Safety Data Sheet

Section 01 - Identification

Product Identifier	ClearMem 3000
Other Means of Identification	HEDP
Product Use and Restrictions on Use	Sequestering agent, scale inhibitor for recirculating cooling systems, boiler water treatment, industrial cleaner.
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
24-Hour Emergency Phone	Phone: 1 (306) 664 – 2522

Section 02 - Hazard Identification

GHS-Classification

Acute Toxicity-Oral	Category 4
Serious Eye Damage/Irritation	Category 1
Skin Corrosion/Irritation	Category 1A

Physical Hazards

Corrosive to Metals	Category 1

Danger

Hazards Statements
H290 – May be corrosive to metals.
H302 – Harmful if swallowed.
H314 – Causes severe skin burns and eye damage.

Pictograms

Precautionary Statements
P234 – Keep only in original container.
P260 – Do not breathe mist, vapours or spray.
P280 – Wear protective gloves, protective clothing, eye protection, and face protection.
P270 – Do not eat, drink or smoke when using this product.
P301 +P330 + P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin
P363 – Wash contaminated clothing before reuse.
P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 – Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P390 – Absorb spillage to prevent material damage.
P405 – Store locked up.
P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
1-Hydroxyethylidene -1,1,-diphosphonic acid	2809-21-4	58.0-62.0%	
Phosphorous Acid	13598-36-2	≤ 4.0%	
Water	7732-18-5	33.0-37.0%	

Section 04 - First Aid Measures

Inhalation Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.

Skin Contact / Absorption Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.

Eye Contact Contact lenses should never be worn when working with this product. Flush immediately with water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.

Ingestion Immediate first aid is likely not required if small amounts are ingested. If symptoms occur or large amounts are ingested, seek immediate medical attention.

Additional Information Not Available

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Keep containers cool by spraying with water. Use extinguishing media appropriate for surrounding fire except water jet.

Unsuitable Extinguishing Media Not Available

Specific Hazards Arising From the Chemical May evolve oxides of carbon and phosphorous under fire conditions.

Special Protective Equipment and Precautions for Fire-Fighters Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Further Information Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so.
Environmental Precautions	Prevent material from entering sewers.
Methods and Materials for Containment and Cleaning Up	SMALL SPILLS: Carefully neutralize with hydrated lime or soda ash. Wash away small spills with plenty of water. LARGE SPILLS: Absorb larger spills in earth or sand. Sweep material into containers for future disposal. Avoid using metal containers for spilled material. Flush remainder of spill with water, washing can be neutralized with hydrated lime or soda ash.

Section 07 - Handling and Storage

Precautions for Safe Handling	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.
Conditions for Safe Storage	Store the containers tightly closed. Store in suitable labelled containers. Avoid freezing temperatures and materials such as carbon steel, aluminum and mild steel. PVC, polypropylene, glass reinforced plastic and polyethylene are suitable materials of construction.
Incompatibilities	Corrosive to aluminum, mild steel and carbon steel. Oxidizers and strong bases.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Phosphoric Acid	ACGIH	TLV-TWA	1mg/m3
	ACGIH	STEL	3mg/m3

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
Other	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face	Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
Hand Protection	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Skin and Body Protection	Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.

Respiratory Protection	Respiratory protection is not normally needed. If airborne exposure will become excessive, then use approved respiratory protection with full face piece.
Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Liquid
Colour	Transparent pale yellow
Odour	Characteristic odour
Odour Threshold	Not Available

Property

pH	≤ 2 (1% solution)
Melting Point/Freezing Point	-25°C
Initial Boiling Point and Boiling Range	Not Available
Flash Point	Not Applicable
Evaporation Rate	Not Available
Flammability	Non-Flammable
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Vapour Pressure (mm Hg, 20^{o}C)	Not Available
Vapour Density (Air=1)	Not Available
Relative Density	Not Available
Solubility(ies)	Completely soluble in water
Partition Coefficient: n-octanol/water	Not Available
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	Not Available
Viscosity	Not Available
Explosive Properties	Not Available
Specific Gravity (Water=1)	1.42-1.47 at 25°C
% Volatiles by Volume	Not Available

Formula	$C_2H_8O_7P_2$
Molecular Weight	206.02

Section 10 - Stability and Reactivity

Reactivity	May be corrosive to metals.
Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	Hazardous polymerization will not occur. May react with alkalis and many metals.
Conditions to Avoid	Avoid heat, flames, sparks and other sources of ignition. Dangerous gases may accumulate in confined spaces. May ignite or explode on contact with combustible materials.
Incompatible Materials	Corrosive to aluminum, mild steel and carbon steel. Oxidizers and strong bases.
Hazardous Decomposition Products	Oxides of carbon and phosphorus.

Section 11 - Toxicological Information

Acute Toxicity Estimate

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
ClearMem 3000	1896 mg/kg	10,344 mg/kg	Not Available

This product has been classified in accordance with the Hazardous Products Regulations using ATE formula documented in the GHS standard.

Chronic Toxicity – Carcinogenicity

Component	IARC
ClearMem 3000	Not classified as a carcinogen by NTP, IARC or OSHA

Skin Corrosion/Irritation	Corrosive to skin.
Ingestion	May cause gastrointestinal upset and irritation. May cause burning of the mouth, lips and throat.
Inhalation	Not a likely route of exposure.
Serious Eye Damage/Irritation	Corrosive to eyes.
Respiratory or Skin Sensitization	Not a skin sensitizer.
Germ Cell Mutagenicity	No genetic effects were observed in bacterial and animal cell testing.
Reproductive Toxicity	No effects on reproduction or fertility during lab study on rats. No birth defects were noted in rats while given active ingredient during pregnancy.
STOT-Single Exposure	Irritating to respiratory system.
STOT-Repeated Exposure	May cause damage to blood, gastrointestinal tract, and bones.
Aspiration Hazard	Aspiration may lead to pulmonary edema.
Synergistic Materials	Not Available

Section 12 – Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
1-Hydroxyethylidene -1,1,-diphosphonic acid	Not Available	Not Available	EC_{50}(48 hrs, Daphnia magna): 167mg/L

Biodegradability 33% (28 days per Zahn-Wellens OECD 302B test). Degrades after acclimatization.

Bioaccumulation Not expected to bioaccumulate.

Mobility Accidental spillage may lead to penetration in the soil and groundwater. However, there is no evidence that this would cause adverse ecological effects.

Other Adverse Effects Not Available

Section 13 – Disposal Considerations

Waste From Residues/Unused Products Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Contaminated Packaging Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 – Transport Information

UN Number UN3265

UN Proper Shipping Name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethylidene -1,1,-diphosphonic acid)

Transport Hazard Class(es) 8

Packaging Group III

Environmental Hazards Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.

Special Precautions Not Available

Transport in Bulk Not Available

Additional Information

Packing Group	Limited Quantity Index
I	0
II	1 L
III	5 L

TDG

Other Secure containers (full and/or empty) with suitable hold down devises during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 – Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 – Other Information

Preparation Date August 21, 2015

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

1) CHEMINFO
2) eChemPortal
3) TOXNET
4) Transportation of Dangerous Goods Canada
5) HSDB
6) ECHA

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