OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION
WASHINGTON, D.C. 20460

July 15, 2024

Timothy Joseph
Regulatory Agent
SSI Corporation
c/o Landis International, Inc.
P.O. Box 5126
Valdosta, GA 31603-5126

Subject: PRIA Label Amendment – Revision of acute toxicity rating using new acute eye irritation study.
Product Name: Coperlate
EPA Registration Number: 65109-1
Application Date: 02/24/2023
Case Number: 482604

Dear Timothy Joseph:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. “To distribute or sell” is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ

from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact James Orrock by phone at 202-566-2862 or by email at orrock.james@epa.gov.

Sincerely,

Kristy Crews

Kristy Crews, Ph.D., Product Manager 22
Fungicide Branch, Registration Division (7505T)
Office of Pesticide Programs, USEPA

Enclosure- Stamped Label

COPPER	GROUP	NON-CLASSIFIED	HERBICIDE

COPERLATE™

ALGAECIDE/BACTERICIDE*

FOR LAKES, PONDS, RESERVOIRS, CANALS, LAGOONS, IMPOUNDED WATER, DITCHES, STREAMS, IRRIGATION, COOLING TOWERS, AQUACULTURE SYSTEMS, AND RICE FIELDS

* Non-Public Health

9.9 Lbs. Per Gallon / 1.188 Kg/L

ACTIVE INGREDIENTS

Copper Sulfate Pentahydrate** 20%
Other Ingredients 80%
TOTAL 100%
**Metallic Copper Equivalent 5.1%
CAS # 7758-99-8

Manufactured By:
SSI Corporation
210 S. Cedar
Julesburg, CO 80737
970.474.0974

Contains 0.51 lbs. metallic copper per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

(Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detaile).
(If you do not understand this label, find someone to explain it to you in detail).

FIRST AID	
IF SWALLOWED:	• 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 do so by a poison control center or doctor. • Do not give anything to an unconscious person.
IF ON SKIN OR CLOTHING:	• 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.
IF IN EYES:	• 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.
IF INHALED:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth, if possible. • Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information concerning this product, you may also contact the National Pesticides Information Center (NPIC) at 1-800-858-7378, Monday - Friday, 7:30 am to 3:30 pm Pacific Time (NPIC Web site: www.npic.orst.edu). For medical emergency treatment, call 1-800-222-1222.	

Non-Flammable. Do Not Freeze.

EPA Reg. No. 65109-1

EPA Est. No. 65109-CO-001

ACCEPTED
07/15/2024
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 65109-1

Net Contents: FIFTY-FIVE (55) U.S. GALLONS

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed, absorbed through skin, or inhaled. Avoid breathing vapor or spray mist. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. 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.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, Loaders, Applicators, and other handlers must wear the following:

- Long sleeved shirt and long pants,
- Shoes, plus socks,
- Chemical resistant gloves made of: barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride ≥14 mils, or viton ≥14 mils and
- Goggles or face shield.

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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

For applications in waters destined for use as drinking water, those waters must receive additional and separate potable water treatment. Do not apply more than 1.0 ppm as metallic copper in these waters.

Engineering Controls: Pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides [40CFR 170.305].

USER SAFETY RECOMMENDATIONS

User must wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
User must remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
User should remove PPE immediately after handling this product. Wash the outside gloves before removing. As soon as possible, was thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

Fish Advisory: This pesticide is toxic to fish and aquatic organisms. Unlike most organic pesticides, copper is an element and will not break down in the environment and will therefore accumulate in sediment with repeated applications. Copper is a micronutrient, but its pesticidal application rate exceeds the amount of copper needed as a nutrient. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. For terrestrial uses, do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash-waters or rinsate.

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 organism.

Do not use in ornamental fish ponds or other artificial aquaculture systems containing Koi or trout.

To protect listed species in California, contact your County Agricultural Commissioner or refer to the Department of Pesticide Regulation's PRESCRIBE Internet Database: http://www.cdpr.ca.gov/docs/endspec/prescint.htm

APPLICATION AND HANDLING EQUIPMENT

Application, handling or storage equipment MUST consist of either fiberglass, PVCs, polypropylenes, most plastics, or stainless steel. Never use mild steel, nylon, brass, aluminum or copper around, or to store or handle full strength COPERLATE. Always rinse equipment free and clean of **COPERLATE** each night with plenty of fresh clean water.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Do not enter or allow others to enter until sprays have dried. Only protected handlers may be in the area during application. For any requirement specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on the label about personal protective equipment (PPE), restricted re-entry intervals, and notification to workers.

Do not enter or allow entry into treated areas during **restricted entry interval (REI) of 48 hours.**

PPE required for early entry into treated areas, that is permitted by the Worker Protection Standard, and that involves contact with anything that has been treated, such as soil or water is:

- Coveralls
- Shoes plus socks
  - Chemical resistant gloves made of: barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride ≥14 mils, or viton ≥14 mils
- Protective eyewear.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g. ground, aerial, airblast, and chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size: Apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed: Do not apply at wind speeds greater than 10 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Other State and Local Requirements: Applicators must follow all state and local pesticide requirements regarding application of copper compounds. Where states have more stringent regulations, they must be observed.

Equipment: All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

For aerial applications:

- Do not release spray at a height greater than 10 feet above the water unless a greater application height is necessary for pilot safety.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speed exceeds 15mph at the application site. If the windspeed is greater than 10mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the application area.
- Do not apply during temperature inversions.

For ground boom application:

- Apply with the spray release height recommended by the manufacturer, but no more than 4 feet above the water surface.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE
An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable conditions.

Controlling Droplet Size – Ground Boom

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

- Adjust Nozzles – Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT – Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT – Aircraft

Higher release heights increase the potential for spray drift. When applying aerially to crops, do not release spray at a height greater than 10 ft. above the crop canopy, unless a greater application height is necessary for pilot safety.

SHIELDED SPRAYERS

Shielded the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.
Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

RESTRICTIONS

Pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides [40CFR 170.305].

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, **COPERLATE** contains a Non-classified herbicide, copper sulfate pentahydrate. Any algae/bacterial* population may contain individuals naturally resistant to **COPERLATE** and other non-classified herbicides. A gradual or total loss of pest control may occur over time if these algaecides/bactericides* are use repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay algaecide/bactericide* resistance, take one or more of the following steps:

- Rotate the use of **COPERLATE** or other non-classified herbicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for algaecide/bactericide* use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease developments, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time algaecide/bactericide* applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated algae/bacteria* populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific aquatic areas and pathogens.
- For further information or to report suspected resistance contact your pesticide distributor or university extension specialist to report resistance.

Water bodies or management units should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective. Water bodies or management units should be scouted after application to verify that the treatment was effective.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

Report any incidence of non-performance of this product against a particular weed species to your **COPERLATE** retailer or representative (SSI Corporation Contact Number: 970.474.0974). If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further reproduction.

Implement the Early Detection, Rapid Response practice and Maintenance Control by using the following practices where possible:

- Identify weeds present in a management unit through scouting or history of the water body and understand the biology of target species.
- Applications should target weeds when populations are small and there is low biomass, early in the season to maximize efficacy.
- Applications should be made so that the herbicide contacts the weed. Use the appropriate application method for the use site/weed/chemical combination.
- Weed escapes should not be allowed to go to seed or product asexual vegetative propagules.
- Use a diversified approach toward weed management. Whenever possible, incorporate multiple weed-control practices such as mechanical control, biological management practices, and rotation of MOAs.
- Time applications to have the highest probability for control and minimize need for follow-up control measures. Apply during conditions that minimize herbicide degradation (light/temperature/microbes) and/or dissipation (water exchange).

Contact your local sales representative, local water management agency, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of actions for each target weed.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

PRODUCT INFORMATION

COPERLATE is used for the suppression of bacterial odors and toxic gases in sewage lagoons, feedlot run-off pits, animal confinement facilities and other ponds containing organic matter or algae/bacteria. **COPERLATE** may also be used to control algae and bacteria in irrigation reservoirs, ponds, aquaculture systems and potable water supplies. Do not apply more than maximum annual application rate of 21.9 lbs metallic copper (42.9 gal **COPERLATE)** per acre-foot per year (8 applications per year at up to 1ppm (0.51 lbs) metallic copper per application). In still waters, **COPERLATE** has a vertical dispersion rate of 20 feet per hour and a horizontal dispersion rate of 25 feet per hour. In flowing waters, dispersion is faster depending on turbulence and velocity of flow.
Do not apply more than 0.51 lbs metallic copper (1 gal **COPERLATE**) per application. Do not make applications less than 14 days apart.

AQUATIC USES (EXCLUDING SWIMMING POOLS, SPAS, HOT TUBS, FOUNTAINS AND AQUATIC AGRICULTURE): 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 biomass. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than ½ of the water body (excluding water infrastructure and constructed conveyances such as drainage canals, ditches and pipelines or intakes and aqueducts for drinking water or irrigation use) to avoid depletion of oxygen due to decaying vegetation.

Wait at least 14 days between treatments. Begin treatment along the shore and proceed outward 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. Application of algaecides to high density bloom of cyanobacteria can result in the release of intracellular contents into the water. Some of these intracellular compounds are known mammalian hepato- and nervous system toxins. Therefore, to minimize the risk of toxin leakage, manage cyanobacteria effectively in order to avoid applying this product when blooms of toxin-producing cyanobacteria are present at high density. In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply copper at intervals shorter than 14 days should the circumstance demand.

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. The application rates on this label are appropriate for water with pH values >6.5, DOC levels >3.0 mg/L, and alkalinity greater than 50 mg/L. Avoid treating waters with pH values <6.5, DOC levels <3.0, and alkalinity less than 50 ppm (e.g., soft or acid waters), as trout and other sensitive species of fish may be killed under such conditions if present.

Consult your state department of natural resources or fish and game agency before applying this product to public waters. Permits may be required before treating such waters.

PRE-APPLICATION DOSE DETERMINATION: For algae and aquatic plant treatments, applicators should conduct initial dose determination tests simulating a full-scale treatment program to determine the minimum efficacious concentrations for eliminating the target species, unless an effective dose is already known for the given target pest population.

Maximum annual application rate of 46.6 lbs metallic copper per acre-foot per year (17 applications per year at up to 1 ppm). This rate/frequency is calculated based on the maximum number of possible applications allowed based on a 14-day minimum (at a rate of 2.74 lbs metallic copper per acre-foot = 1 ppm) retreatment interval for 8 months (244 days). Do not apply more than 46.6 lbs of metallic copper to a water management unit, regardless of the pest(s) targeted by applications. In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply copper in excess of 46.6 lbs of metallic copper per acre-foot per year for a single water management unit.

Note: Effectiveness of **COPERLATE** decreases as the alkalinity increases and is significantly reduced when the alkalinity exceeds approximately 150 ppm as CaCO3. As alkalinity increases, application rates towards the higher end of stated use ranges may be required.

For potable water systems: if the impounded water is a source of potable water or for potable water systems or for livestock watering systems, do not exceed one gallon of product in 60,000 gallons of water under any circumstances (1 ppm metallic copper). Potable water sources treated with copper products may be used as drinking water only after proper additional potable water treatments. **(Review Algae Control Section of this label before proceeding).**

ALGAE CONTROL: Do not apply more than 1.0 ppm as metallic copper. For algae control, apply in late spring or early summer when algae first appear. The dosages are variable and depend upon algae species, water hardness, water temperature, amount of algae present, as well as whether water is clear, turbid, flowing or static. Preferably, the water should be clear with temperatures above 60 degrees F (15.6 degrees C). Higher dosages are required at lower water temperatures, higher algae concentrations and hard waters. Effective control of most algae species can be obtained with copper levels between 0.2 – 1.0 ppm metallic copper. Several application points speed up dispersal. In irrigation canals, the preferred application is via the Drip Irrigation and Injection instructions contained on this label. Static water requires less chemical for algae control than does flowing water. Use higher dosages to control chara, nitella, and filamentous algae (pond scum) and lower dosages to control planktonic algae. If there is uncertainty about the dosage begin with a lower dose and increase until control is achieved or until the maximum allowable level has been reached.
Before treating bodies of water, consult proper state authorities such as the Fisheries Commission or Conservation Department to obtain any necessary permits.

CALCULATIONS FOR THE AMOUNT (VOLUME IN CUBIC FEET) OF WATER IMPOUNDED: If the amount of water to be treated is unknown, calculate water volume as follows: (1) Obtain surface area by measuring of regular shaped ponds or mapping of irregular ponds or by reference to previously recorded engineering data or maps. (2) Calculate average depth by sounding in a regular pattern and taking the mean of these readings or by reference to previously obtained data. (3) Multiply surface area in feet by average depth in feet to obtain cubic feet of water volume. (4) Alternatively, multiply surface area in acres by average depth in feet to obtain total acre/feet of water. (5) For circular or elliptical shaped bodies of water, volume can be obtained by multiplying 3.14 X the radius of the body of water squared (radius X radius) X the average depth [(2) above].

CALCULATION OF WATER FLOW IN DITCHES, STREAMS, AND IRRIGATION SYSTEMS: In ditches, streams, and canal type irrigation systems the amount of water flow in cubic feet per second is found by means of a weir or other measuring device. Multiply the water volume in cu. ft. times 7.5 to obtain gallons. If no weir or other measuring device is available, water flow and volume can be estimated as: Average width X Depth X Velocity in feet/sec = Cubic Feet Per Second (CFS). Velocity can be determined by the time it takes for a floating object to move a given distance. This measurement should be made three to four times and the results should be averaged. Note: 1 C.F.S./Hr. = 27,000 Gals.

CALCULATE GALLONS OF WATER TO BE TREATED AS FOLLOWS: (1) To find the capacity of a water storage containment or impounded waters in gallons, multiply the water volume in cubic feet times 7.5. or (2) if Acre/ft calculations were used multiply Acre/ft by 326,000 to obtain total gallons of water. (3) For flowing water measure in Cubic Feet Per Second- 1 C.F.S./HR = 27,000 gallons of water per hour.

CALCULATIONS OF ACTIVE INGREDIENT TO BE ADDED IF LISTED USAGE RATE IS EXPRESSED IN PARTS PER MILLION (PPM): 1 Gallon of COPERLATE in 60,000 gallons of water yields 1 ppm of dissolved copper (metallic copper). If desired application rate is expressed in ppm: (1) Divide total gallons to be treated by 60,000 to yield total gallons of COPERLATE required to yield 1 ppm metallic copper. (2) Multiply the foregoing by the desired ppm treatment level to yield actual gallons required. Example: 240,000 gallons to be treated divided by 60,000 = 4 Gallons COPERLATE to achieve 1 ppm metallic copper. If a 0.2 ppm level is required then, 4 X 0.2 = 0.8 Gallons COPERLATE required to achieve a 0.2 ppm metallic copper concentration.

SPECIFIC INSTRUCTIONS

Industrial/Commercial Recirculating Cooling Water Towers (Not for use in California): Coperlate is formulated to provide control of the growth of algae and slime in recirculating water cooling systems and evaporative coolers. **Initial Manual Dose:** When heavy growths are present, clean the system before the initial treatment. When the system is fouled, add directly to the sump 1/2 fl oz per 250 gallons of water (0.9375 ppm metallic copper) in the system. Repeat daily until control is achieved. Subsequent Manual Dose: As water evaporates and new water is replenished in the cooling tower, maintenance applications will be necessary to maintain algae control. For every 250 gallons of water replenished in the system add 1/2 fl oz of product. **For continuous use with Chemical Feed Devices:** 1 Gallon of Coperlate in 60,000 gallons of water yields 1 ppm metallic copper. Never exceed this amount with continuous feed systems.

To Control Algae in Impounded waters, Lakes, Ponds, Reservoirs, and Aquaculture Systems: Apply 1 pint of **COPERLATE** in each 7,500-300,000 gallons of water to be treated. One pint (16 fluid ounces) of **COPERLATE** per each 7,500 to 300,000 gallons yields a range of 1 ppm (7,500 gallons) metallic copper down to .025 ppm (300,000 gallons) metallic copper. For best results, apply to warm, still water on a sunny day when algae are near the surface. If fish are present in the **aquaculture systems**, either remove fish or do not exceed 2.5 fl oz of product / 3000 gallons of water (0.4 ppm metallic copper). Maximum annual application rate of 21.9 lbs of metallic copper per acre-foot (8 applications per year at up to 1 ppm). This rate/frequency is calculated based on staggering the treatment of each half of the water body every 14 days (at a rate of 2.74 lbs metallic copper per acre-foot = 1 ppm) for eight months (244 days). In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply copper in excess of 21.9 lbs of metallic copper per acre-foot (8 applications per year at up to 1 ppm).

There are several methods by which to apply COPERLATE to impounded water. It may be applied from either the shoreline or from a boat. In smaller lakes, ponds, and reservoirs, (bodies of water) shoreline application through an electrically or manually operated hand spray device is preferred. In larger lakes, ponds and reservoirs, either application from a boat or direct injection into the influent stream is preferred.

Shoreline Application:
In smaller lakes, ponds, and reservoirs, **COPERLATE** is most easily applied by using either an electrically or manually operated hand spray device (sprayer). REMOVE THE SPRAY NOZZLE from the sprayer so that, when activated, the spray device dispenses a straight stream rather than a spray pattern. This will minimize or eliminate the potential for any drift and enable you to project the dispensed stream of **COPERLATE** further away from the shore line than if the spray nozzle were attached. Always use a sprayer which is constructed of materials listed in the Storage and Handling Equipment listed on this label. Only use this method on calm days or when wind is less than 10 mph. Never use this

method of application when wind is in excess of 10 mph or when you must stand down wind of the direction of application or in any position that could expose you to drift. Never treat more than ½ of the body of water at one time. Wait 14 days between applications.

1. Based on your developed knowledge of the body of water, mark two points on opposing shorelines where, when drawing an imaginary line between them, ½ the volume of water is on each side of the line. Verify your water volume calculations.
2. Determine the amount of COPERLATE required to treat the portion of the body of water selected in #1 above. Dilution of COPERLATE with clean water prior to application may be done so that uniform distribution is more easily accomplished.
3. Beginning at one mark on the shoreline, simultaneously begin walking towards the other mark while projecting a stream of COPERLATE or COPERLATE solution to a point approximately 5 feet from the shoreline.
4. When the opposing mark has been reached, reverse course and while walking back to the beginning mark, project a stream approximately 10 feet from the shoreline.
5. Repeat steps 3 & 4, increasing the distance of stream projection from the shoreline by 5 feet each time, until all COPERLATE is dispensed.

Boat Application-Larger lakes, ponds, and reservoirs:
For larger lakes, ponds, and reservoirs, boat application is the preferred method of application. A small pump mounted in the boat can easily be used for this purpose. When using this method, **COPERLATE** is pumped from either its original container or a nurse tank (containing the amount of **COPERLATE** required for the application) into a hose (or manifolded gang of hoses) where hose(s) are trailing over the side or stern (back) of the boat and where the hose outlet is just below the surface of the water. While **COPERLATE** may be sprayed over the surface of the water, application through hoses eliminates or minimizes risk of drift.

If spraying, re-read about spraying application in the Product Information portion of this label. Mount spray boom or nozzles so that nozzle height is no more than 2 feet above water surface. Alternatively, begin treatment along the shoreline and proceed outward until one-third to one-half of the total area has been treated. Follow procedure outlined for shore application for lakes, ponds, and reservoirs contained on this label.

To apply by boat, make successive parallel applications across the body of water where the distance between each parallel line of application is from 20 to 200 feet. Initial application should be made along a line following the shoreline, with subsequent lines of application being parallel to the initial line of application and made progressively further away from the shoreline.

1. Based on your developed knowledge of the body of water, mark two points on opposing shorelines where, when drawing an imaginary line between them, not more than ½ the total volume of water within the lake, pond, or reservoir is on each side of the line.
2. Determine the total amount of **COPERLATE** required for treating the selected portion of the body of water. (Example: 40 gallons)
3. Determine the distance between your parallel lines of application.
4. Based on the surface area of the portion and shape of the body of water to be treated and the intended distance between parallel lines of application to be made, determine the number of parallel lines of application to be made. Plot these lines reasonably to scale on chart paper.
5. Sum the length (in feet) of all parallel lines of application. The result is the total distance you will travel during application. (Example: 20,000 feet)
6. Determine the speed (in mph) at which your boat will be traveling during application and convert this to Feet Per Minute (fpm) by multiplying mph X 88 (Example: 5 mph X 88 = 440 fpm) or refer to the following table:

MPH	2	3	4	5	6	7	8	9	10
fpm	176	264	352	440	528	616	704	792	880

7. Divide the total gallons of **COPERLATE** you intend to apply to the selected section of body of water by the total distance determined in #5 above. This result will provide you the fractional gallons of **COPERLATE** per foot you will apply. (Example: 40 divided by 20,000 = 0.002 gallons/ft)
8. Multiply the fractional gallons of **COPERLATE** you will apply per foot as calculated in #7 above times your travel speed in FPM. This result is the gallons per minute (gpm) at which you must set your pump. (Example 440 fpm X .002 = 0.88 gpm)
9. Navigate to your starting point, engage your pump, and begin applying **COPERLATE** at your intended speed beginning close to the shoreline and proceeding outward in parallel lines of application.
10. If, at the end of application, all **COPERLATE** required for the application has not been dispensed, return to a line of application which, on your application chart, is about ¼ of the way out from the shoreline. Then, following your navigation chart, continue applying until all **COPERLATE** has been used

CONTROL OF ALGAE AND BACTERIAL ODOR IN SEWAGE LAGOONS AND PITS (Except California): Application rates may vary depending on amounts of organic matter (sewage) in lagoons and pits. Application should be done by pouring **COPERLATE** directly from the container into the pit or lagoon. Several application points speed up dispersal. Use one gallon of full strength **COPERLATE** in 60,000 gallons (8,000 cubic feet) of sewage. Bacterial odors should be noticeably reduced in 1 or 2 weeks. Repeat application when odors reoccur.

Feedlot Run-off Lagoons: Add a portion of the required dosage of **COPERLATE** at several locations around the lagoon to speed dispersal of the product. A minimum of two applications per year (spring and fall) is recommended. Additional applications may be required as needed or when the lagoon is pumped. Animal Containment Pits: If pits are located under the confinement buildings, add **COPERLATE** directly to these pits. If the pits are outside, insert or inject **COPERLATE** into the transfer line to the pit. Apply at the rate of one gallon **COPERLATE** in 60,000 gallons of sludge.

In Irrigation Conveyance Systems: For continuous addition, via metering pump or battery box applicator add one pint **COPERLATE** for each 7,500 - 300,000 gallons of water. Repeat on 2-week intervals as required. For conveyance systems longer than 30 miles, it is recommended that the above dosage be dispersed among injection points every 5 to 30 miles. Do not exceed the total dosage of one gallon in 60,000 gallons of water.

Maximum annual application rate of 13 lbs metallic copper per year per 5 miles of conveyance per cubic foot per second (CFS). Apply copper into irrigation conveyance system or lateral at up to a maximum rate of 0.5 lbs metallic copper per cubic foot per second of water per 5 to 30-mile treatment depending on water hardness, alkalinity and algae concentration.

This method may only be used in constructed irrigation conveyance systems, laterals and aqueducts.

Sprinkler, Drip, or Other Types of Irrigation Equipment: COPERLATE must be applied continuously for the duration of the water application. Mixing instructions for dilutions of COPERLATE are 1 pint for each 7,500 to 300,000 gallons of water. Do not mix with basic substances. No agitation is required.

Drip Irrigation & Injection Instructions: Calculate the amount of **COPERLATE** needed to maintain the drip rate for a period of 4 hours by multiplying Pints/Hr by 4 OR Fluid Ounces/Minute by 240. This dosage will maintain the copper level at the required ppm for 4 hours. **COPERLATE** must be introduced at a point of turbulence to ensure proper dispersion. Place the required amount of COPERLATE into a tank equipped with a needle valve and set the drip rate as required using a stop watch and a measuring device. Alternatively, use a chemigation or dosing device calibrated and adjusted to inject the desired amounts of **COPERLATE.** Readjust as required if flow rates change. Distance of control will vary. Treatment points should be determined in the field and placed at required intervals for control. Periodic maintenance treatments may be required.

COPERLATE DRIP OR INJECTION RATE

		Algae Growth			
Water Flow Rate		**Moderate (1 ppm as copper)**		**Light (0.2 ppm as copper)**	
CFS	Gal./Min.	Pints/Hour	Fluid Oz./Min.	Pints/Hour	Fluid Oz./Min.
1	450	3.6	1.0	0.7	0.2
2	900	7.2	1.9	1.4	0.4
3	1,350	10.8	2.9	2.2	0.6
4	1,800	14.4	3.8	2.9	0.8
5	2,250	18	4.8	3.6	1.0

TO CONTROL ALGAE IN RICE (Domestic and Wild) FIELDS: Application should be made when algae have formed on the soil surface in the flooded field. Applications are most effective when made prior to the algae's leaving the soil surface and rising to the water surface. Depending on water depth, 1 quart to 1 gallon per acre is normally sufficient. Use the lower rate at minimum flow and water depth and the higher rate at maximum water depth and flow. Higher use rates are acceptable, but never use more than 1ppm metallic copper. The maximum use rate per acre should be determined by the water depth, as shown in the table below, and flow. **COPERLATE** can be metered into the rice field as water is being applied into each paddy when water is being held. The maximum annual application rate must not be greater than 5.48 lbs metallic copper (2 ppm metallic copper/107.45 lbs product) per acre-foot per year for control of algae in water-seeded rice.

Water Depth (inches)	Maximum Application Rate	
	(gallons COPERLATE/acre)	(lbs metallic copper/acre)
2	0.9	0.46
3	1.35	0.69
4	1.8	0.92
5	2.25	1.15
6	2.7	1.38

TO CONTROL TADPOLE SHRIMP IN RICE (Domestic and Wild) FIELDS: Application should be made to the flooded fields any time the pest appears from planting time until the seedlings are well rooted and have emerged through the water. Depending on depth, 1-4 gallons per acre is normally sufficient. Use the lower rate at minimum flow and water depth and the higher rate at maximum water depth and flow. Higher use rates are acceptable, but never use more than 2.5 ppm metallic copper. Maximum use rate per acre should be determined by the water depth, as shown below, and flow. The maximum annual application rate must not be greater than 13.7 lbs. metallic copper (5 ppm metallic copper/268.6 lbs product) per acre-foot per year for control of tadpole shrimp.

Water Depth	Maximum Application Rate	
(inches)	(gallons COPERLATE/acre)	(lbs metallic copper/acre)
2	2.25	1.15
3	3.4	1.74
4	4.5	2.30
5	5.6	2.86
6	6.75	3.44

There are several methods by which to apply **COPERLATE** to rice fields. It may be applied from the shoreline, by plane or from a boat. (see Shoreline and Boat applications under Specific Instructions, page 4-5.)

- For aerial applications, ensure all aircraft mounted components used to hold or distribute and spray Coperlate are constructed of materials outlined in the Application and Handling section of this label. **Never use materials for this application which are inconsistent with this labeling. Ensure all distribution connections are tight and free of leaks. Failure to follow these instructions could result in the compromise of air frame integrity. In this case air frame failure could result.** (see page 3 under Product Information for further restrictions on spraying **COPERLATE**.)

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in a safe place away from pets and KEEP OUT OF THE REACH OF CHILDREN. Store away from excessive heat. **COPERLATE** will freeze. Always store **COPERLATE** above 32 degrees F. Freezing may cause product separation. Seller makes no warranty for the performance of product which has been frozen. Always keep container closed. Store COPERLATE in its original container only. Bulk **COPERLATE** shall be stored and handled in stainless steel, fiberglass, polypropylene, PVCs or plastic equipment. Keep away from galvanized pipe, brass, copper, and any nylon or aluminum storage handling equipment.

Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, mixture or residue 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. In the event of a spill, neutralize with limestone or baking soda before disposal. May deteriorate concrete. Do not re-use empty container.

Container Handling: Nonrefillable container. Do not reuse or refill this container.
(For containers greater than 5 gallons) Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.
(For containers less than or equal to 5 gallons) Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.
Then offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by local authorities by burning. If burned, stay out of smoke.

LIMITED WARRANTY AND LIMITATION OF REMEDIES

To the extent consistent with applicable law: Seller warrants that the product conforms to the chemical description and is reasonably fit for the purpose stated on the label for the use under normal conditions but makes no other warranties of FITNESS OR MERCHANTABILITY, expressed or implied, or any other warranty if the product is used contrary to the label instructions, or under abnormal conditions or under conditions not foreseeable to the seller. In no case shall the seller be liable for more than the cost of this product to the buyer and will, in no event, be liable for any consequential, special or indirect damages (including lost profits) connected with the use or handling of this product. This product is offered and the buyer or user accepts it subject to the foregoing terms which may not be varied.

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