



MATERIAL SAFETY DATA SHEET

24-HOUR EMERGENCY ASSISTANCE
CHEMTREC: 800-424-9300 Nu-Calgon: 800-554-5499

For hazard identification, acute and chronic health effects refer to the discussion in Section 3

SECTION 1	NAME
PRODUCT	ZEROL ICE (4312-55)
CHEMICAL NAME	Lubricant Additive (non-chlorinated)
Use/Applications	AC/Refrigeration Performance Enhancer

SECTION 2 PRODUCT/INGREDIENT

THIS PRODUCT IS CONSIDERED AS NON-HAZARDOUS (SEE SECTION 14).

COMPONENT	CHEMICAL NAME	%BY WEIGHT
Lubricant	Synthetic Lubricant(s)	10 – 60%
Lubricant	Hydrocarbon Lubricant	5-20%
Additive package*	Lubricant additives	40 – 65%

* Composition/specific chemical identities are withheld as a trade secret under the provisions of OSHA hazard communication standard 29 CFR 1910.1200

SECTION 3 HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance: Oil aroma, clear yellow to golden colored liquid

Hazardous Material Information System (United States)	Health	1	National Fire Protection
	Fire	1	Association NFPA
	Reactivity	0	(United States)
	Personal protection		

POTENTIAL HEALTH EFFECTS

Primary Route of Exposure: Skin

EFFECTS OF OVEREXPOSURE

EYES: Expected to cause no more than minor eye irritation. Application of a similar product into the eyes of rabbits produced very slight membrane irritation without corneal injury. Avoid eye contact as good industrial practice.

SKIN: Not a primary skin irritant but may cause skin irritation on repeated or prolonged contact. Application of a similar product onto the skin of rabbits produced slight erythmia and edema.

INHALATION: Avoid breathing vapor or mist. Under normal use conditions, this product is not an inhalation hazard. Prolonged exposure to vapors may cause dizziness and headaches.

INGESTION: May cause nausea. Not expected to be acutely toxic by ingestion.

There is no evidence that this product aggravates an existing medical condition.

OTHER REMARKS: None.

SECTION 4 FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes while holding the eyelids open. If irritation persists, see a physician.

SKIN: Remove contaminated clothing. Wash skin thoroughly with soap and water. Launder contaminated clothing. See a doctor if irritation persists.

INGESTION: If swallowed, call a physician immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person. If medical advice cannot be obtained, take the person, product container and MSDS to the nearest medical emergency center.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration and seek medical attention immediately. Remove material from eyes, skin and clothing.

SECTION 5 FIRE-FIGHTING MEASURES

Flash Point (degrees C), Cleveland Open Cup
>176C

Flammable Limits % (Lower-Upper):

Lower: Not determined
Upper: Not determined.

Recommended Fire Extinguishing Agents and Special Procedures:

Use water spray, dry chemical, foam, or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing.

Unusual or Explosive Hazards: None.

Special Protective Equipment for Firefighters:

Wear full protective clothing and positive pressure breathing apparatus.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Procedures in Case of Accidental Release, Breakage or Leakage:

Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

SECTION 7 HANDLING AND STORAGE

Precautions to be Taken in:

Handling: Minimum feasible handling temperatures should be maintained.

Storage: Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)

Eye/Face Protection:

Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

Skin Protection:

Protective clothing such as coveralls or lab coats should be worn. Launder or dry-clean when soiled. Gloves and boots resistant to chemicals and petroleum distillates required. Exposed workers should wash exposed skin several times daily with soap and water.

Remove and dry-clean or launder clothing soaked or soiled with this material before reuse. Dry cleaning of contaminated clothing may be more effective than normal laundering. Inform individuals responsible for cleaning of potential hazards associated with handling contaminated clothing.

Respiratory Protection:

Airborne concentrations should be kept to lowest levels possible. If vapor, dust or mist is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air-supplied respirator after determining the airborne concentration of the contaminant.

Air supplied respirators should always be worn when airborne concentration of the contaminant or oxygen content is unknown.

Ventilation:

Local exhaust ventilation recommended if generating vapor, dust, or mist. If exhaust ventilation is not available or inadequate, use MSHA or NIOSH approved respirator as appropriate.

Exposure Limit for the Total Product: None established for product

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Ordinary oily odor, clear liquid (lubricant additive)
Boiling point (deg C):	> 300C(>572F) at atmospheric pressure (lubricant additive)
Melting/Freezing Point (deg C):	Not determined
Specific Gravity (water=1):	.8904 (lubricant additive)
pH:	Not applicable
Vapor Pressure:	Not determined
Vapor Density (Air=1):	Not determined
Solubility in Water (%):	Negligible
Other:	None

SECTION 10 STABILITY AND REACTIVITY

Stability:	Stable (thermal, light).
Incompatibility:	May react with strong oxidizing materials.
Hazardous Decomposition Products:	Normal combustion forms carbon dioxide and water vapor. Incomplete combustion can form carbon monoxide.
Hazardous Polymerization:	Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Oral:	LD50 believed to be > 5 g/kg (rat) practically non-toxic
Inhalation:	Not determined
Dermal:	LD50 believed to be > 10 g/kg (rabbit) practically non-toxic

IRRITATION INDEX, ESTIMATION OF IRRITATION (SPECIES)

Skin:	(Draize) believed to be between 3-5 (rabbit) moderately irritating (maximum 8)
Eyes:	(Draize) believed to be < 15 (rabbit) no appreciable effect (maximum 110)
Sensitization:	Not determined
Other:	This product, or a component of this product, has been shown to damage red blood cells or blood forming organs, and has caused anemia in laboratory animals.

SECTION 12 **DISPOSAL CONSIDERATIONS**

Waste Disposal Methods:

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Remarks: None.

SECTION 13 **TRANSPORT INFORMATION**

Transportation

DOT: Not regulated according to DOT.
IMDG: Not regulated according to IMDG.
ICAO/IATA: Not regulated according to ICAO/IATA.
TDG: Not regulated according to TDG.

SECTION 14 **REGULATORY INFORMATION**

FEDERAL REGULATIONS

This product and/or its components are considered non-hazardous by the following standards:

OSHA Hazard Comm. Standard Classification
SARA Title III Section 311 Hazardous Categorization

No chemicals subject to reporting per the following standards:

SARA Title III Section 302/304 Extremely Hazardous Substances.
SARA Title III Section 313 Toxic Chemical.
CERCLA 102(a)/DOT Hazardous Substances.
California Prop. 65
States Right-to-Know Regulations.

State list: CT (Connecticut), FL (Florida), IL (Illinois), MI (Michigan),
LA (Louisiana), MA (Massachusetts), NJ (New Jersey),
PA (Pennsylvania), RI (Rhode Island)

INTERNATIONAL REGULATIONS

TSCA Inventory Status: This product, or its components, are listed on, or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

Canadian Inventory Status: This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

EINECS Inventory Status: This product, or its components, are listed on or are exempt from the European Inventory of Existing Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELINCS).

Australian Inventory Status: Not determined.

Japan Inventory Status: Not determined.

SECTION 15**ENVIRONMENTAL INFORMATION**

Biodegradability: Estimated to be less than 40% degradation over a test period of more than 28 days.

Potential to Bioaccumulation: This product is estimated to have a very slow rate of bioaccumulation.

Remarks: None

SECTION 16**OTHER INFORMATION**

None

Date of Revision: July 31, 2009

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.