

# ResGuard™

Algaecide / Bactericide\*

## KEEP OUT OF REACH OF CHILDREN DANGER / PELIGRO

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

### ACTIVE INGREDIENT:

\*Copper Sulfate Pentahydrate (CAS #7758-99-8).....19.8%

OTHER INGREDIENTS.....80.2%

TOTAL.....100.0%

\*5% Metallic Copper Equivalent

EPA Reg. No. 88930-1

EPA Est. No. 89146-CA-1

Non-Flammable  
DO NOT FREEZE

9.9 lbs. per gallon (1.188 Kg/L)

### PRODUCT INFORMATION:

ResGuard™ is used to control algae, bacteria\* and aquatic weeds in irrigation reservoirs and chemigation systems.

\*Non-public health bacteria

## PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals DANGER

Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Harmful if swallowed, inhaled or absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

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.

### FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information, call the National Poison Center at 1-800-222-1222.

**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 eye. Call a poison control center or physician immediately for treatment advice.

**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 immediately for treatment advice.

**If Swallowed:** Call a poison control center or doctor immediately for advice. Have the 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.

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

**Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.

### PHYSICAL OR CHEMICAL HAZARDS

Do not use near or in containers composed of iron.

### PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Long Sleeved Shirt
- Long Pants
- Chemical-resistant gloves made of any waterproof material. (Chemical resistance category A)
- Protective Eyewear
- Shoes plus socks

### USER SAFETY REQUIREMENTS

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 material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

### 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. As soon as possible, wash thoroughly and change into clean clothing.
- Wash the outside of gloves before removing.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Waters treated with this product may be hazardous to aquatic organisms. Treatment of aquatic weeds and algae can result in oxygen loss from decomposition of dead algae and weeds. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than 1/2 of the water body to avoid depletion of oxygen due to decaying vegetation. Wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outwards in

bands to allow fish to move into untreated areas. Consult with the State or local agency with primary responsibility for regulating pesticides before applying to public waters, to determine if a permit is required.

Certain water conditions including low pH ( $\leq 6.5$ ), 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.

### 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 requirement specific to your State and Tribe, consult the State/Tribal agency responsible for pesticide regulation.

### 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 allow people or pets to enter treated areas until sprays have dried.

### Spray Drift Management

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and the method of application (e.g., ground, aerial, 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 15 mph. Only apply this product if the wind direction favors on-target deposition (approximately 3 to 10 mph), and there are no sensitive areas within 250 feet downwind.

**Temperature Inversions:** If applying at wind speeds less than 3 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 drift 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 Application:** The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. When applications are made with a crosswind, the swath must be displaced downwind. The applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind. When there may be drift caused by wingtip or rotor vortices, the minimum practical boom length should be used.

**For Ground Boom Application:** Do not apply with a nozzle height greater than 4 feet above the crop.

## ALGAE/BACTERIA\* CONTROL IN IMPOUNDED WATERS, LAKES, PONDS, RESERVOIRS OR IRRIGATION CANALS:

Apply ResGuard™ through metering pump, subsurface hoses or from a properly equipped moving boat into the body of water. No more than ½ of the body of water may be treated in a single application. For small ponds, apply ResGuard™ by directly pouring 2 fluid ounces per 125 cubic feet (¼ tsp per 20 gallons) of water for 1 ppm of copper into the water around half of the perimeter of the body of water. When applying from boat, use minimal speed to allow the prop wash to disperse and mix the product into the treated waters. Dispense up to 5.5 gallons per acre-foot of water (see use rate chart below). Apply in late spring or early summer when algae/bacteria\* first appear. For best results, disperse ResGuard™ evenly to warm, still water on a sunny day when algae are near the surface. Several application points speed up dispersal.

Use rates vary, depending on algae/bacteria\* species, water hardness, water temperature, and amount of algae/bacteria\* present; as well as whether water is clear, turbid, flowing or static. Preferably, the water should be clear with temperatures above 60°F (15.6° C). Higher dosages are required at lower water temperatures, higher algae/bacteria\* concentrations, and for hard waters. Static water requires less chemical for algae/bacteria\* control than does flowing water. Use higher dosages for chara, nitella, and filamentous algae (pond scum), and lower dosages for 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. See the use rate chart below.

### USE RATES:

Gallons of Product per acre/ft	Equivalent Metallic Copper (ppm)
0.33	0.06
0.50	0.09
3.30	0.60
5.50	1.00

Before treating bodies of water, consult proper state authorities, such as the fisheries commission or conservation department to obtain any necessary permits. Do not apply copper sulfate to water less than 40 ppm alkalinity without first testing for fish toxicity in a separate container.

Treatment of algae can result in oxygen loss from the decomposition of dead algae, which may cause fish suffocation. Treat one-third to one-half of the water area in a single operation, and wait 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow fish to move into untreated areas. In regions where ponds freeze in winter, treatment should be done 6 to 8 weeks before expected freeze time to prevent masses of decaying algae under an ice cover.

Useful formulas for calculating water volume and flow rates:

To find the capacity of water storage containment in gallons:

Multiply the water volume in cubic feet times 7.5

Note: 1 Cubic Foot per Second of Flow = 27,000 gallons per hour

1 Acre Foot = 326,000 gallons

Calculate the Acre-Foot of water in body of water to be treated by calculating the surface area in square feet. Then divide by 43,560 (sq. ft./acre). Then multiply by the average depth in feet.

1 Acre Foot of Water = an area of water measuring 43,560 sq. ft. x 1 foot deep

1 Acre Foot of Water = 43,560 cubic feet = 325,851.6 gallons

1 Cubic Foot of Water = 62.4 pounds

1 Acre Foot of Water = 43,560 x 62.4 = 2,720,000 pounds

## IN NON-SPRINKLER, NON-DRIP IRRIGATION CONVEYANCE SYSTEMS AND CHEMIGATION SYSTEMS, DITCHES, CANALS AND SIMILAR OPEN IRRIGATION CONVEYANCES:

For continuous addition, add 2 fl. oz. per hour of ResGuard™ for each 1,000 gallons of water per hour. For conveyance systems longer than 30 miles, dispense this rate among injection points every 30 miles. Do not exceed the total dosage of 1 Gallon ResGuard™ in 60,000 gallons of water (1 ppm metallic copper).

## TO CONTROL ALGAE OR BACTERIA\* IN SPRINKLER, DRIP OR OTHER TYPES OF CLOSED IRRIGATION EQUIPMENT:

Use 1 pint ResGuard™ per 7,500 to 300,000 gallons of water. Agitation is not required. Do not mix with basic substances. ResGuard™ must be applied continuously for the duration of the water application.

### APPLICATION AND HANDLING EQUIPMENT:

Application, handling or storage equipment MUST consist of either fiberglass, PVCs, polypropylenes, viton, most plastics, aluminum or stainless steel. Never use mild steel, nylon, brass or copper around full strength ResGuard™. Always rinse equipment free and clean of ResGuard™ each night with plenty of fresh, clean water. Always store ResGuard™ above 32°F. Freezing may cause product separation. Seller makes no warranty for the performance of product which has been frozen.

### STORAGE AND DISPOSAL

**Pesticide Storage:** Store in a safe place away from PETS AND KEEP OUT OF THE REACH OF CHILDREN. Store between 40° and 120° F, away from excessive heat. ResGuard™ will freeze. Always keep container closed. Store ResGuard™ in its original container only. Bulk ResGuard™ shall be stored and handled in stainless steel, fiberglass, polypropylenes, PVCs or plastic equipment. Keep away from galvanized pipe and any nylon storage or handling equipment.

**Pesticide Disposal:** Excess ResGuard™ must be disposed of through use. Do not contaminate lakes, rivers, or streams as this may cause fish kills. 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. In the event of a spill, neutralize with limestone or baking soda before disposal. May deteriorate concrete.

### CONTAINER HANDLING:

**For Nonrefillable Containers ≤5 gallons:** 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 and drain for 10 seconds after the flow begins to drip. 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. Offer for recycling if available. If recycling is not available, puncture and dispose of in a sanitary

landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**For Nonrefillable Containers >5 gallons:** 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 and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. 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 rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling if available. If recycling is not available, puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**For Refillable Containers:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full of water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

### 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 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. To the extent consistent with applicable law, 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 connected with the use or handling of this product. To the extent consistent with applicable law, this product is offered and the buyer or user accepts it subject to the foregoing terms which may not be varied.

NET CONTENTS:	<input type="checkbox"/> 30 Gal. / 113.56L	<input type="checkbox"/> 55 Gal. / 208.19L
	<input type="checkbox"/> 275 Gal. / 1040.99L	<input type="checkbox"/> 3000 Gal/ 11356.23L

Manufactured for: Life Science Group, Inc.  
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Made in the U.S.A.