AQUATRINE

ALGAECIDE

Pat. No. 3,930,834 EPA Reg. No. 8959-33 EPA Est. No. 42291-GA-1

FOR USE IN FISH AND SHRIMP AQUACULTURE FACILITIES PONDS - TANKS - RACEWAYS

ACTIVE INGREDIENTS:	
Copper as elemental*	9.0%
INERT INGREDIENTS:	91.0%
TOTAL	100.0%

AQUATRINE contains 0.909 lbs. of elemental copper per gallon. (109 grams of elemental copper per liter)
*From mixed Copper-Ethanolamine complexes

KEEP OUT OF REACH OF CHILDREN
DANGER

FIRST AID	
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.
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 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 a poison control center or doctor. - Do not give anything by mouth to an unconscious person.

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

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

See Additional Precautions on Back Panel

FIVE GALLONS (18.92 Liters)

ACCEPTED

OCT 21 2005

Under the Federal Insecticide, Fungicide, and Rodenticide, Act as amended, for the pesticide, registered under EPA Reg. No. 8959-33

MANUFACTURED BY:

applied biochemists
GERMANTOWN, WISCONSIN 53022
1-800-558-5106
www.appliedbiochemists.com

GENERAL INFORMATION

AQUATRINE has been proven effective in the management of potential problem-producing algae populations in both fish and shrimp aquaculture facilities. A broad range of algae species are controlled by **AQUATRINE**, including, but not limited to: Chara, Spirogyra, Cladophora, Microcystis, Leucothrix, Spirulina, Enteromorpha, and Oscillatoria. **AQUATRINE** is equally effective in freshwater, saltwater, and brackish water since the mixed ethanolamine complexes prevent the reaction of copper with other chemical components in the water. Fish or shrimp may be harvested immediately after treatment.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Treatment area formulas, application rates, and use instructions which ensure proper product usage within various systems are provided in the following directions. Follow instructions which best describe your facility.

For effective control, proper chemical concentration must be maintained for a minimum of 3 hours contact time. **Static systems** (those with minimal or no flow) can be treated using surface spray application methods. **Flow-through systems** (those where significant dilution or loss of water from unregulated inflows or outflows will not allow for a 3 hour contact period) require metering-in of the **AQUATRINE** in order to maintain effective contact time.

DETERMINING VOLUME OF WATER TO BE TREATED

Calculate volume of water within the water body or structure to be treated by using the most applicable formula from the charts below:

L = Length D = Average Depth (m) = meters (min) = minute
W = Width V = Velocity (ft) = feet

STATIC SYSTEMS

Use Site	Formula		Volume Units
Ponds	$\frac{L(ft)xW(ft)xD(ft)}{43,560}$	=	Acre-Feet
	$\frac{L(m)xW(m)xD(m)}{10,000}$	=	Hectare-meters
Rectangular Tanks	L(ft)xW(ft)xD(ft)x7.5	=	Gallons
	L(m)xW(m)xD(m)x1000	=	Liters
Circular or Elliptical Tanks	L(ft)xW(ft)xD(ft)x5.9	=	Gallons
	L(m)xW(m)xD(m)x786	=	Liters

FLOW THROUGH SYSTEMS

If a flow meter, current meter, weir, or pre-set pump is unavailable and water flow rate is unknown the following formula can be used for calculation of flow rates in streams or raceway structures.

Use Site	Formula		Volume Units
Raceways & Streams	W(ft)xD(ft)xV*(ft/min.)x6.73	=	Gallons/minute
	W(m)xD(m)xV*(m/min)x900	=	Liters/minute

*Velocity is the distance traveled by a floating object in 1 minute.

DOSAGE RATE AND METHOD OF APPLICATION

PONDS

APPLICATION RATES FOR PONDS

ALGAE TYPE	PPM COPPER	Gallons per Surface Acre — Depth in Feet				Liters per Hectare — Depth in Meters			
		1	2	3	4	0.5	0.75	1.0	1.25
Planktonic	0.2	0.6	1.2	1.8	2.4	9.2	13.8	18.4	23.0
Filamentous	0.2	0.6	1.2	1.8	2.4	9.2	13.8	18.4	23.0
Chara/Nitella	0.4	1.2	2.4	3.6	4.8	18.4	27.6	36.8	46.0

Depending upon the type of applicating equipment being used, dilute the required amount of **AQUATRINE** with sufficient water to ensure even chemical distribution. Break up floating algae mats before spraying or while application is being made. Use hand or power sprayer adjusted to rain-sized droplets. Spray shoreline areas first to avoid trapping fish or shrimp.

- For tanks or raceways connected to water supply systems. Close water supply valve prior to treatment. If this is not possible, refer to instructions for **FLOW-THROUGH SYSTEMS.** Aeration devices and water recirculation pumps (if so equipped) should remain in operation during treatment period.
- To facilitate accurate measurement, use a dilute solution of **AQUATRINE** to treat small volume tanks and pools. Prepare a 10% solution of **AQUATRINE** by diluting 1 part **AQUATRINE** with 9 parts water, by volume. Refer to the chart below to determine the amount of 10% **AQUATRINE** solution required to obtain 0.1 to 1.0 ppm copper in shrimp culture tanks or 0.2 to 0.4 ppm copper in fish culture tanks. Within this concentration range use higher rates for heavy infestations; lower rates for light infestations.

APPLICATION RATES FOR SMALL VOLUME TANKS AND PONDS

		PPM Copper	Ounces of 10% AQUATRINE Tank Capacity (Gallons)			Milliliters of 10% AQUATRINE Tank Capacity (Liters)		
			1,000	20,000	50,000	5,000	75,000	200,000
Shrimp Tanks	Fish Tanks	0.1	1.2	24	60	46	690	1840
		0.2	2.4	48	120	92	1380	3680
		0.3	3.6	72	180	138	2070	5520
		0.4	4.8	96	240	184	2760	7360
		0.5	6.0	120	300	230	3450	9200
		0.6	7.2	144	360	276	4140	11040
		0.7	8.4	168	420	322	4830	12880
		0.8	9.6	192	480	368	5520	14720
		0.9	10.8	216	540	414	6210	16560
		1.0	12.0	240	600	460	6900	18400

- If necessary, further dilute the 10% **AQUATRINE** solution with water to ensure even distribution across the water surface. Use a portable sprayer, sprinkling device, or incorporate solution at the intake of the recirculation pump.
- For systems equipped with flow shut-off valve, normal delivery of water may be resumed between 12 to 24 hours following application.

FLOW-THROUGH SYSTEMS

- Facilities where water flow into tanks or raceways cannot be shut off, require treatment with a chemical drip system or metering device. Accurate measurement of water flow rate is necessary for proper calibration of these units.
- Prepare a 10% solution of **AQUATRINE** by diluting 1 part **AQUATRINE** with 9 parts water, by volume. Refer to the chart below to determine the amount of 10% **AQUATRINE** required per minute to maintain 0.1 to 0.5 ppm copper in shrimp culture raceways or 0.2 to 0.4 ppm copper in fish culture raceways. Within the range provided, use high concentrations and longer duration for heavy infestations, lower concentrations and shorter duration for light infestations.

CALIBRATION OF DRIP OR METERING SYSTEMS FOR FLOW-THROUGH SYSTEMS

		PPM Copper	Oz. 10% AQUATRINE/Min. Water Flow Rate Gal./Min.			ML of 10% AQUATRINE/Min. Water Flow Rate Liters/Min.		
			50	250	500	200	1,000	2,000
SHRIMP		0.1	0.06	0.3	0.6	1.8	9	18
	FISH	0.2	0.12	0.6	1.2	3.6	18	36
		0.3	0.18	0.9	1.8	5.4	27	54
		0.4	0.24	1.2	2.4	7.2	36	72
		0.5	0.30	1.5	3.0	9.0	45	90

Treatment should be maintained for a 12 to 24 hour period to allow for a minimum of 3 hours contact time at the desired copper concentration throughout the entire system. That is, maintain drip for 3 hours longer than the water turnover time within the system. The final 3 hours of treatment should occur during daylight hours. Place a sufficient amount of 10% **AQUATRINE** solution in the drip system or meter tank reservoir to sustain application for the entire treatment period.

GENERAL TREATMENT NOTES

The following suggestions apply to the use of **AQUATRINE** in all approved use sites:
For optimum effectiveness....

- Apply under calm, sunny conditions when water temperatures are at least 60°F (15°C).
- Treat when growth first begins to appear or create a nuisance.
- Apply in a manner that will ensure even distribution of the chemical within the treatment area.
- Re-treat areas if regrowth begins to appear and seasonal control is desired. Allow 1 to 2 weeks between consecutive treatments.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER

CORROSIVE. Causes irreversible eye damage and skin burns. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

ENVIRONMENTAL HAZARDS:

This product may be toxic to trout and other aquatic organisms in soft water. Fish toxicity is dependent upon the hardness of water. **Do not** use in water containing trout if the carbonate hardness of water does not exceed 50 ppm. **Do not** use in waters containing Koi and hybrid goldfish.

Fish and Shrimp Cautions

- Where algae growth is excessive, decomposition following treatment could deplete dissolved oxygen concentrations resulting in loss of fish or shrimp. To prevent this occurrence, follow one or more of the prescribed procedures below, depending upon your facility.

  a) Treat 1/3 to 1/2 of the water area at a time allowing 1 to 2 weeks between consecutive treatments.

  b) Maintain operation of mechanical aerators and recirculators during post-treatment period until visible decomposition of the algae has occurred.

  c) Resume water flow in controllable flow-through systems 12 to 24 hours following chemical application.

- This product should not be applied in systems where biofilters are utilized for water purification as this may inhibit microbial activity.

STORAGE & DISPOSAL:

Do not contaminate water, food or feed by storage or disposal.
PESTICIDE STORAGE: Keep container closed when not in use. Open dumping is prohibited.

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.

CONTAINER DISPOSAL: Reseal container and offer for recondition or triple rinse (or equivalent) and offer for recycling, reconditioning or disposal in approved landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Consult Federal, State or local authorities for approved alternative procedures.

NOTICE

Neither the manufacturer nor the seller makes any warranty, expressed or implied concerning the use of this product other than indicated on the label. Buyer assumes risk of use of this material when such use is contrary to label instructions. Read and follow the label directions carefully.