

# Copper Liquid 5.2% - SAFETY DATA SHEET

According to Canada Gazette, Part II, Hazardous Products Regulations



## SECTION 1: Identification of the substance/mixture and of the company/undertaking

<b>1.1. Product identifier</b>	
<b>Product name:</b>	Copper Liquid 5.2%
<b>Type of product:</b>	Bacteriostatic algaecide/Fungicide based on copper
<b>1.2. Relevant identified uses of the substance or mixture and uses advised against</b>	
<b>Identified uses:</b>	A bacteriostatic algaecide to control algae and anaerobic bacteria in organic waste water and sludge. Foliar Fungicide for application in Agricultural crops
<b>Uses advised against:</b>	Unless diluted to the correct concentration, this product is toxic to fish, aquatic invertebrates and some aquatic plants. See label for proper use.
<b>1.3. Details of the supplier of the safety data sheet</b>	
<b>Company:</b>	Advanced Greentech Ltd. 3628 w 5th Ave Vancouver, BC V6R 1S2 Canada
<b>Telephone:</b>	1-604-788-412
<b>Telefax:</b>	1-604-239-1199
<b>E-mail address:</b>	<a href="mailto:info@agreentechsolutions.ca">info@agreentechsolutions.ca</a>
<b>1.4. Emergency telephone number</b>	CANUTEC: 1-613-996-6666

## SECTION 2. Hazards identification

<b>2.1. Classification of the substance or mixture</b>	
<b>Classification according to part 2 of Hazardous Products Regulations:</b>	3264, packing group III, Corrosive Liquid, Acidic, Inorganic, N.O.S. (Sulphuric Acid, Copper Sulphate) Class 8, PG III, Marine Pollutant.
<b>2.2. Label elements</b>	
<b>Labelling according to part 3 of Hazardous Products Regulations:</b>	
<b>Hazard symbol(s):</b>	Corrosive.
<b>Signal word:</b>	None.
<b>Hazard statement(s):</b>	None.
<b>Precautionary statement(s):</b>	None.
<b>2.3. Other hazards</b>	Not applicable

## SECTION 3. Composition/information on ingredients

<b>3.1 Substances</b>	Copper 5.2% (active ingredient) CAS# 7758-98-7, present as copper sulphate pentahydrate CAS # 7758-99-8. The remaining ingredients liquid includes a mixture of sulphuric acid, stabilizers, buffering agents, sequestering agents, dispersing agents and water.
<b>3.2 Mixtures</b>	
<b>Hazardous components</b>	Sulphuric acid (3.1.% of the liquid)

## SECTION 4: First aid measures

<b>4.1. Description of first aid measures</b>	Inhalation: Move to fresh air. No hazards which require special first aid measures. Skin contact: Wash with soap and water, remove and wash contaminated clothing. Eye contact: Flush immediately with water for 15 minutes. Ingestion: Treat as sulfur base.
<b>4.2. Most important symptoms and effects, both acute and delayed</b>	Eyes: This product may cause eye irritation. Skin: Prolonged or repeated exposure may cause skin irritation. Ingestion: Swallowing this product may cause copper toxicity or sulfur allergies. Inhalation: Excessive exposure may cause irritation and/or allergies in the respiratory tract.
<b>4.3. Indication of any immediate medical attention and special treatment needed.</b>	None reasonably foreseeable.

## SECTION 5: Fire-fighting measures

<b>5.1. Extinguishing media</b>	
<b>Suitable extinguishing media:</b>	Non-flammable
<b>Unsuitable extinguishing media:</b>	Not applicable
<b>5.2. Special hazards arising from the substance or mixture</b>	
<b>Hazardous decomposition products:</b>	Sulfuric fumes may be generated by thermal decomposition
<b>5.3. Advice for fire-fighters</b>	
<b>Protective measures:</b>	Use protective clothing and chemical resistant goggles because of corrosive nature of product
<b>5.4. Other information</b>	Not applicable

## SECTION 6: Accidental release measures

<b>6.1. Personal precautions, protective equipment and emergency procedures</b>	
<b>Personal precautions:</b>	Aqueous solution that render surfaces slippery.
<b>Protective equipment:</b>	Use protective clothing & goggles.
<b>Emergency procedures:</b>	Keep people away from spill/leak. Provide adequate ventilation
<b>6.2. Environmental precautions</b>	As with all chemical products, do not flush into surface water. Avoid storing in excessive heat; expansion of container may occur creating spillage.
<b>6.3. Methods and material for containment and cleaning up</b>	
<b>Small spills:</b>	Contain spill. Prevent entry into water intakes, sewers and waterways. Flush with water into retaining area or container and dilute with water. Neutralize with sodium bicarbonate or lime. Provide adequate ventilation
<b>Large spills:</b>	Notify applicable Government Authority if spill is significant.
<b>Residues:</b>	Dilute away with water.
<b>6.4. Reference to other sections</b>	SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 9: Physical and chemical properties; SECTION 13: Disposal considerations;

## SECTION 7: Handling and storage

<b>7.1. Precautions for safe handling</b>	Use protective clothing & goggles. Provide adequate ventilation
<b>7.2. Conditions for safe storage, including any incompatibilities.</b>	Store in covered area. Do not allow the product to freeze. Protect containment from physical damage. Store in well ventilated area. Use protective clothing & goggles.
<b>7.3. Specific end use(s)</b>	None

## SECTION 8. Exposure controls/personal protection

<b>8.1. Control parameters</b>	
<b>Occupational exposure limits:</b>	None
<b>8.2. Exposure controls</b>	
<b>Appropriate engineering controls:</b>	Not applicable.
<b>Individual protection measures, such as personal protective equipment:</b>	a) Eye/face protection: Use safety goggles e) Additional advice: Handle in accordance with good industrial hygiene and safety practice. c) Hand protection: PVC or other plastic material gloves. b) Skin protection: Workclothes protecting arms, legs and body. d) Respiratory protection: No personal respiratory protective equipment normally required.
<b>Environmental exposure controls:</b>	Do not allow to enter water, wastewater or soil except as allowed by local and national regulations.

## SECTION 9. Physical and chemical properties

<b>9.1. Information on basic physical and chemical properties</b>	
<b>a) Appearance:</b>	Clear, blue liquid
<b>b) Odour:</b>	Mild
<b>c) Odour Threshold:</b>	Not applicable.
<b>d) pH:</b>	0.7 (buffered)
<b>e) Melting point/freezing point:</b>	0°C
<b>f) Initial boiling point and boiling range:</b>	104°C
<b>g) Flash point:</b>	Not applicable.
<b>h) Evaporation rate:</b>	Not applicable.
<b>i) Flammability (solid, gas):</b>	Not applicable.
<b>j) Upper/lower flammability or explosive limits:</b>	Not applicable.
<b>k) Vapour pressure:</b>	Not applicable.
<b>l) Vapour density:</b>	Not applicable.
<b>m) Relative density:</b>	0.6 - 0.9
<b>n) Solubility(ies):</b>	Soluble in water.
<b>o) Partition coefficient:</b>	Not known
<b>p) Autoignition temperature:</b>	Does not self-ignite (based on the chemical structure).
<b>q) Decomposition temperature:</b>	Not applicable.
<b>r) Viscosity:</b>	Not known
<b>s) Explosive properties:</b>	Not applicable.
<b>t) Oxidizing properties:</b>	Not applicable.
<b>9.2. Other information</b>	None

## SECTION 10. Stability and reactivity

<b>10.1. Reactivity</b>	Chelates Iron, Zinc, Magnesium, Manganese, Copper, Silver & other metals.
<b>10.2. Chemical stability</b>	Very stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	No
<b>10.4. Conditions to avoid</b>	Avoid freezing
<b>10.5. Incompatible materials</b>	Avoid mixing with strong bases
<b>10.6. Hazardous decomposition products</b>	Sulfuric fumes may be generated by thermal decomposition

## SECTION 11. Toxicological information

### 11.1. Information on toxicological effects

<b>Acute oral toxicity:</b>	LD 50 (Oral, Rat) Category III – 1.57 g/kg
<b>Acute dermal toxicity:</b>	LD 50 (Dermal, Rat) Category III – 2.0 g/kg
<b>Acute inhalation toxicity:</b>	Irritation of mucous membranes, coughing, difficulty breathing
<b>Skin corrosion/irritation:</b>	Irritation, redness, lesions with extended exposure
<b>Serious eye damage/eye irritation:</b>	Inflammation of mucous membranes
<b>Respiratory/skin sensitisation:</b>	Not sensitizing.
<b>Mutagenicity:</b>	Not mutagenic.
<b>Carcinogenicity:</b>	Not carcinogenic.
<b>Reproductive toxicity:</b>	Not toxic for human reproduction.
<b>STOT - single exposure:</b>	No known effects.
<b>STOT - repeated exposure:</b>	No known effects.
<b>Aspiration hazard:</b>	No hazards resulting from the material as supplied.

## SECTION 12. Ecological information

### 12.1. Toxicity

<b>Acute toxicity to fish:</b>	Salmon LC 50: 0.025 – 0.20 mg per litre/96 hours.
<b>Acute toxicity to invertebrates:</b>	Daphnia sp. LC 50: 0.08 mg per litre/96 hours
<b>Acute toxicity to algae:</b>	Sc. basilensis inhibitory concentration 0.20 mg per litre
<b>Chronic toxicity to fish:</b>	Not available
<b>Chronic toxicity to invertebrates:</b>	Not available
<b>Toxicity to microorganisms:</b>	Not available
<b>Effects on terrestrial organisms:</b>	Not available
<b>Sediment toxicity:</b>	Not available

### 12.2. Persistence and degradability

<b>Degradation:</b>	Not available
<b>Hydrolysis:</b>	Not available
<b>Photolysis:</b>	Not available

### 12.3. Bioaccumulative potential

<b>Partition co-efficient (Log Pow):</b>	Not available
<b>Bioconcentration factor (BCF):</b>	Not available

### 12.4. Mobility in soil

Not available

### 12.5. Other adverse effects

Not available

## SECTION 13. Disposal considerations

### 13.1. Waste treatment methods

<b>Waste from residues / unused products:</b>	Neutralize with sodium bicarbonate or lime and dispose of as fertilizer. Disposal may be subject to local regulation.
<b>Contaminated packaging:</b>	Rinse empty containers with water. Dispose in accordance with local and national regulations.
<b>Recycling:</b>	The product and its packaging are not suitable for recycling.

## SECTION 14. Transport information

14.1 UN number	3264
14.2 UN shipping name	Corrosive Liquid, Acidic, Inorganic, N.O.S. (Sulphuric Acid, Copper Sulphate)
14.3 Transport hazard class	8
14.4 Packing group	III
14.5 Environmental hazards	Marine Pollutant
14.6 Transport in bulk	No
14.7 Special precautions	None

## SECTION 15. Regulatory information

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Maximum use level will vary according to application. Refer to product label.

## SECTION 16. Other information

### **16.1 Publishing Date:**

2017-03-07

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