



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US - OSHA Hazard Communication Standard (29 CFR 1910.1200)

Issuing Date 14-May-2024

Revision Date 13-May-2024

Revision Number 1

1. Identification

Product identifier

Product Name Copper Algaecide

Other means of identification

UN/ID no UN3077

Synonyms FROG 90-Day Algae Barrier

Recommended use of the chemical and restrictions on use

Recommended use Swimming pool algaecide

Restrictions on use Consumer use. Use only for intended applications

Details of the supplier of the safety data sheet

Manufacturer Address

King Technology, Inc.
6000 Clearwater Dr.
Minnetonka, MN 55343
+1 (952) 933-6118

E-mail sdsinfo@kingtechnology.com

Emergency telephone number

Emergency telephone CHEMTREC Emergency Tel. #: 1-800-424-9300 (Canada and USA)

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1

Hazards not otherwise classified (HNOC)

Not applicable.

Label elements

Warning

**Hazard statements**

Harmful if swallowed.

Harmful in contact with skin.

Harmful if inhaled.

Causes serious eye irritation.

May cause an allergic skin reaction.

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/clothing and eye/face protection.

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of water and soap.

Call a POISON CENTER or doctor if you feel unwell.

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor if you feel unwell.

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

Rinse mouth.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other information

Causes mild skin irritation. Very toxic to aquatic life with long lasting effects.

3. Composition/information on ingredients**Substance**

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%	Trade secret
Copper (II) sulfate pentahydrate (1:1:5)	7758-99-8	50-56	*
Ethylenediaminetetraacetic acid (EDTA)	60-00-4	10-11	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	Wash with soap and water. May cause an allergic skin reaction. Wash off immediately with plenty of water for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms	Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation. Prolonged contact may cause redness and irritation. Coughing and/ or wheezing. Difficulty in breathing.
Effects of Exposure	No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by skin contact.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away
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from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.

Other information

Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Pick up and transfer to properly labeled containers.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage**Precautions for safe handling****Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid generation of dust.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Protect from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

8. Exposure controls/personal protection**Control parameters****Exposure Limits**

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	TWA: 1 mg/m ³ Cu dust and mist	-	IDLH: 100 mg/m ³ Cu dust and mist TWA: 1 mg/m ³ Cu dust and mist

Appropriate engineering controls**Engineering controls**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Hand protection

Wear suitable gloves.

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors/spray.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Mixture of blue and white/off-white crystals
Physical state	Solid
Color	Blue and white
Odor	Odorless
Odor threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	2.27	
pH (as aqueous solution)		No data available
Melting point / freezing point		No data available
Initial boiling point and boiling range		No data available
Flash point		No data available
Evaporation rate		No data available
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits		No data available
Lower flammability or explosive limits		No data available
Vapor pressure		No data available
Relative vapor density		No data available
Relative density	1.04 g/mL	
Water solubility	Soluble in water	
Solubility(ies)		No data available
Partition coefficient		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	None under normal use conditions.
Chemical stability	Stable at room temperature.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Avoid storing near oxidizing or reducing agents. Do not store near sources of intense heat or where freezing is possible. Excessive heat.

Incompatible materials Hydroxylamine, Magnesium. Corrodes steel, iron.

Hazardous decomposition products Sulfur oxides, Copper oxides.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

Skin contact Specific test data for the substance or mixture is not available. May cause irritation. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Prolonged contact may cause redness and irritation. Causes mild skin irritation. May be absorbed through the skin in harmful amounts. Harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Itching. Rashes. Hives. May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation. Coughing and/ or wheezing.

Acute toxicity Harmful if swallowed. Harmful by skin contact. Harmful by inhalation.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document:
ATEmix (dermal) 1,100 mg/kg

Oral LD50 550 mg/kg EPA AOT425
Inhalation LC50 2.09 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	= 960 mg/kg (Rat)	> 8 g/kg (Rabbit)	-
Ethylenediaminetetraacetic acid (EDTA) 60-00-4	> 2000 mg/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes mild skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Other adverse effects	No information available.
Interactive effects	No information available.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	-	LC50: 0.66 - 1.15mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 0.96 - 1.8mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 0.1478 - 0.165mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 0.09 - 0.19mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =0.6752mg/L (96h, <i>Pimephales promelas</i>)	-	EC50: 0.147 - 0.227mg/L (48h, <i>Daphnia magna</i>)
Ethylenediaminetetraacetic acid (EDTA) 60-00-4	EC50: =1.01mg/L (72h, <i>Desmodesmus subspicatus</i>)	LC50: 34 - 62mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 44.2 - 76.5mg/L (96h, <i>Pimephales promelas</i>)	-	EC50: =113mg/L (48h, <i>Daphnia magna</i>)

Persistence and degradability	No information available.
Bioaccumulation	No information available.
Mobility	No information available.
Other adverse effects	No information available.

13. Disposal considerations

Disposal methods**Waste from residues/unused products**

General Information: If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Do not contaminate water, food, or feed by storage, disposal, or cleaning of equipment. Do not put product, spilled product, or filler or partially filled containers into the trash or waste compactor.

Contaminated packaging

Do not reuse empty containers. Rinse thoroughly before discarding in trash.

14. Transport information**Note:**

General: In small packages, such as most consumer sizes, the products may be eligible for limited quantity exceptions. Details depend on package and mode of transport. If shipped in larger quantities, product is fully regulated as defined below.

DOT

UN/ID no	UN3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport hazard class(es)	9
Packing group	III
Special Provisions	8, 146, 335, 384, 441, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33
DOT Marine Pollutant	M
Marine pollutant	
Description	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III

IATA

UN number or ID number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Transport hazard class(es)	9
Packing group	III
Description	UN3077, Environmentally hazardous substance, solid, n.o.s., 9, III
Special Provisions	A97, A158, A179, A197, A215
ERG Code	9L

IMDG

UN number or ID number	UN3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport hazard class(es)	9
Packing group	III
Marine pollutant	P M
Description	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, Marine pollutant
Special Provisions	274, 335, 966, 967, 969 F-A S-F

15. Regulatory information**International Inventories**

Contact supplier for inventory compliance status

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Copper (II) sulfate pentahydrate (1:1:5) - 7758-99-8	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	-	X	-	-
Ethylenediaminetetraacetic acid (EDTA) 60-00-4	5000 lb	-	-	X

CERCLA

Does not apply.

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Ethylenediaminetetraacetic acid (EDTA) 60-00-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	X	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number 53735-TBD

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:.

EPA Pesticide Label

Signal Word: Danger. Hazard Statements: Corrosive: Causes irreversible eye damage. Harmful if swallowed or absorbed through skin. May be harmful if inhaled. Do not get in eyes, on skin or on clothing. Avoid breathing dusts and fumes. Wear goggles, face shield or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated

clothing before reuse. Do not store near any oxidizing or reducing agents. This product is toxic to fish and aquatic invertebrates. Treated effluent should not be discharged in lakes, ponds or public water. Keep out of reach of children.

16. Other information

NFPA	Health hazards 3	Flammability 0	Instability 0	Special hazards -
HMIS	Health hazards 3	Flammability 0	Physical hazards 0	Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Revision Note Initial Release.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other

materials or in any process, unless specified in the text.

End of Safety Data Sheet