Twin Pro Industrial
Safety Data Sheet

1.) IDENTIFICATION:

Product Name:	**Pond Wizard Algaecide**
Other Means of Identification:	Algaecide
Product Use and restrictions on use:	Algae treatment
Supplier Identifier:	Twin Industrial Holdings Ltd. O/A Twin Pro Industrial 731 – 30th Street North, Bay #2 Lethbridge, AB T1H 5G5 403-329-4878
Prepared by	Twin Pro Industrial
Emergency Phone	CANUTEC at 1-613-996-6666

2.) HAZARDS IDENTIFICATION

Signal Word

Danger

Hazard Statement

Harmful if swallowed.
Harmful in contact with skin
Irritant to skin and eyes
May cause respiratory irritation
May be fatal if inhaled
Causes serious eye damage

Physical Hazards

Signal Word

Warning

Hazards Statement

May be corrosive to metals

Pictograms

Precautionary Statements

Keep container dry.
Keep away from heat.
Keep away from sources of ignition.
Ground all equipment containing material
Do not eat, drink or smoke when using this product
Wash thoroughly after handling
Wear Protective gloves/clothing and eye/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Absorb spillage to prevent material damage
If On Skin (or hair): Remove/Take off immediately all contaminated clothing. Immediately flush skin with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately. Wash contaminated clothing before reuse.
If In Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
If Swallowed: Do NOT induce vomiting. Seek medical attention immediately.
If Inhaled: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
Store container tightly closed in well-ventilated place.

3.) Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Citric Acid	000077929	10 – 30%	Not available
Copper (II) Sulfate	007758-98-7	5 – 6%	Not available

4.) FIRST AID MEASURES

Inhalation: If inhaled, remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention.

Skin Contact/ Absorption In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cold water may be used. Wash clothing and shoes before reuse. Get medical attention immediately.

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, Cold water may be used. Get medical attention immediately.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention.

Additional Information Provide general supportive measures (comfort, warmth, rest).
Consult a doctor and/or the nearest Poison Control Centre for all exposures except minor instances of inhalation or skin contact. All first aid procedures should be periodically reviewed by a doctor familiar with the material and its condition of use in the workplace.

5.) FIRE – FIGHTING MEASURES

Suitable Extinguishing Media Small Fire: use Dry chemical powder
Large Fire: Use water spray, fog or foam.

Unsuitable extinguishing Media Do not use water jet.

Specific Hazards arising from The hazardous product Slightly flammable to flammable in presence of open flames and sparks, of heat.

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

Further Information Not Available

6.) ACCIDENTAL RELEASE MEASURES

Personal Precautions/Protective: Equipment/Emergency Procedures Wear appropriate personal protective equipment. Ventilate area. Only enter with PPE. Stop or reduce leak if safe to do so. Prevent material from entering sewers. Flush with water to remove any residue.

Methods and Material for Containment and Cleaning up Stop or reduce leak if safe to do so.
Small Spills: If necessary; neutralize the residue with a dilute solution of sodium carbonate. Absorb with an inert material and place in an appropriate waste disposal container.
Large Spills: Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water in side container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas: dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at concentration level above TLV.

7.) HANDLING AND STORAGE

Precautions for Safe Handling: Keep container dry. Keep away from heat. Keep away from sources if ignition. Empty containers pose a fire risk; evaporate the residue under a fume hood. Ground all equipment containing material. NO NOT ingest. Do not breathe gas/fumes/vapor/spray. Never add water to this product. Wear suitable protective clothing. If ingested seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as reducing agents.

Conditions for Safe Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

8.) EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Citric Acid	TWA	OSHA (PEL)	10 ppm
	TWA	ACGIH (TLV)	10 STEL: 15 ppm

Engineering Control(s) Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

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 recommended 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 suit, 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 MSHA / NIOSH approved respirator or equivalent.

Thermal Hazards Not Available

9.) PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Physical state	Liquid
Color	Green
Odor	Not Available
Odor Threshold	Not Available

Property:

pH(1% solution in water)	Acidic
Melting Point/Freezing Point	May start to solidify at 0ºC (32ºF) based on data for: Water
Initial Boiling Point/Boiling Range	Last known value is 100ºC (212ºF) (water)
Flash Point	Not Available
Upper Flammable Limit	Not Available
Lower Flammable Limit	Not Available
Vapor Pressure (mm Hg.20ºC)	The highest known value is 2.3 kPa (@20ºC) (Water)
Vapor Density (Air=1)	The highest known value is 1 (water)

Relative Density	Not Available
Solubility	Easily soluble in cold water, hot water, methanol. Very slightly soluble in diethyl ether.
Partition coefficient – N-octanol/water	Insoluble in n-octanol
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Viscosity	Not Available

10.) STABILITY AND REACTIVITY

Reactivity	Reactive with reducing agents. Slightly reactive to reactive with oxidizing agents, alkalis. Slightly corrosive in presence of steel, of aluminum, of zinc, of copper.
Stability	Stable under ordinary conditions of use and storage.
Possibility of Hazardous Reactions	Keep away from incompatibles such as reducing agents.
Conditions to Avoid	Keep away from open flames and sparks of heat.
Incompatible Materials	
Hazardous decomposition products	Hazardous products of decomposition: By Fire: Carbon monoxide, carbon dioxide, and other potentially toxic fumes. (Citric Acid)

11.) TOXICOLOGICAL PROPERTIES

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Citric Acid	5040 mg/kg (mouse) 3000 mg/kg (rat)		
Copper (II) Sulfate	300 mg/kg (Rat)		

Chronic Toxicity – Carcinogenicity

Skin Corrosion/Irritation	Very hazardous in case of skin contact (irritant). Skin contact may produce burns.
Ingestion	Hazardous in case of ingestion,
Inhalation	Hazardous in case of inhalation. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking or shortness of breath.
Serious Eye Damage/Irritation	Corrosive to eyes on contact. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract.
Respiratory or Skin Sensitization	Not Available
Germ Cell Mutagenicity	Not Available
Reproductive Toxicity	Not Available
STOT – Single Exposure	May cause respiratory irritation.
STOT – Repeated exposure	Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. /Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infections.
Aspiration Hazard	Not Available
Synergistic Materials	Not Available

12.) ECOLOGICAL INFORMATION

Exotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Copper (II) Sulfate	Not Available		24 hours, Daphnia magna equals 0.182 mg/l. Rainbow trout equals 0.17 mg/l. Blue Gill equals 1.5 mg/l. All values are expressed as Copper Sulfate Pentahydrate. Test water was soft.

Biodegradability Not Available

Bioaccumulation Not Available

Mobility Not Available

Other Adverse Effects Not Available

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.

14.) TRANSPORT INFORMATION

UN Number UN 1760
UN Proper Shipping Name Corrosive Liquids, N.O.S. (citric acid, copper sulfate)
Transport Hazard Class (es) 8 (9.2)
Packaging Group III
Environmental Hazards This product is regulated as an environmentally hazardous material when headed for disposal or when transported by ship because it is a marine pollutant.
Special Precautions The shipping document must indicate "Marine Pollutant" if transported by ship. (Copper sulfate)
Transport in Bulk Not Available

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.

15.) REGULATORY INFORMATION

NOTE: This product has been classified in accordance with the hazard criteria of the Canadian controlled products Regulations. This SDS contains all the information required by those regulations.

16. OTHER INFORMATION

Version 2 Preparation Date: Jan 15, 2016

USE THIS NUMBER IN CASE OF DANGEROUS GOODS EMERGENCY:
CANUTEC (613) 996-6666

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
Twin Industrial Holdings Ltd. 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.