Safety Data Sheet

Section 01 - Identification

Product Identifier	ClearHib 11SDW
Other Means of Identification	Not Applicable
Product Use and Restrictions on Use	Corrosion inhibitor
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
Skin Corrosion/Irritation	Category 1B
Serious Eye Damage/Irritation	Category 1
STOT-Single Exposure	Category 3

Physical Hazards

Corrosive to Metals	Category 1

Danger

Hazards Statements

H302 – Harmful if swallowed.
H314 – Causes severe skin burns and eye damage.
H318 – Causes serious eye damage.
H335 – May cause respiratory irritation.
H290 – May be corrosive to metals.
H400 – Very toxic to aquatic life

Pictograms

Precautionary Statements
P234 – Keep only in original packaging.
P403 + P233 – Store in a well-ventilated place. Keep container tightly closed.
P271 – Use only outdoors or in a well-ventilated area.
P260 – Do not breathe dust/fume/gas/mist/vapours/spray.
P280 – Wear protective gloves/protective clothing/eye protection/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.
P405 – Store locked up.
P390 – Absorb spillage to prevent material-damage.
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
Phosphoric Acid	7664-38-2	20-60%	
Zinc Chloride	7646-85-7	10-30%	
Water	7732-18-5	10-70%	

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. Immediately flush with lukewarm, gently flowing water for at least 30 minutes. DO NOT INTERRUPT FLUSHING. If necessary, and it can be done safely, continue flushing during transport. Seek immediate medical attention.

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. If a contact lens is present, remove only if easy to do so. Seek immediate medical attention.

Ingestion
NEVER give anything by mouth if vitim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Seek immediate medical attention.

Additional Information
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media
Not expected to burn. Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media
Not Available

Specific Hazards Arising From the Chemical
Phosphoric acid can react with most metals to produce highly flammable hydrogen gas, which may explode if ignited. During a fire, irritating/toxic phosphorus oxides and hydrogen chloride gas may be generated. Closed containers may rupture violently in the heat of a fire.

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. Flush with water to remove any residue.
Environmental Precautions	Prevent material from entering sewers.
Methods and Materials for Containment and Cleaning Up	SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with local regulations.

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 and separate from oxidizers. Store in suitable labelled containers. Protect product from freezing. This product can be safely stored in high to medium density polyethylene (MDPE/HDPE), cross-linked polyethylene, fiberglass reinforced plastic, and polyvinyl chloride (PVC).
Incompatibilities	Strong caustics, strong oxidizing agents, reducing agents, organic peroxides, azo compounds, epoxides, aldehydes, metal powders, chlorides, stainless steel, fluorides, halogenated organics, cyanides, sulfides, mercaptans, nitrides, metal phophides, acetylides, silicides, carbides, nitromethane, sodium tetrahydroborate, nitric and phosphoric acids, alcohols, glycols, amides, amines, carbamates, esters, ketones, phenols, cresols, organophosphates, unsaturated halides, potassium, strong bases. This product cannot be stored in a container combrised of the following materials: black iron, mild steel, galvanized metals, aluminum zinc, stainless steel, copper, lead, brass, bronze, tin and other base metals.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Phosphoric Acid	ACGIH	TLV-TWA	1mg/m^3
	ACGIH	TLV-STEL	3mg/m^3
Zinc chloride	NIOSH	IDLH	50mg/m^3 fume

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	If significant mists, vapors or aerosols are generated an approved respirator is recommended. A suitable filter material would depend on amount being handled, a multi-contaminant cartridge with particulate pre-filter should be considered. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Liquid
Colour	Clear, colourless
Odour	Odourless
Odour Threshold	Not Applicable

Property

pH	< 1.0 at 25°C (neat)
Melting Point/Freezing Point	Not Available
Initial Boiling Point and Boiling Range	> 100°C
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 expected to be sensitive to static discharge or mechanical impact.
Specific Gravity (Water=1)	~1.37 at 25°C
% Volatiles by Volume	Not Available
Formula	Not Available
Molecular Weight	Not Available

Section 10 - Stability and Reactivity

Reactivity	Phosphoric acid may also attack porcelain and granite ware when hot and earthenware and glass above 200°C.
Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	Will not polymerize.
Conditions to Avoid	High temperatures.
Incompatible Materials	Strong caustics, strong oxidizing agents, reducing agents, organic peroxides, azo compounds, epoxides, aldehydes, metal powders, chlorides, stainless steel, fluorides, halogenated organics, cyanides, sulfides, mercaptans, nitrides, metal phophides, acetylides, silicides, carbides, nitromethane, sodium tetrahydroborate, nitric and phosphoric acids, alcohols, glycols, amides, amines, carbamates, esters, ketones, phenols, cresols, organophosphates, unsaturated halides, potassium, strong bases.
Hazardous Decomposition Products	When heated to decomposition, irritating/toxic phosphorous oxides may be generated.

Section 11 - Toxicological Information

Acute Toxicity Estimate

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Zinc chloride (60%)	333 mg/kg (guinea pig)	Not Available	3,333 mg/m^3 (rat, 10 min.)
Phosphoric Acid	1530 mg/kg (rat)	>1260 mg/kg (rabbit)	213mg/m^3 (rat,4 hr)

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
ClearHib 11SDW	None of the substances in this product are listed as carcinogens by IARC, NTP or ACGIH.

Skin Corrosion/Irritation	Corrosive, severe irritant.
Ingestion	Although not a likely route of exposure, product would be corrosive to mouth, throat and stomach.
Inhalation	Not a likely route of exposure. Irritating, in high concentrations, to the eyes, nose, throat and lungs.
Serious Eye Damage/Irritation	Corrosive, severe irritant.
Respiratory or Skin Sensitization	Not a skin sensitizer.
Germ Cell Mutagenicity	There is no evidence that zinc chloride is mutagen in humans.
Reproductive Toxicity	Zinc chloride may produce reproductive effects based on animal studies only.
STOT-Single Exposure	Respiratory irritant.
STOT-Repeated Exposure	May cause liver damage.
Aspiration Hazard	Exposure to high zinc chloride concentrations produces a chemical pneumonitis.
Synergistic Materials	Not Available

Section 12 – Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Zinc Chloride	Not Available	LC_{50}(Oncorhynchus mykiss, 96hr): 0.093mg/L	EC_{50}(Daphnia magna, 72hr): 0.126mg/L
Phosphoric Acid	EC_{50}(Pseudokirchneriella subcapitata, 72hr): 32mg/L A	LC_{50}(Oryzias latipes, 96hr): 75.1mg/L	EC_{50}(Daphnia magna, 48hr): >376mg/L

Biodegradability	Not Available
Bioaccumulation	Not Available
Mobility	When spilled onto soil, phosphoric acid will infiltrate downward, the rate being greater with lower concentration because of reduced viscosity. During transport through the soil, phosphoric acid will dissolve some of the soil material, in particular, carbonate-based materials. The acid will be neutralized to some degree with adsorption of the proton and phosphate ions also possible. However, significant amounts of acid will remain for transport down toward the groundwater table. Upon reaching the groundwater table, the acid will continue to move in the direction of groundwater flow.
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	UN3264

UN Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid/Zinc Chloride)
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	May 12, 2017
Revision Date	2017 November 3

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
7) Ontario Ministry of Labour

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