CFR Parts 171-180.

CAUTION:

Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurized or expose to open flames or heat. Keep container closed and drum seal in place.

Name and Address: NORTHERN FACTORY SALES, INC. 2701 4th Avenue SW, Willmar, MN 56201 USA

Revisions: This MSDS has no revisions since 1 April 2009

SECTION 17	ADMINISTRATIVE INFORMATION AND DECLARATIONS
Manufacturer Address:	Northern Factory Sales, Inc. 2701 4 th Avenue SW, Willmar, MN 56201

Users Responsibility/Disclaimer of Liability:

It is the user's responsibility to satisfy itself that the product is suitable for the intended use. The information and recommendations contained in this MSDS document are offered for the user's consideration and examination. Information is based on the data available to Northern Factory Sales, Inc. at this time, and is believed to be accurate. MSDS Information is provided independently of any sale of the product, for purpose of hazard communication; with the intent to describe the product solely with respect to health, safety and the environment. Appropriate warnings and safe-handling procedures should be provided to handlers and users.

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