

Think Purity Algaecide and Odour control

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I. Chemical Product Identification

MANUFACTURE'S NAME:	AxSys Direct Manufacturing
ADDRESS:	4523 – 97 Street, Edmonton, AB T6E 5Y8
EMERGENCY TELEPHONE NO.:	1-866-543-5276
TRADE NAME:	THINK PURITY ALGAECIDE
SYNONYMS:	ALGAECIDE
WHMIS CLASSIFICATION:	CLASS E: CORROSIVE LIQUID

II. Hazardous Ingredients & Toxicity

Material or Component:	%	CAS #:	Toxicity Data LD ₅₀ LC ₅₀ , species:
<i>CITRIC ACID</i>	10-30	000077929	ORAL (LD50) : Acute: 5040 mg/kg (Mouse). 3000mg/kg rat
<i>Copper (II) Sulfate</i>	5 - 6	007758-98-7	ORAL (LD50) : Acute: 300mg/kg (Rat). 369 mg/kg (mouse)
<i>Water</i>	40-70	7732-18-5	ORAL (LD50) : Acute: 99999 mg/kg (Rat) Chronic: 99999 mg/kg (Rat) Dermal (LD50) : Acute: 99999 mg/kg (Rat) Chronic: 99999 mg/kg (Rat)

III. Health Hazard Information

Potential Acute Health Effects:	
INHALATION	Hazardous
SKIN	Very Hazardous in case of skin contact (irritant)
EYE CONTACT	Very Hazardous in case of eye contact (irritant)
INGESTION	Hazardous. DO NOT induce vomiting.
Corrosive to skin and eyes on contact. Liquid or spray mist may produce tissue damage particularly on mucous membranes or eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or occasionally blistering.	
Potential Chronic Health Effects	
Carcinogenic Effects	Not Available
Mutagenic Effects	Not Available
Teratogenic Effects	Not Available
Developmental Toxicity	Not Available
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 infection.	

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IV. First Aid Measures

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
Skin Contact	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 before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Hazardous Skin Contact	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 before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Hazardous Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention.
Hazardous Ingestion	Not available.

V. Fire and Explosion Data

The Product is:	May be combustible at high temperature.
Auto-Ignition Temperature	Not available
Flash Points	Not available
Flammable Limits	Not available
Products of Combustion	These products are carbon oxides (CO, CO ₂)
Fire Hazards in Presence of Various Substances	Slightly flammable to flammable in presence of open flames and sparks, of heat.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks.
Fire fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.
Special Remarks on Fire Hazards	Not available.

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VI. Accidental Release Measures

Small Spill	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 Spill	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. Check TLV on the MSDS and with local authorities.

VII. Handling and Storage

Precautions	Keep container dry. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. DO 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.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

VIII. Exposure Controls/Personal Protection

Engineering Controls	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.
Personal Protection	Face shield. Full suit. Gloves. Boots. In case of insufficient ventilation, wear suitable respiratory equipment. Be sure to use a MSHA / NIOSH approved respirator or equivalent.
Personal Protection in Case of a Large Spill	Splash goggles. Full Suit. Boots. Gloves. Self contained breathing apparatus. Be sure to use a MSHA / NIOSH approved respirator or equivalent.
Exposure Limits	Acetic acid TWA: 10 (ppm) from OSHA (PEL) (United States) TWA: 10 STEL: 15 (ppm) from ACGIH (TLV) (United States)

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IX. Physical And Chemical Properties

<i>Physical State & Appearance</i>	Liquid. Odor – Not available Taste – Not available Color - Green
<i>Molecular Weight</i>	Not applicable
<i>pH (1% Soln/water)</i>	Acidic
<i>Boiling Point</i>	Lowest known value is 100°C (212°F) (Water)
<i>Melting Point</i>	May start to solidify at 0°C (32°F) based on data for: Water.
<i>Critical Temperature</i>	Not available
<i>Specific Gravity</i>	1.18 (Water = 1)
<i>Vapor Pressure</i>	The highest known value is 2.3 kPa (@20°C) (Water)
<i>Vapor Density</i>	The highest known value is 1 (Air = 1) (Water)
<i>Volatility</i>	100% (v/v). (Acetic acid.)
<i>Odor Threshold</i>	Not available.
<i>Evaporation rate</i>	Not available.
<i>Viscosity</i>	Not Available.
<i>Water/Oil Dist.</i>	The product is much more soluble in water.
<i>Ionicity (in Water)</i>	Not Available.
<i>Dispersion Properties</i>	See solubility in water, methanol.
<i>Solubility</i>	<i>Easily soluble in cold water, hot water, methanol. Very slightly soluble in diethyl ether. Insoluble in n-octanol.</i>

X. Stability and Reactivity Data

<i>Stability</i>	The product is stable
<i>Instability Temperature</i>	Not available
<i>Conditions of Instability</i>	Not available
<i>Incompatibility with various substances</i>	Reactive with reducing agents. Slightly reactive to reactive with oxidizing agents, alkalis.
<i>Corrosivity</i>	Slightly corrosive in presence of steel, of aluminum, of zinc, of copper.
<i>Special Remarks on Reactivity</i>	Hazardous products of decomposition: By Fire: carbon monoxide, carbon dioxide, other potentially toxic fumes. (Citric Acid)
<i>Special Remarks on Corrosivity</i>	Not available.
<i>Hazardous Polymerization</i>	Will not occur.

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XI: Toxicological Information

Routes of Entry	Skin contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 300 mg/kg (Rat) (Copper (II) Sulfate).
Chronic Effects on Humans	CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. 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 infection.
Other Toxic Effects on Humans	Very hazardous in case of skin contact (irritant), of eye contact (irritant). Hazardous in case of ingestion, of inhalation. Corrosive to skin and eyes on contact. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or occasionally blistering.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special remarks on other Toxic Effects on Humans	Persons with preexisting eye, skin or respiratory tract disorders may be more susceptible to the effects of this product. (Citric Acid)

XII: Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	These products are carbon oxides (CO, CO ₂) and water.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	Not available.

XIII: Disposal Considerations

Waste Disposal	Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.
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XIV: Transportation Information

TDG Classification	Class 8: Corrosive material Class 9.2: Environmentally hazardous material.
Shipping name	CORROSIVE LIQUIDS, N.O.S. (Citric acid, Copper sulfate)
PIN	UN1760
Packing Group	III
Special Provisions for Transport	This product is regulated as a environmentally hazardous material when headed for disposal or when transported by ship because it is a marine pollutant.

XV: Other Regulatory Information

Other Regulations	OHSA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
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XVI: Other Information

References	Not available.
Other Special Considerations	The shipping document must indicate "Marine Pollutant" If transported by ship. (Copper Sulfate)



PRODUCED BY:	DATE:	ADDRESS:
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