50 LBS. NET WEIGHT (22.68 KILOS)

COPPER SULFATE CRYSTALS

ACTIVE INGREDIENT	BY WEIGHT
COPPER SULFATE PENTAHYDRATE *	99.0%
OTHER INGREDIENTS	1.0%
TOTAL	100.0%

CAS #7758-99-8
*COPPER AS METALLIC, 25.1%
See back panel for specific pesticide use directions and state restrictions.

KEEP OUT OF REACH OF CHILDREN

DANGER - PELIGRO

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

FIRST AID	
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 to rinse eye. Call a poison control center or doctor for treatment advice.
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 the 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 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 further treatment advice.
Notes:	Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For non-emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 Monday through Friday, 8:00am to 12:00pm Pacific time (NPIC web site: www.npic.orst.edu). For emergencies, call the poison control center 1-800-222-1222, 24 hours a day, 7 days a week
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Product causes eye irritation	

CHEM ONE LTD

This product manufactured for:
CHEM ONE LTD.
HOUSTON, TEXAS 77041-1104
TEL. (713)896-9966

EPA REG. NO. 56576-1
EPA EST. NO. 56576-TX-1
MADE IN MEXICO

02/04/22

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER - PELIGRO

CORROSIVE: Causes irreversible eye damage. May be fatal if swallowed. Harmful if absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Do not breathe dust or spray mist. Wear goggles or face shield, long-sleeved shirt and long pants, socks, shoes and chemical resistant gloves made of any waterproof material.

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.

PERSONAL PROTECTIVE EQUIPMENT

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

- Long-sleeved shirt and long pants,
- 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,
- shoes plus socks, and
- goggles or face shield.

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.

Engineering Controls

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

USER SAFETY RECOMMENDATIONS:

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.

ENVIRONMENTAL HAZARDS

Fish Advisory Statement: This pesticide is toxic to fish and aquatic invertebrates. 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 pesticide is toxic to fish and aquatic invertebrates and may contaminate water through runoff. 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. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

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 washwaters or rinsate.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing the product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

Stormwater Advisory Statement: This product may be applied for the purposes of root intrusion control in storm drains or storm sewers that can discharge directly or indirectly into ephemeral or permanent waterbodies. This product must not be used in any municipal or public storm sewer or "MS4" system, or any storm drain system otherwise covered under an NPDES MS4 discharge permit. Copper will accumulate with repeated applications in the waterbodies to which treated storm drains/sewers discharge.

To the extent possible, avoid simultaneous treatments of multiple drain systems that discharge to the same waterbody. Staggering applications to individual stormwater collection points to allow interceding storm events to clear the product from previously treated drains can help reduce the impact to aquatic organisms in receiving waterbodies. Development of and adherence to, the pesticide management plan for storm drains is encouraged.

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. 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.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with 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 this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of **48 hours**.
PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- **Coveralls,**
- **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,**
- **shoes plus socks, and**
- **protective eyewear (goggles, face shield, or safety glasses).**

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.
Do not enter or allow others to enter until sprays have dried.

SPRAY DRIFT

For aerial applications:

- Do not release spray at a height greater than 10 feet above the vegetative canopy or 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 15 mph at the application site. If the windspeed is greater than 10 mph, 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 rotor 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 applications:

- Apply with the spray release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- 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 [40 CFR 170.305]'

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.

RESISTANT MANAGEMENT RECOMMENDATIONS
For resistance management, Copper Sulfate Crystals contains a Group M01 fungicide. Any fungal population may contain individuals naturally resistant to Copper Sulfate Crystals and other Group M01 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance, take one or more of the following steps:

- Rotate the use of Copper Sulfate Crystals or other Group M01 fungicides 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 fungicide 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 fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal 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 crops and pathogens.
- For further information or to report suspected resistance contact your pesticide distributor or university extension specialist to report resistance (Chem One: (713) 896-9966).

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 Copper Sulfate Crystals retailer or representative. 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 (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.

INSTRUCTIONS FOR USE

Water hardness, temperature of the water, the type and amount of vegetation to be controlled, and the amount of water flow are to be considered in using Copper Sulfate Crystals to control algae. Begin treatment soon after plant growth has started. If treatment is delayed until a large amount of algae is present, larger quantities of Copper Sulfate Crystals will be required. Algal growth is difficult to control with Copper Sulfate Crystals when water temperatures are low (less than 60° F) or when the water alkalinity is above 50 ppm. Larger quantities of Copper Sulfate Crystals will be required to kill and control algae in water which is flowing than in a body of stagnant water. If possible, curtail the flow of water before treatment and hold dormant for approximately three days after treatment or until the algae have begun to die. When preparing a Copper Sulfate Crystals solution in water, the mixing container should be made of plastic, glass, or a painted, enameled, or copper-lined metal container. It is best to treat algae on a sunny day when the heavy mats of filamentous algae are most likely to be floating on the surface where they can be sprayed directly. If there is some doubt about the concentration to apply, it is best to start with the lower concentration given in the Specific Instructions below.

Treatment of algae can result in oxygen loss from decomposition of dead algae. This loss can cause fish suffocation. Therefore, to minimize this hazard, treat no more than one-half of the water area in a single operation and wait at least 14 days between treatments. Begin treatments along the shore and proceed outward in bands to allow fish to move into untreated water. NOTE: If treated water is to be used as a source of potable water, the metallic copper residual must not exceed 1 ppm (4 ppm Copper Sulfate Crystals).

Maximum annual application rate of 46.6 lbs metallic copper (186.4 lbs product) 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 based on a 14-day minimum (at a rate of 2.74 lbs metallic copper (10.96 lbs product) per acre-foot = 1 ppm) retreatment interval for 8 months (244 days). Do not apply more than 46.6 lbs of metallic copper (186.4 lbs product) 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 (186.4 lbs product) per acre-foot per year for a single water management unit.

CALCULATIONS FOR THE AMOUNT OF WATER IMPOUNDED AND FOR THE AMOUNT OF COPPER SULFATE CRYSTALS TO BE USED: 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) Multiply surface area in acres by average depth in feet to obtain total acre-feet of water volume.
CALCULATE WEIGHT OF WATER TO BE TREATED AS FOLLOWS: (1) Multiply volume in cubic feet by 62.44 to obtain total pounds of water, or (2) Multiply volume in acre feet by 2,720,000 to obtain pounds of water.
CALCULATIONS OF ACTIVE INGREDIENT TO BE ADDED: To calculate the amount of Copper Sulfate Crystals needed to achieve the recommended concentration, multiply the weight of water by the recommended concentration of Copper Sulfate Crystals. Since recommended concentrations are normally given in parts per million (ppm), it will first be necessary to convert the value in parts per million to a decimal equivalent. For example, 2 ppm is the same as 0.000002 when used in this calculation. Therefore, to calculate the amount of Copper Sulfate Crystals to treat 1 acre-foot of water with 2 ppm Copper Sulfate Crystals (or 0.5 ppm metallic copper), the calculation would be as follows:
0.000002 X 2,720,000 = 5.44 lbs. Copper Sulfate Crystals

CALCULATION OF WATER FLOW IN DITCHES, STREAMS, AND IRRIGATION SYSTEMS: The amount of water flow in cubic feet per second is found by means of a weir or other measuring device.

SPECIFIC INSTRUCTIONS

SEWER TREATMENT – ROOT DESTROYER *
ROOT CONTROL GENERAL INFORMATION: Plant roots can penetrate through small cracks and poorly sealed joints of sewer lines. If not controlled, these small roots will continue to grow larger in number causing breakage, reduced flow, and eventually, flow stoppage. Copper Sulfate Crystals has been known to be an effective means to control roots in residential and commercial sewers. Do not apply more than maximum annual application rate of 1 lb metallic copper (4 lbs product) per linear foot per year.

COMMERCIAL, INSTITUTIONAL, AND MUNICIPAL SEWERS:
ROOT CONTROL IN SEWERS: As a preventive measure, apply into each junction or terminal manhole 2 pounds of Copper Sulfate Crystals every 6 to 12 months. At time of reduced flow (some water flow is essential), add Copper Sulfate Crystals. If flow has not completely stopped, but has a reduced flow due to root masses, add Copper Sulfate Crystals in the next manhole above the reduced flow area. For complete stoppage, penetrate the mass with a rod to enable some flow before treatment.

ROOT CONTROL IN STORM DRAINS: Apply when water flow is light. If no water flow, as in dry weather, use a hose to produce a flow. It may be necessary to repeat treatments in 6 month intervals, if drains become nearly plugged. Maximum annual application rate of 0.5 lbs metallic copper (2 lb product) per drain per year. This product may not be used in municipal or public storm drains and storm sewers.

SEWER PUMPS AND FORCE MAINS: At the storage well inlet, place a cloth bag containing **2 pounds** of Copper Sulfate Crystals. Repeat in **6 or 12-month intervals,** if necessary.

RESIDENTIAL OR HOUSEHOLD SEWER SYSTEMS:
When a reduced water flow is first noticed, and root growth is thought to be the cause, treat with Copper Sulfate Crystals. It is important not to wait until a stoppage occurs because some water flow is necessary to move the Copper Sulfate Crystals to the area of root growth. Usually, within 3 to 4 weeks, after roots have accumulated sufficient copper sulfate, the roots will die and begin to decay and water flow should increase. As the roots re-grow, follow-up treatments with Copper Sulfate Crystals will be required. Applications may be made each year in the spring after plant growth begins, or during late summer or early fall, or any time a reduced water flow, thought to be caused by root growth, occurs.
Apply **2 pounds** Copper Sulfate Crystals to household sewers. Add Copper Sulfate Crystals to sewer line by pouring **½-pound increments** into the toilet bowl nearest the sewer line and flush, repeat this process until recommended dose has been added, or remove cleanout plug and pour entire recommended quantity directly into the sewer line. Replace the plug and flush the toilet several times. Repeat in **6 or 12-month intervals,** if necessary.

ROOT CONTROL IN SEPTIC TANKS, LEACH LINES AND LEACH LINE PIPES:
The majority of the Copper Sulfate Crystals will settle in the septic tank itself and little will pass into the leach lines. To treat leach line pipes, add **2 pounds** of Copper Sulfate Crystals to the distribution box located between the septic tank and the leach lines. To achieve effective root control in the leach lines it is necessary to transfer Copper Sulfate Crystals from the septic tank to the leach lines. A cleanout plug opening may need to be installed if the distribution box does not have an opening leading to the leach lines. Repeat in **6 or 12-month intervals**, if necessary.
***NOTE:** Do not apply Copper Sulfate Crystals through sink or tub drains as it will corrode the metal drains.
***NOTE:** Copper Sulfate Crystals added to an active 300-gallon septic tank at 2 pounds per treatment will temporarily reduce bacterial action, but it will return to normal approximately 15 days after treatment. Trees and shrubbery growing near a treated line normally are not affected due to only a small portion of their roots being in contact with the Copper Sulfate Crystals. Copper Sulfate Crystals kills only those roots inside the leach line.
***NOTE:** Do not use as a sewer additive where prohibited by State law. State law prohibits the use of this product in sewage systems in the State of Connecticut. Not for sale or use in the California counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma for root control in sewers. Not for sale or use in septic systems in the States of Florida and Massachusetts and State of Washington. However, Copper Sulfate Crystals may be sold and used in residential or household sewer systems in the States of Florida, Massachusetts and Washington which do not discharge into a septic tank/leach field system.
***NOTE:** For all sewer line treatment applications do not use more than 2 lbs Copper Sulfate Crystals (0.5 lbs. metallic copper) per application. Minimum retreatment interval is 6 months. Make no more than two applications per calendar year. Per EPA guidelines, do not exceed 8 lbs Copper Sulfate Crystals (2 lbs metallic copper) per year.

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 and wait at least 14 days between treatments to avoid depletion of oxygen due to decaying vegetation (excluding water infrastructure and constructed conveyances such as drainage canals, ditches and pipelines or intakes and aqueducts for drinking water or irrigation use).

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.

TO CONTROL ALGAE AND THE POTOMOGETON POND WEEDS, LEAFY AND SAGO, IN IRRIGATION SYSTEMS: Once the amount of Copper Sulfate Crystals required for treating ditches or streams has been calculated, use a continuous application method, selecting proper equipment to supply the granular crystals. Minimum retreatment interval is 2 weeks.

FOR ALGAE CONTROL – Begin continuous addition application of granular Copper Sulfate Crystals when water is first turned into the system and continue throughout the irrigation season, applying **0.1 to 0.2 lbs** Copper Sulfate Crystals **per hour per cubic ft per second for 12 hours of each 24 hours**.
This rate provides 0.112 to 0.224 ppm metallic copper in the treated water. **Maximum application rate is 4 ppm Copper Sulfate Crystals (1 ppm metallic copper)**. Note: 4 ppm Copper Sulfate Crystals = 10.88 lbs of product/acre ft. =1.0 ppm metallic copper in the treated water.

FOR LEAFY AND SAGO POND WEED CONTROL – Use the same continuous feeder, applying **0.5 to 0.9 lbs** Copper Sulfate Crystals **per hour per cubic foot per second for 12 hours of each 24 hours.**
This provides 0.5 to 1.0 ppm metallic copper in the treated water. **Maximum application rate is 4 ppm Copper Sulfate Crystals (1 ppm metallic copper).**

NOTE: For best control of leafy and sago pond weed, it is essential to begin Copper Sulfate Crystals additions when water is first turned into the system or ditch to be treated and to continue throughout the irrigation season. Copper Sulfate Crystals becomes less effective as the alkalinity increases. Its effectiveness is significantly reduced when the bicarbonate alkalinity exceeds 150 ppm. Should Copper Sulfate Crystals fail to control pond weeds satisfactorily, it may be necessary to treat the ditch with either a suitable approved herbicide or use a mechanical means to remove excess growth. In either case, resume Copper Sulfate Crystals addition as soon as possible.

Useful formulas for calculating water volume flow rates:
Multiply the water volume in cu. ft. times 7.5 to obtain gallons.
1 C.F.S./Hr. = 27,000 Gals. 1 Acre Foot = 326,000 Gals.
1 ppm Copper Sulfate Crystals= 0.25 ppm metallic copper 1 ppm Copper Sulfate Crystals = 2.72 lb of product/acre ft

TO CONTROL ALGAE IN IRRIGATION CONVEYANCE SYSTEMS USING THE PULSE APPLICATION METHOD: Make an addition of Copper Sulfate Crystals into the irrigation ditch or lateral at **0.25 to 2.0 lbs product (0.06 to 0.5 lbs metallic copper) per cubic foot per second of water per treatment.** Repeat on **2-week intervals** as required. Depending on water hardness, alkalinity and algae concentration, a dump is usually required every **5 to 30 miles.** Effectiveness of Copper Sulfate Crystals decreases as the bicarbonate alkalinity increases and is significantly reduced when the alkalinity exceeds approximately 150 ppm as $CaCO_3$. **Maximum annual application rate of 13 lbs metallic copper (52 lbs product) per year per 5 miles of conveyance per cubic foot per second.** Apply copper into irrigation conveyance system or lateral at up to a maximum rate of 0.5 lbs metallic copper (2 lbs product) 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.

APPLICATION METHODS TO CONTROL ALGAE IN IMPOUNDED WATERS, LAKES, PONDS AND RESERVOIRS: There are several methods by which to apply Copper Sulfate Crystals to impounded water. Probably the most satisfactory and simplest method is to dissolve the Copper Sulfate Crystals in water and to spray this water over the body of water from a boat. A small pump mounted in the boat can easily be used for this purpose. Fine crystals may be **broadcast directly on the water surface** from a properly equipped boat. A specially equipped air blower can be used to discharge fine crystals at a specific rate over the surface of the water. When using this method, the direction of the wind is an important factor. Do not use this method unless completely familiar with this type of application. Where the situation permits, Copper Sulfate Crystals may be **applied under the water by dragging burlap bags** containing Copper Sulfate Crystals. A tear-resistant permeable bag may be towed via watercraft to disperse copper into the upper water column for treatment of weeds and algae. Operators should ensure the application path is clear of any obstacles that may rupture or otherwise damage the bag containing the copper once deployed. Begin treatment along the shoreline and proceed outward until one-third to one-half of the total area has been treated. Care should be taken that the course of the boat is such as to cause even distribution of the chemical. In large lakes, it is customary for the boat to travel in parallel lines about 20 to 100 feet apart. Continue dragging the burlap bags over the treated area until the minimum dosage is achieved, and all crystals have been dissolved. Large or medium size crystals that dissolve slowly should be used with this method. Copper Sulfate Crystals can be applied to impounded waters by injecting a solution in water via a piping system. **Note: Maximum application rate is 4 ppm Copper Sulfate Crystals (1 ppm metallic copper)**. Minimum retreatment interval is **14 days**. EPA sets the maximum application rate at 4 ppm Copper Sulfate Crystals; however, based on the table below, 0.25 to 2 ppm Copper Sulfate Crystals can be used to treat for specific genera of algae. Maximum annual application rate of 21.9 lbs metallic copper (87.6 lbs product) 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/10.96 lbs product 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 (87.6 lbs product) per acre-foot (8 applications per year at up to 1 ppm).

COPPER SULFATE CRYSTALS REQUIRED FOR TREATMENT OF DIFFERENT GENERA OF ALGAE
The genera of algae listed below are commonly found in waters of the United States. Use the lower recommended rate in soft waters (less than 50 ppm methyl orange alkalinity) and the higher concentration in hard waters (above 50 ppm alkalinity). Always consult State Fish and Game Agency before applying this product to municipal waters.

ORGANISM	0.25 to 0.50 ppm*	0.50 to 1 ppm*	1 to 1.5 ppm*	1.5 to 2 ppm*
Cyanophyceae (Blue-green)	Anabaena Anacystis Aphanizomenon Gloeotrichia Gomphosphaeria Polycystis Rivularia	Cylindrospermum Oscillatoria Plectonema	Nostoc Phormidium	Calothrix Symploca

Chlorophyceae (Green)	Closterium Hydrodictyon Spirogyra Ulothrix	Botryococcus Cladophora Coelastrum Draparnaldia Enteromorpha Gloeocystis Microspora Tribonema Zygnema	Chlorella Crucigenia Desmidium Golenkinia Oocystis Palmella Pithophora Staurastrum Tetraedron	Ankistrodesmus Chara Nitella Scenedesmus
Diatomaceae (Diatoms)	Asterionella Fragilaria Melosira Navicula	Gomphonema Nitzschia Stephanodiscus Synedra Tabellaria	Achnanthes Cymbella Neidium	
Protozoa (Flagellates)	Dinobryon Synura Uroglena Volvox	Ceratium Cryptomonas Euglena Glenodinium Mallomonas	Chlamydomonas Hawmatococcus Peridinium	Eudorina Pandorina

* Copper Sulfate Crystals ppm (Cu metallic ppm) = lbs/acre ft
0.25 - 0.5 ppm (0.0625 - 0.125 ppm) = 0.68 - 1.36 lbs/acre ft.
0.5 - 1.0 ppm (0.125 - 0.25 ppm) = 1.36 - 2.72 lb/acre ft
1.0 - 1.5 ppm (0.25 - 0.375 ppm) = 2.72 - 4.08 lbs/acre ft
1.5 - 2.0 ppm (0.375 - 0.50 ppm) = 4.08 - 5.44 lbs/acre ft

CONTROL OF ALGAE AND BACTERIAL ODOR IN SEWAGE LAGOONS AND PITS (Except California): Application rates may vary depending on amounts of organic matter in effluent stream or retention ponds. **Use 2 lbs.** of Copper Sulfate Crystals in **60,000 gals** (8,000 cu ft) of effluent to yield 1 ppm of dissolved copper. Dosage levels may vary depending upon organic load. Other Organic Sludges: The solution of crystals must be thoroughly mixed with sludge. **Dissolve 2 lbs** of crystals in 1-2 gals of water and **apply to each 60,000 gals** of sludge. **Maximum application rate is 4 ppm Copper Sulfate Crystals (1 ppm metallic copper). Minimum retreatment interval is 14 days.**

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 at the first sign of algae after the field has been flooded and prior to the algae's leaving the soil surface and rising to the water surface. **Apply to the water surface as either crystals or dissolve in water and make a surface spray**. For a **3-inch flood** depth, apply Copper Sulfate Crystals at a rate of **2.72 lbs per acre**. Likewise, for a **6- inch flood** depth, use **5.44 lbs per acre.** Adjust the rate according to average water depth, **not to exceed the maximum application rate of 4 ppm Copper Sulfate Crystals (1 ppm metallic copper)**, which is equivalent to **10.88 lbs** Copper Sulfate Crystals / acre foot of water. The maximum annual application rate must not be greater than 5.48 lbs metallic copper (21.92 lbs product) per acre-foot per year for control of algae in water-seeded rice.

TO CONTROL TADPOLE SHRIMP IN RICE (Domestic and Wild) FIELDS: Tadpole shrimp in rice fields may be effectively controlled by the prompt and proper use of Copper Sulfate Crystals. After the rice field has been flooded, Copper Sulfate Crystals should be uniformly applied at the first sign of infestation. For a **3-inch flood** depth, apply **6.8 lbs per acre**. For a **flood depth of 6 inches**, use **13.6 lbs per acre**. Adjust the rate according to average water depth, **not to exceed the maximum application rate of 10 ppm Copper Sulfate Crystals (2.5 ppm metallic copper)**, which is equivalent to **27.2 lbs** Copper Sulfate Crystals/ acre foot of water. The maximum annual application rate must not be greater than 13.7 lbs. metallic copper (54.8 lbs product) per acre-foot per year for control of tadpole shrimp.

In aquatic rice fields for control of tadpole shrimp and algae, do not exceed one application per field during any 24-month period. This statement applies only to crops intended for organic certification, and otherwise shall not conflict with any conventional label requirement. The maximum annual application rate must not be greater than 13.7 lbs. metallic copper (54.8 lbs product) per acre-foot per year.

SCHISTOSOME-INFECTED FRESH WATER SNAILS: For recreational lakes, reservoirs, and ponds, **5.44- 13.6 lbs/acre-ft** Copper Sulfate Crystals (i.e., 2-5 ppm Copper Sulfate Crystals), is usually sufficient for treatment of Schistosome-infected fresh water snails. Use surface area in acres multiplied by average depth in feet to determine water volume and application rate. Apply only along shoreline swimming areas and/or to infected snail beds on a calm sunny day when water temp is at least 60°F. Not allowing swimming for at least 12 hrs following treatment is recommended. A second application may be made if necessary, **10 to 14 days** later. **DO NOT make more than two applications per calendar year.** Apply by broadcast application using boat, aircraft, or hand equipped with power or hand seeder or underwater dispenser. **DO NOT exceed 1 ppm metallic copper (4 ppm Copper Sulfate Crystals) in potable water systems**. This labeling must be in the possession of the user at the time of pesticide application. **Maximum application rate is 6 ppm Copper Sulfate Crystals (1.5 ppm metallic copper).** Note: 6 ppm Copper Sulfate Crystals = 16.32 lbs of product /acre ft.
N**OTE : In the State of New York** – For use in recreational lakes, reservoirs and ponds ONLY in areas where infected snail beds have been identified. Apply medium grade crystals by hand broadcast method of application only. This product is a restricted use pesticide in New York State. Pesticide applicator certification or a special use permit is required for sale, possession, or use. Each individual treatment must be approved by the Department of Environmental Conservation. Therefore, you must contact the Pesticide Control Specialist at the appropriate regional office of the Department 30 days in advance of the proposed treatment.

PLANT DISEASE TREATMENT

Maximum Application Rates, Application Interval, and Season Maximum Application Rates are listed below. Weight of Copper Sulfate Crystals in lbs is followed by weight expressed as metallic copper, e.g., 1 lb Copper Sulfate Crystals equals 0.25 lb metallic copper.

Apple: Fireblight – Mix **5 lbs** of Copper Sulfate Crystals in **100 gals** of water and spray uniformly. Apply in dormant season up to silver tip stage. After silver tip, severe burn will occur on any exposed green tissue. **DO NOT** mix lime to make a Bordeaux spray for this treatment. **DO NOT exceed 64 lbs** (16 lbs metallic copper) per acre per year. ***Dormant use*:** Make one application at no more than **24 lbs** (6 lbs metallic copper) per acre. ***Silver tip use*:** Make one application at no more than **24 lbs** (6 lbs metallic copper) per acre.

Grape (Dormant): Powdery Mildew – Apply in spring before bud-swell and before any green tissue is present. Use **4 lbs** of Copper Sulfate Crystals per **100 gals** of water. Apply in a high-volume spray of **300 gals water per acre**. Direct spray to thoroughly wet the dormant vine, especially the bark of the trunk, head or cordons. **Do not apply more than 12.0 lbs** (3.0 lbs metallic copper) **per acre per application**. Minimum retreatment interval is 3 days. **DO NOT exceed 80.0 lbs** (20.0 lbs metallic copper) **per acre per year**.

Potatoes: To enhance vine-kill and suppress late blight – apply **10 lbs** per acre in **10 to 100 gals of water** (ground equipment) **or in 5 to 10 gals** (aerial equipment) with Diquat at vine-kill to enhance vine desiccation and suppress late blight. Additional applications can be made with Diquat if needed to within **7 days** of harvest. Copper Sulfate Crystals may be applied alone until harvest to suppress late blight. NOTE: This product can be mixed with Diquat for use on potatoes in accordance with the most restrictive of label limitations and precautions. No label dosage rates should be exceeded. **DO NOT apply more than 10 lbs** (2.5 lbs metallic copper) **per acre per application**. Minimum retreatment interval is **5 days**. **Do not exceed 100 lbs**. (25 lbs metallic copper) **per acre per year**.

BORDEAUX SPRAY MIXTURE

Understanding Bordeaux Formulations: If the Bordeaux mixture instructions read 10-10-100, the first figure indicates the number of lbs of Copper Sulfate Crystals. The second figure is the lbs of hydrated spray lime and the third figure is the gallons of water to be used. Use as a full coverage spray. In the instruction below, weight of copper sulfate in lbs is followed by weight expressed as metallic copper, e.g., 1 lb Copper Sulfate Crystals equals 0.25 lb metallic copper.

Preparation of Bordeaux Spray Mixture: Fill a tank 1/4 full with water. Then, with agitator running, mix in Copper Sulfate Crystals through a copper, bronze, stainless steel or plastic screen. Add water so the tank is 3/4 full. Mix in the hydrated spray lime through the screen and finish filling the tank with water.

Almond, Apricot, Peach, Nectarine: Shot Hole Fungus – Prepare a **10-10-100 Bordeaux** mixture and apply as a dormant spray in late fall or early spring. **DO NOT** apply more than **32 lbs** copper sulfate (8 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days. DO NOT exceed 72 lb**s (18 lbs metallic copper) **per acre per year.**

Almond, Apricot, Cherry, Peach, Nectarine, Plum, Prune: Brown Rot Blossom Blight – Prepare a **10-10-100 Bordeaux** mixture and apply when buds begin to swell (late dormant). **DO NOT** apply more than **32 lbs** (8 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days. DO NOT exceed 72 lbs** (18 lbs metallic copper) **per acre per year.**

Blueberries: Bacterial Canker (Not for use in California) – Prepare and apply an **8-8-100 Bordeaux** mixture in the fall before heavy rains begin and again 4 weeks later. **DO NOT** apply more than **8.4 lbs** (2.1 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days. DO NOT exceed 33.6 lbs** (8.4 lbs metallic copper) **per acre per year.**

Bulbs (Easter Lily): Botrytis Blight – Prepare a **10-10-100 Bordeaux** mixture and apply as a foliar spray to 1 acre. Apply for thorough coverage beginning at the first sign of disease and repeat as needed to control disease at **7 to 10 day** intervals. Use the shorter intervals during periods of frequent rains or when severe disease conditions persist. Avoid spray just before flower cutting season if residues are a problem. **DO NOT** apply more than **10 lbs** (2.5 lbs metallic copper) per acre per application. **DO NOT exceed 300 lbs** (75 lbs metallic copper) **per acre per year. DO NOT** apply any additional copper pesticide to this land for 36 months.

Bulbs (all other ornamentals, Tulip, Gladiolus): Botrytis Blight – Prepare an **8-8-80 Bordeaux** mixture and apply as a foliar spray to 1 acre. Apply for thorough coverage beginning at the first sign of disease and repeat as needed to control disease at **7 to 10 day i**ntervals. Use the shorter intervals during periods of frequent rains or when severe disease conditions persist. Avoid spray just before flower cutting season if residues are a problem. **DO NOT** apply more than **8 lbs** (2 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days. DO NOT exceed 80 lbs** (20 lbs metallic copper) **per acre per year.**

Caneberries: For Leaf and Cane Spot and Pseudomonas Blight – Prepare and apply an **8-8-100 Bordeaux** mixture in the fall before heavy rains begin and again 4 weeks later. **DO NOT** apply more than **8 lbs** (2.0 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days. DO NOT exceed 40 lbs** (10 lbs metallic copper) **per acre per year.**

Cherry (Sweet): Dead Bud, Bacterial Canker (Pseudomonas Syringae) – Prepare a **12-12-100 Bordeaux** mixture. Apply at leaf fall and again in late winter before buds begin to swell. In wet cool Northwest U.S. winters, a third spray may be needed between above sprays. **DO NOT** apply more than **32 lbs** (8 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days. DO NOT exceed 72 lbs** (18 lbs metallic copper) **per acre per year.**

Cherry (Sour): Leaf Spot – Prepare a **10-10-100 Bordeaux** mixture. Apply as a full coverage spray after petal fall or as recommended by the State Extension Service. **DO NOT** apply more than 60 gallons or **6 lbs** (1.5 lbs metallic copper) per acre per application. Minimum retreatment interval is **5 days. DO NOT exceed 72 lbs** (18 lbs metallic copper) **per acre per year.**

(**NOTE**: Adding foliar nutritionals to spray mixtures containing Copper Sulfate Crystals or other products and applying to citrus during the post-bloom period when young fruit is present may result in spray burn.)

Citrus: Bacterial Blast – Prepare a 1**0-10-100 Bordeaux** mixture spray and apply a spray in late October to early November or before fall rains begin. Make a complete coverage spray using 10 to 25 gals per mature tree. **DO NOT** apply more than **12.6 lbs** (3.15 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days**. **DO NOT exceed 50.4 lbs** (12.6 lbs metallic copper) **per acre per year.**

Citrus: Lemon, Orange, Grapefruit: Phytophthora Brown Rot - Prepare a **3-4.5-100 Bordeaux** mixture only where there is no history of copper injury or use a **3-2-6-100** (Zinc Sulfate-Copper Sulfate Crystals-Hydrated Lime-Gallons of water) **Bordeaux** mixture. Spray 6 gals on skirt of tree 3 to 4 ft high and 2 to 4 gals on trunk and ground under tree. If P. hibernalis is present, use 10 to 25 gals to completely cover each tree. Apply in November or December just before or after first rain. In severe brown rot season, apply second application in January or February. **DO NOT** apply more than 1**2.6 lbs** Copper Sulfate Crystals (3.15 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days. DO NOT exceed 50.4 lbs** (12.6 lbs metallic copper) **per acre per year.**

Citrus: Lemon, Orange, Grapefruit: Septoria Fruit, Leaf Spot;Central California – Brown Rot, Zinc, Copper Deficiencies – Prepare a **3-2-6-100 Bordeaux** mixture (Zinc Sulfate-Copper Sulfate Crystals-Hydrated Lime-Gallons of water) and use 10 to 25 gals to completely cover each tree. Apply in October, November or December before or just after first rain. **DO NOT** apply more than **12.6 lbs** (3.15 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days. DO NOT exceed 50.4 lbs** (12.6 lbs metallic copper) **per acre per year.**

Grape: Downy Mildew – Prepare and apply a **2-6-100 Bordeaux** mixture spray beginning when downy mildew is detected. Repeat as needed to achieve and maintain control. This mixture and its use will exhibit some phytotoxicity on most varieties. **DO NOT** apply more than **12.0 lbs** (3.0 lbs metallic copper) per acre per application. Minimum retreatment interval is **3 days. DO NOT exceed 80.0 lbs** (20.0 lbs metallic copper) **per acre per year.**

Olive: Olive Leaf Spot (Peacock spot), Olive Knot – Prepare a **10-10-100 Bordeaux** mixture. Apply in autumn before heavy winter rains to prevent peacock spot. In wet winters, a repeat spray may be needed in mid-winter. In areas with less than 10 inches of annual rainfall, a **5-5-100 Bordeaux** may be used. To help protect against olive knot, apply a 1**0-10-100 Bordeaux** mixture before heavy rains and again in the spring. Injury may occur in areas of less than 10 inches of rainfall. **DO NOT** apply more than **24 lbs** (6.0 lbs metallic copper) per acre per application. Minimum retreatment interval is **30 days**. **DO NOT exceed 72 lbs** (18 lbs metallic copper) **per acre per year.**

Peach: Leaf Curl – Prepare a **10-10-100 Bordeaux** mixture and apply at leaf fall or as a dormant spray in late fall or early spring before buds begin to swell. **DO NOT** apply more than **32 lbs** (8 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days. DO NOT exceed 72 lbs** (18 lbs metallic copper) **per acre per year.**

Walnuts: Walnut Blight – Prepare a **15-10-100 Bordeaux** mixture and apply in early pre-bloom before catkin blooms are showing (10-20% pistillate) before or after rain. Use only if Bordeaux mixture has been shown to be non-phytotoxic in your area. If desired, add one-half gal summer oil emulsion per 100 gals of water. **NOTE:** Addition of summer oil emulsion to pre-bloom and early bloom sprays may result in plant injury. **DO NOT** apply more than **16 lbs** (4.0 lbs metallic copper) per acre per application. Minimum retreatment interval is **7 days. DO NOT exceed 128 lbs** (32 lbs metallic copper) **per acre per year.**

CHEMIGATION INSTRUCTIONS

Apply this product only through one or more of the following types of systems: sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation system(s). Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential area, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses. Posting must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period. At the top of the sign shall be the words "KEEP OUT", followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word "STOP". Below the symbol shall be the words "PESTICIDES IN IRRIGATION WATER". All words shall consist of letters at least 2 ½ inches tall, and all letters and the symbol shall be a color that sharply contrasts with their immediate background. This sign is in addition to any sign posted to comply with the Worker Protection Standard.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS:
Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into the reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
See Treatment Instructions, below.

SPRINKLER CHEMIGATION:
The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. This pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

TREATMENT INSTRUCTIONS:
Do not apply when wind speed favors drift beyond the area intended for treatment. When mixing, fill nurse tank half full with water. Add Copper Sulfate Crystals slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. Stickers, spreaders, insecticides, nutrients, etc. should be added last. If compatibility is in question, use the compatibility jar test before mixing a whole tank. Because of the wide variety of possible combinations which can be encountered, observe all cautions and limitations on the label of all products used in mixtures. Copper Sulfate Crystals should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set or hand moved irrigation systems. Agitation is recommended.

STORAGE AND DISPOSAL
Do not contaminate water, food or feed by storage or disposal.
PESTICIDE STORAGE: Keep pesticide in original container. Do not put concentrate or dilutions of concentrate in food or drink containers.
PESTICIDE DISPOSAL: Pesticide wastes are acutely 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. Open burning and dumping is prohibited.
CONTAINER HANDLING: Nonrefillable container (bag). Do not reuse or refill this container. Completely empty bag into application equipment. Offer for recycling, if available. Or, dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(FOR RIGID, NONREFILLABLE CONTAINERS, EQUAL TO OR LESS THAN 50 LBS)
CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying 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 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, if available, or puncture and dispose of in a sanitary landfill, or by incineration.

(FOR RIGID, NONREFILLABLE CONTAINERS GREATER THAN 50 LBS)
CONTAINER HANDLING: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows. Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Recap 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

NOTICE: CHEM ONE LTD. warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. It is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of CHEM ONE LTD. To the extent consistent with applicable law, CHEM ONE LTD. shall not be liable for consequential, special or indirect damages resulting from the use or handling of this product. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer. To the extent consistent with applicable law exclusive remedy of any buyer or user of this product for any and all losses, injuries, or damages resulting from or in any way arising from the use, handling or application of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid for this product or at CHEM ONE LTD.'s election, the replacement of this product. CHEM ONE LTD.MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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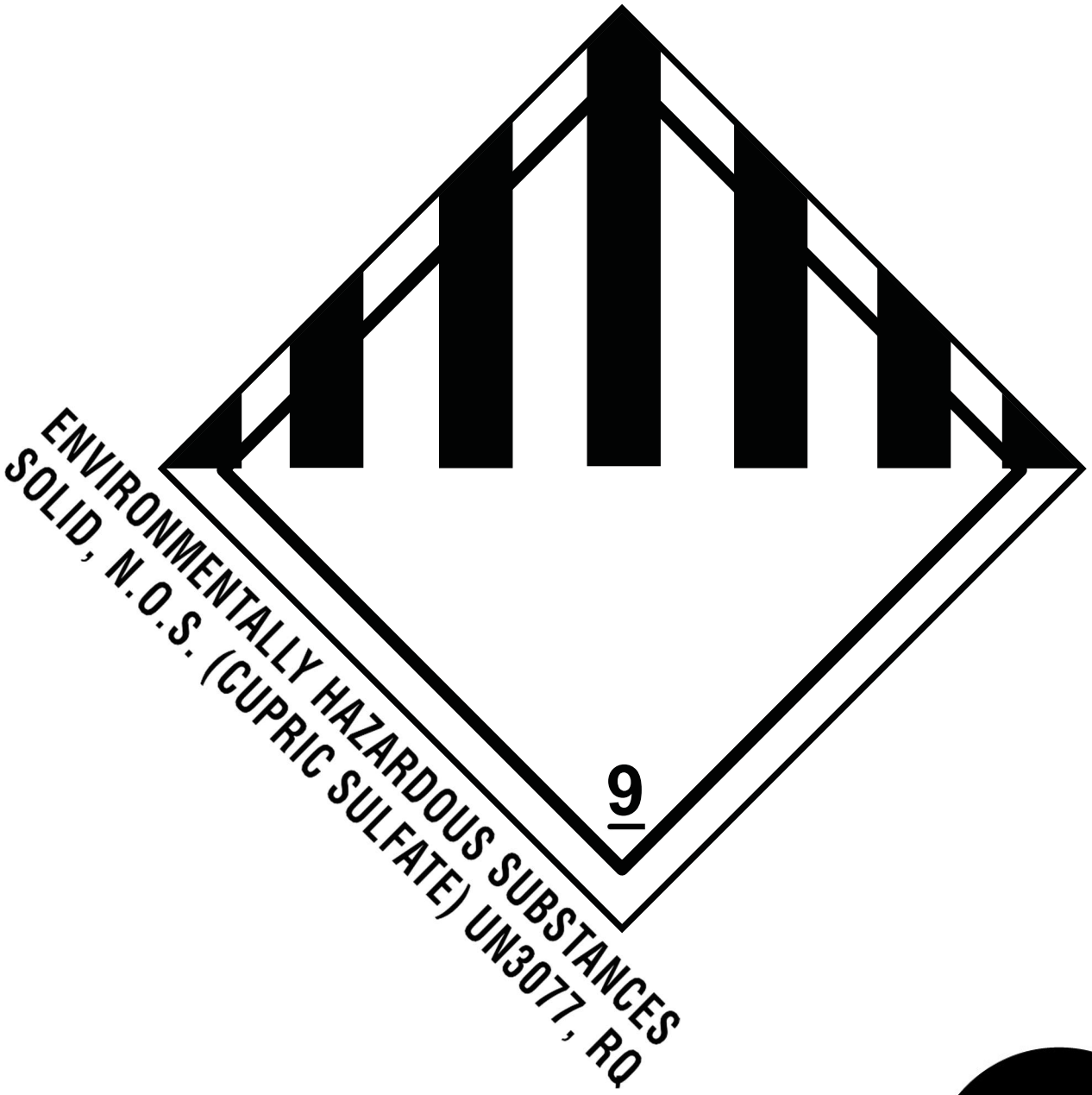
14140 Westfair East Dr
HOUSTON, TEXAS 77041-1104

ENVIRONMENTALLY HAZARDOUS SUBSTANCES
SOLID, N.O.S. (CUPRIC SULFATE) UN3077, RQ



CHEM ONE

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HOUSTON, TEXAS
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