



## NORTHERN LIQUID ICE COOLANT SYSTEM TREATMENT

### TECHNICAL DATA SHEET – PART NUMBER Z14008

#### Northern Liquid Ice – Coolant System Treatment Product Information:

Northern Liquid Ice is a coolant system treatment for the entire engine & radiator coolant system for both gasoline & diesel applications with water alone or enhances glycol (to a premium anti-freeze).

**Northern Liquid Ice thermal chemical & liquid cooling technology increases coolant system performance capability while reducing coolant / metal surface and cylinder head temperatures.**

**Up to double the chemical additive concentration levels as compared to other comparable products for premium performance and protection** for extreme duty racing, heavy duty commercial & standard applications. Improved coolant system capability increases engine efficiency & performance.

#### Applications & Use:

- **Extreme Duty Automotive Racing** (no need for double treatment) One Pint Complete 2 Gallon use.
- **Heavy Duty Diesel** (Commercial and Trucking) – One Pint per 3 Gallons.
- **Standard Gasoline Automotive** – One Pint for 3 Gallons.
- **All types of antifreeze mixtures** including extended life coolants used in diesel & gasoline engines.
- **Always use distilled or R/O purified water** reducing coolant system impurities & contaminates.

#### Features & Benefits:

- **Northern Liquid Ice thermal chemical & liquid cooling technology increases coolant system capability, increasing engine efficiency, performance & life.**
- **Up to double the heat transfer properties of water alone, enhancing a higher boiling point.**
- **Reduces coolant system / cylinder head temperatures & potential for overheating.**
- **Lubricates & protects the water pump bearing, seal, shaft and impeller increasing water pump efficiency, performance & life.**
- **Increases water “slipperiness” to coat & reduce surface tension within radiator & system.**
- **Monomolecular film / coating formation on all metal surfaces including aluminum.**
- **Prevents foaming & cavitation by reducing air or vapor bubble formation.**
- **Electrolysis prevention through:**
  - 1) Acid & pH neutralization.
  - 2) Coats & insulates metal parts to prevent electrical current.
  - 3) Prevention of galvanic corrosion.
- **Inhibitor film with cleansing & anti-oxidation protection** prevents erosion, corrosion, scale deposits & pitting especially for aluminum, copper, brass, its other alloys & other metals.
- **Prevention of the formation of rust, scale & iron corrosion deposits** while removing of existing rust, scale & iron corrosion deposits, while the engine is in operation.
- **Environmentally Friendly, Non-Toxic & Non-Corrosive** when used in coolant concentration.
- **Will not support bacterial growth** due to its low nitrate formulation.
- **PH Neutralization** of harmful acids that result of (anti-freeze) glycol chemical breaks down.
- **Prevention of the formation of “green goo” from (anti-freeze) glycol break-down.**
- **Will not affect gaskets and hoses.**
- **Will not lower coolant system (100% water) freeze point, NOT a substitution alone for (anti-freeze).**
- **NEVER USE STANDARD TAP WATER – COOLANT SYSTEM TYPE TREATMENT CHEMICALS ALWAYS PERFORM BEST WITH 100% DISTILLED OR PURIFIED (PH NEUTRAL) WATER.**



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#### **Key Features and Benefits Include:**

<b>Features</b>	<b>Advantages and Potential Benefits</b>
Thermal Chemical & Liquid Cooling Technologies	Increases coolant system performance by doubling the heat transfer properties of Water or Glycol alone which enhances a higher boiling point.
Water-Moly & Anti-Wear Technology	Lubricates and protects the water pump bearing, seal, shaft and impeller. Inhibitor film with cleansing and anti-oxidation protection prevents corrosion.
Anti-Foam & Anti-Cavitation Performance	Increases water “slipperiness” to coat and reduce surface tension within radiator and coolant system which prevents foaming and cavitation within the system by reducing air or vapor bubble formation.

#### **Typical Properties:**

	<b>Physical Data</b>
Specific Gravity:	1.10
Water Solubility:	Miscible@25°C
pH 10% Solution:	9.5
Vapor Density:	Heavier than Air
Flash Point:	>310°F (150°C)

Packaging: Northern Liquid Ice #Z14008 is available in single pints/ 6 case.

Due to continual product research and development, the information contained herein is subject to change without notification. Typical Properties may vary slightly.

#### **Health and Safety:**

Based on available information, this product is not expected to produce adverse effects on health when used for the applications referred to above and the recommendations are followed as provided in the Material Safety Data Sheet (MSDS). MSDS's are available upon request through your local dealer, or via the Internet. This product should not be used for purposes other than the applications referred to above. If disposing of used product, take care to protect the environment.

#### **Distributed by:**

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#### TREATMENT LEVEL:

**RACING (EXTREME) APPLICATION:** One (1) pint of Liquid Ice for standard Racing Coolant System Treatment (2 – 4 gallons) with 100% straight pH Neutral / Distilled or Purified Water.

**Because of Liquid Ice higher additive concentration levels –  
Racing use with one (1) pint bottle, there is no need to use (2 bottles) double treatment.**

**AUTOMOTIVE (STANDARD) APPLICATION:** 1 pint for standard 2 gallon automotive coolant system.

**DIESEL & GASOLINE COMMERCIAL (HEAVY DUTY) APPLICATION:** One (1) pint of Liquid Ice each 2 - 4 gallons of coolant system capacity.

**Northern Liquid Ice can be added at any point in the cooling system life and should be added with each flush** in accordance to the following maintenance and testing guideline.

#### MAINTENANCE AND TESTING GUIDELINES:

##### New Trucks – Commercial Vehicles

If the new vehicle contains a chemically charged coolant filter, remove and replace with plain un-charged filter. Take a sample from the radiator and perform the tests listed below utilizing coolant pH test strips.

##### In-Service Vehicles

At every oil change or regularly scheduled maintenance take a sample of coolant and perform the tests listed below. For proper maintenance always change coolant every 2 years.

##### Test for pH

- pH should be between **9.0-10.5**
- If below 9.0, remove all of the coolant and dispose of properly.  
Flush and replace with new 50/50 antifreeze/distilled water solution.
- If above 10.5, remove some coolant and replace with 50/50 antifreeze/water solution.

##### Test for Molybdate Level

- Molybdate level should be **400-2000ppm**
- If below 400ppm, add 1 pint of Liquid Ice to each 2 gallons of cooling system capacity.  
(If Liquid Ice has already been added to raise nitrate levels **DO NOT** add any additional)
- If above 2000ppm, remove some coolant and add a 50/50 mixture of antifreeze/water then recheck both the nitrate and Molybdate levels.

##### Test for Nitrate Level

- Nitrate level should be **300-1200ppm**
- If above 1200ppm, remove some coolant and add a 50/50 mixture of antifreeze/water.
- If below 300ppm, add 1 pint of Liquid Ice to each 2 gallons of cooling system capacity.