Trade name: Lake Guard™ Blue

SECTION 1: Identification

Product identifier used on the label:
Product Name: **Lake Guard™ Blue**

Other means of identification:

Product Code Number:

Recommended use of the chemical and restrictions on use:

Recommended use: Algaecide, biocide.
Recommended restrictions: Uses other than as recommended above.

Certified to NSF/ANSI/CAN 60
Baar-Ebenhausen, Germany
Per NSF criteria, maximum usage level of this product in portable water is 4.0 ppm

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

Company Name: BlueGreen Water Technologies Ltd.
Company Address: 3/15 Kachal St.
Tzur Hadassah
9987500
Israel
Company Telephone: +972-2-6301166

Company Contact Email: info@bgtechs.com

Emergency phone number: +1-800-255-3924

SECTION 2: Hazard(s) identification

UNITED STATES:
Classification of the chemical in accordance with paragraph (d) of §1910.1200:

Physical hazards
No physical hazards under OSHA paragraph (d) of §1910.1200

Health hazards
Acute Toxicity, Oral, Category 2.
Acute Toxicity, Dermal, Category 4.
Serious eye damage, Category 1.
Acute Toxicity, Inhalation, Category 4.

Environmental hazards

Hazardous to the aquatic environment – short-term (acute) aquatic hazard, Category 1.
Hazardous to the aquatic environment – long-term (chronic) aquatic hazard, Category 1.

GHS Signal word: **DANGER.**

GHS Hazard statement(s):
Fatal if swallowed.
Harmful in contact with skin or if inhaled.
Causes serious eye damage.
Very toxic to aquatic life with long lasting effects.

GHS Hazard symbol(s):

GHS Precautionary statement(s):

Prevention:

- Avoid breathing dust/fume/gas/mist/ vapors/spray
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection/face protection.

Response:

- If swallowed: Immediately call a poison center/doctor.
- If on skin: Wash with plenty of water.
- If inhaled: Remove person to fresh air and keep comfortable for breathing.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a poison center/doctor.
- Rinse mouth.
- Take off contaminated clothing and wash it before reuse.
- Collect spillage.

Storage:

- Store locked up.

Disposal:

- Dispose of contents/containers to an approved disposal site in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC):
None known.

Percentage of ingredient(s) of unknown acute toxicity:
5% of the mixture consists of ingredients of unknown acute toxicity (oral).
5% of the mixture consists of ingredients of unknown acute toxicity (dermal).
100% of the mixture consists of ingredients of unknown acute toxicity (inhalation).

SECTION 3: Composition/information on ingredients

Mixture:

Chemical name	CAS#	Concentration (weight %)
Copper sulphate pentahydrate	7758-99-8	95%
Other ingredients*	Proprietary	5%

*Note: The exact concentration has been withheld as a trade secret.
The balance of the ingredients is not classified as hazardous or are below the concentration limit to be classified as hazardous, under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

SECTION 4: First-aid measures

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion:

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything to an unconscious person.

Most important symptoms/effects, acute and delayed:
Fatal if swallowed. Harmful in contact with skin or if inhaled. Causes serious eye damage.

Indication of immediate medical attention and special treatment needed:
Have the product container or label with you when calling a poison control center, doctor, or going for treatment. For non-emergency information concerning this product, call the National Pesticides

Information Center (NPIC) at 1-800-858-7378 (NPIC Web site: www.npic.orst.edu). For emergencies, call the poison control center 1-800-222-1222.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media:
Suitable extinguishing media: Use water spray / jet, dry chemical or carbon dioxide as suitable for surrounding materials. This material is not flammable.
Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):
During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion.

Hazardous combustion products: carbon oxides, copper oxides.

Special protective equipment and precautions for fire-fighters:
Wear self-contained breathing apparatus and protective clothing. Fight fire from a protected location. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Keep unnecessary and unprotected personnel from entering. Wear appropriate personal protective equipment, such as gloves, goggles and protective clothing, as conditions warrant (see Section 8). Ensure adequate ventilation. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Materials can enter waterways through drainage systems.

Environmental Hazards
This pesticide is toxic to fish and aquatic invertebrates. Waters treated with this product may be hazardous to aquatic organisms. Treatment of aquatic weeds and algae can result in oxygen loss from decomposition of dead algae and weeds. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than 1⁄2 of the water body to avoid depletion of oxygen due to decaying vegetation. Wait at least 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Consult with the State or local agency with primary responsibility for regulating pesticides before applying to public waters, to determine if a permit is required.
Certain water conditions including low pH (≤ 6.5), low dissolved organic carbon (DOC) levels (3.0 mg/L or lower), and “soft” waters (i.e., alkalinity less than 50 mg/L) increases the potential acute toxicity to non-target aquatic organisms.

Methods and materials for containment and cleaning up:
Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Collect material in specially marked, tightly closing containers. Dispose of waste in accordance to local, state and federal regulations.

SECTION 7: Handling and storage

Precautions for safe handling:
Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

Conditions for safe storage, including any incompatibles:
Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Keep pesticide in original container. Do not use in food or drink containers.

PESTICIDE DISPOSAL: Pesticide wastes may be hazardous. Improper disposal of excess pesticide, spray, mixture or rinsate is a violation of Federal Law. 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.

CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment, then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration.

SECTION 8: Exposure controls/personal protection

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.

US OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200) (Table Z-1 Limits for Air Contaminants):		
Substance	**PEL-TWA (8 hour)**	**PEL-STEL (15 min)**
Copper sulphate pentahydrate	n/a	n/a

US ACGIH Threshold Limit Values		
Substance	**TLV-TWA (8 hour)**	**TLV-STEL (15 min)**
Copper sulphate pentahydrate	1 mg/m3 (as copper)	n/a

Appropriate engineering controls: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Use goggles and a face shield that has been tested and approved under appropriate government standards such as NIOSH(US).

Skin and hand protection:
Mixers, loaders, applicators, and other handlers must wear the following:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Goggles or face shield

Some materials that are chemical-resistant to this product are polyvinyl chloride, nitrile rubber, or butyl rubber. If you want more options, follow the instructions for category A on an EPA chemical resistance category selection chart.
Discard clothing and other absorbent materials that have been drenched or heavily contaminated by this product. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Respiratory protection: Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US).
Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

General hygiene considerations: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9: Physical and chemical properties

Appearance (physical state, color, etc.):	
Physical state:	Solid (Crystals)
Color:	Blue
Odor:	Odorless
Odor threshold:	Not available
pH:	3.5-4.5 (dissolution of 10%, 20ºC)
Melting point/freezing point:	Not available
Initial boiling point and	

boiling range:	Decomposes without melting at 110ºC
Flash point:	Not applicable to an inorganic solid
Evaporation rate:	Not applicable to an inorganic solid
Flammability (solid, gas):	Not flammable
Upper/lower flammability or explosive limits	
Flammability limit – lower %):	Not applicable
Flammability limit – upper (%):	Not applicable
Explosive limit – lower (%):	Not applicable
Explosive limit – upper (%):	Not applicable
Vapor pressure:	Not applicable to inorganic solid at environmentally relevant temperatures
Vapor density:	Not applicable to inorganic solid at environmentally relevant temperatures
Relative density (Specific Gravity):	2.23 g/cm^3
Solubility (ies):	Slow releasing within 6-12 hours
Partition coefficient (n-octanol/water):	Not available
Auto-ignition temperature:	No auto-ignition
Decomposition temperature:	>110 ºC
Viscosity (dynamic):	Not available

SECTION 10: Stability and reactivity

Reactivity:	Not reactive.
Chemical stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous reactions are not expected under normal temperature and pressures.
Conditions to avoid:	Avoid extreme temperatures.
Incompatible materials:	No data of incompatible materials known.
Hazardous decomposition Products:	None, when stored and handled appropriately. Formation of toxic gases is possible in case of fire.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation:	Not expected to be a route of entry.
Ingestion:	Expected to be a route of entry.
Skin:	Expected to be a route of entry.
Eyes:	Expected to be a route of entry.
Target Organs:	None known.

Symptoms related to the physical, chemical, and toxicological characteristics:
Fatal if swallowed. Harmful in contact with skin or if inhaled. Causes serious eye damage.

Delayed and immediate effects and chronic effects from short or long-term exposure:
None known.

Numerical measures of toxicity (such as acute toxicity estimates):

Ingredient Information:

Substance	Test Type (species)	Value
Copper sulphate pentahydrate	LD_{50} Oral (Rat)	481 mg/kg
	LD_{50} Dermal (Rat)	> 2000 mg/kg
	LC_{50} Inhalation (Rat)	No data available

Skin corrosion/irritation: Not expected to cause skin corrosion/irritation.

Serious eye damage/eye irritation: Causes serious eye damage.

Respiratory sensitization: Not expected.

Skin sensitization: Not expected to cause skin sensitization.

Germ cell mutagenicity: Not expected to cause germ cell mutagenicity.

Carcinogenicity: IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable. possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Not expected to cause reproductive toxicity.

Specific target organ toxicity-Single exposure: Not expected to cause Specific target organ toxicity after a single exposure.

Specific target organ toxicity-Repeat exposure: Not expected to cause Specific target organ toxicity after repeated exposure.

Aspiration hazard: Not expected to be an aspiration hazard.

SECTION 12: Ecological information

Ecotoxicity (aquatic and terrestrial, where available):

Product data: Very toxic to aquatic life with long lasting effects.

Ingredient Information:

Substance	Test Type	Species	Value
Copper sulphate pentahydrate	LC_{50}	Fish - Pimephales promelas (fathead minnow)	0.230 mg/L – 96 h
	EC_{50}	Daphnia magna (water flea)	0.007-0.2 mg/L – 48 h
	EC_{50}	Algae - Pseudokirchneriella subcapitata	0.032 mg/L – 7 d

Persistence and Degradability: Not established.

Bioaccumulative Potential: Not established.

Mobility in Soil: Not established.

Other adverse effects (such as hazardous to the ozone layer): Very toxic to aquatic organisms.

SECTION 13: Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

Product - Pesticide wastes may be hazardous. Improper disposal of excess pesticide, spray, mixture or rinsate is a violation of Federal Law. 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.

Contaminated packaging - Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment, then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration.

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)
UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, N.O.S. 9, III.

Canada TDG
UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, N.O.S. 9, III.

IMDG (Transport by sea)

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, N.O.S. 9, III.

IATA (Transport by air)
UN3077, Environmentally hazardous substance, solid, n.o.s. 9, III.

Environmental hazards
Marine pollutant: Yes

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)
No further relevant information available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.
No data available.

SECTION 15: Regulatory Information

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is hazardous under OSHA.

Toxic Substances Control Act (TSCA) – All the ingredients are listed/registered or exempted on the U.S. EPA TSCA Inventory List.

STATE REGULATIONS:

This SDS does not contain specific health and safety data that is applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

SARA 302 Components:
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:
The following components are subject to reporting levels established by SARA Title III, Section 313:
Copper sulphate pentahydrate CAS-No. 7758-99-8

SARA 311/312 Hazards:
Acute toxicity
Serious eye damage or eye irritation

Massachusetts Right to Know Components:
Copper sulphate pentahydrate CAS-No. 7758-99-8

Pennsylvania Right to Know Components:
Copper sulphate pentahydrate CAS-No. 7758-99-8

New Jersey Right to Know Components:
Copper sulphate pentahydrate CAS-No. 7758-99-8

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986) Components:
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other Information

Revision Date: May 17, 2020

DISCLAIMER:
ATTENTION: These Safety Data Sheets are provided for general information only.
This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness.
NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR
PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE CONCERNING THE INFORMATION HEREIN PROVIDED.
It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.