

ALGIMYCIN®-PWF

ALGAECIDE / CYANOBACTERIOCIDE

GENERAL INFORMATION

Algimycin PWF Algaecide is a liquid, water soluble copper formulation designed to effectively control a broad range of algae and cyanobacteria growth in potable water sources including reservoirs, lakes, ponds and related water conveyance systems. Citric and gluconic acids in the formulation provide added chemical stability to the copper when used in alkaline waters. Control of certain forms of algae and cyanobacteria in these water sources can aid in the reduction of taste and odor problems associated with 2-methylisoborneol and geosmin production from these organisms. Dosage rates and frequency of treatment should be based upon the sensitivity of species present, the extent/biomass of the bloom and the depth of the growth present in the water column.

DIRECTIONS FOR USE

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

Pre-Treatment Considerations: Consult your proper state authorities such as Dept. of Natural Resources, Fisheries Commission, Health Dept. or Environmental Agency to obtain necessary permits. Initial treatment with Algimycin PWF Algaecide should be considered at the onset of nuisance bloom conditions as evidenced by initial taste and odor complaints; high cell counts or chlorophyll a concentrations; high MIB or geosmin concentrations; visible surface scum formations; low Secchi disk readings; significant daily fluctuations in dissolved oxygen; and/or sudden increases in pH. Monitoring of several of these parameters on a regular basis will assist in optimizing the timing of treatments and reducing the amounts of Algimycin PWF Algaecide needed for seasonal control. Identification of primary nuisance species or genera may also be helpful in determining and refining dosage rates.

Identify Target Organism(s): If target species or genera are known, determine dosage from Table 1 for the corresponding organism(s) and the level of growth present. If multiple target organisms are present, select the higher rate. If positive identification cannot be made, treatment rates should be determined based upon the algae growth form as indicated in Table 2.

Calculate Volume of Water to be Treated: Treatment volume should be calculated based upon the surface area and depth of growth. Surface mats of filamentous algae often extend underwater and may be attached to bottom substrates. Similarly planktonic cells are dispersed within the water column depending upon light or temperature conditions. Measure Average Depth of Growth at several locations within the targeted treatment area and calculate Volume of Water to be Treated as follows:

$$\text{Avg. Length (ft.)} \times \text{Avg. Width (ft.)} \times \text{Avg. Depth of Growth} = \text{Cubic Feet of Water}$$

$$\frac{\text{Cubic Feet of Water}}{43,560} = \text{Acre-Feet} \quad \text{-or-} \quad \text{Cubic Feet of Water} \times 7.48 = \text{Gallons}$$

Note: 1 acre foot = 326,000 gallons

Determine Dosage Rate: Use the PPM Copper Concentration selected from Table 1 or Table 2 to determine Dosage Rate from Table 3.

Table 1. PPM COPPER REQUIRED FOR CONTROL OF SOME GENERA OF ALGAE AND CYANOBACTERIA WITH ALGIMYCIN PWF

(Use lower range concentrations in soft waters where algae growth is light to moderate. Use higher range concentrations in moderate to hard waters where algae growth is moderate to heavy.)

0.06 to 0.12 ppm	0.12 to 0.25 ppm	0.25 to 0.4 ppm	0.4 to 0.5 ppm	0.6 to 0.75 ppm
Anabaena Microcystis Aphanizomenon Fragilaria Spirogyra Ulothrix Uroglena	Ceratium Euglena Microspora Oscillatoria Synedra Tabellaria Zygnema	Chlorella Cymbella Hawmatococcus* Palmella Phormidium Cladophora	Ankistrodemus Pithophora Chara Nitella Pandorina Scenedesmus Hydrodictyon	Desmidium Eudorina Nostoc

Table 2. PPM COPPER REQUIRED FOR CONTROL OF ALGAE GROWTH FORMS/BIO MASS (Abundance) WITH ALGIMYCIN PWF

(Use the following concentrations in areas where algae genera have not been positively identified. Use lower concentration in soft waters and higher range concentrations in moderate to hard waters.)

Abundance	Growth Form	
	Planktonic	Filamentous
Light	0.06 - 0.12	0.2 - 0.3
Moderate	0.12 - 0.25	0.3 - 0.5
Heavy	0.30 - 0.40	0.4 - 0.5
Severe	0.50 - 1.00	0.6 - 1.0

Table 3. ALGIMYCIN PWF Dosage Rate (Gallons)

ppm copper	0.06	0.10	0.12	0.20	0.25	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
Per Acre-Foot	0.32	0.53	0.64	1.06	1.33	1.59	2.13	2.66	3.19	3.72	4.25	4.78	5.31
Per Million Gallons	0.97	1.63	1.96	3.26	4.08	4.89	6.52	8.15	9.78	11.4	13.0	14.7	16.3

Total Quantity of ALGIMYCIN PWF required can be determined by multiplying Dosage Rate times Total Volume of Water to be Treated. Do not exceed 1.0 ppm copper dosage rate.

CONTROLS ALGAE AND CYANOBACTERIA IN POTABLE WATER RESERVOIRS, PONDS, LAKES, IRRIGATION CONVEYANCE SYSTEMS, DITCHES, CANALS & LATERALS

EPA Reg. No. 7364-09-8959

EPA Est. No. 42291-GA-1

ACTIVE INGREDIENTS:

Copper (in the form of copper citrate and copper gluconate chelates).....5.0%
 INERT INGREDIENTS:.....95.0%
 TOTAL.....100.00%

Contains 0.512lbs. (62g/l) of copper per gallon



Certified to ANSI-NSF 60



Manufactured for:

ab applied biochemists

an Arch Chemicals, Inc. company
 W175N1163 Stonewood Dr. Ste. 234,
 Germantown WI 53022

1-800-558-5106 • www.appliedbiochemists.com

METHOD OF APPLICATION

- FOR POTABLE DRINKING WATER RESERVOIRS, LAKES, PONDS:** If treated water is a source of potable water, the residue of copper must not exceed 1 ppm.
- For best results, begin applications early in the season when algae and/or cyanobacteria problems become evident and water temperature above 60°F or 15.6°C.
 - Before applying, dilute Algimycin PWF Algaecide with enough water to ensure even distribution with the type of equipment being used. Break up floating mats of filamentous algae or scum formations before spraying or while application is being made.
 - Use rain-sized droplets for spraying surface algae mats and cyanobacterial scum formations. Subsurface injection should be used where growth extends into deeper water. Algimycin PWF Algaecide will disperse within the water column, however, apply as evenly as possible throughout the target area.
 - Spray shoreline areas first to avoid trapping fish. In areas of heavy infestation, treat only one-third to one-half of the water volume at one time to avoid fish suffocation caused by oxygen depletion from decaying algae. Allow sufficient time between treatments to allow for oxygen recovery as indicated by D.O. measurements in the water column. In regions where ponds freeze in winter, treatment should be done six (6) to eight (8) weeks before expected freeze time to prevent masses of decaying algae under an ice cover.

IRRIGATION CONVEYANCE AND DRAINAGE CANAL SYSTEMS: Prior to treatment it is important to accurately determine water flow rates. In the absence of weirs, orifices or similar devices which give accurate water flow measurements, volume of flow may be estimated by using the following formula:

$$\text{Avg. Width (ft.)} \times \text{Avg. Depth (ft.)} \times \text{Velocity* (ft./sec)} \times 0.9 = \text{Cubic Feet per Second (C.F.S.)}$$

*Velocity is the time it takes a floating object to travel a given distance downstream. Dividing the distance traveled (feet) by the time (seconds) will yield Velocity (ft./sec.). This measurement should be repeated at least three times at the intended application site and then averaged.

After accurately determining the water flow rate in C.F.S. or gallons per minute, find the corresponding Algimycin PWF Algaecide drip rate on the chart below:

- Calculate the amount of Algimycin PWF Algaecide needed to maintain the drip rate for a minimum of 3 hours by multiplying Qts./Hr. x 3; ml/min. x 180 or Fl. Oz./Min. x 180. Dosage will maintain 1.0 ppm Copper concentration in the treated water for a 3 hour contact period. Treatment should continue until waters at the downstream portion of the treatment area reach desired copper concentration. This can be determined by testing for total copper or by calculating turnover time for that section of the canal based upon its flow rates and volume. Introduction of Algimycin PWF Algaecide should be made in the channel at weir or other turbulence-creating structures to promote chemical dispersion.
- Equip Algimycin PWF Algaecide container with a vented, adjustable valve system constructed to maintain a constant drip or other suitable metering device. Use a stop watch and appropriate measuring container to set the desired drip rate. Readjust accordingly if channel flow rate changes during the treatment period.
- Distance of control down the waterway will vary depending upon density of growth. Treatments of longer duration or at more frequent intervals along the channel may be necessary. Do not exceed 1.0 ppm copper in the water at any point along the treatment zone. Periodic maintenance treatments may be required for seasonal control.

C.F.S.	Water Flow Rate				ALGIMYCIN PWF Drip Rate				
	Gal.Min	Qts/Hr	ml/min.	Fl.Oz./Min.	C.F.S.	Gal.Min	Qts/Hr	ml/min.	Fl.Oz./Min.
1	450	1.75	28	0.9	1	450	1.75	28	0.9
2	900	3.50	56	1.8	2	900	3.50	56	1.8
3	1350	5.25	84	2.7	3	1350	5.25	84	2.7
4	1800	7.00	112	3.6	4	1800	7.00	112	3.6
5	2250	8.75	140	4.5	5	2250	8.75	140	4.5

GENERAL TREATMENT NOTES: The following suggestions apply to the use of Algimycin PWF Algaecide as an algaecide or cyanobactericide in all labeled sites: For optimum effectiveness . . .

- Begin applications early in the day under calm, bright conditions when water temperatures are at least 60°F (15.6°C).
- Treat when growth first begins to appear and create a nuisance, if possible.
- 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 dissolved oxygen levels to recover between consecutive treatments.
- Visible reduction in algae growth should be observed in 24 to 48 hours following application with full effects of treatments sometimes taking 7 – 10 days depending upon algae forms, weather, degree of infestation and water temperatures.

APPLICATION AND HANDLING EQUIPMENT

Application, handling or storage equipment must consist of either fiberglass, PVC's, polypropylenes, viton, most plastic, aluminum or stainless steel. Never use mild steel, nylon, brass or copper around full strength Algimycin PWF Algaecide. Always rinse equipment free and clean of Algimycin PWF Algaecide each night with plenty of fresh, clean water. Concentrate will destroy cotton and nylon materials. Seller makes no warranty for the performance of product that has been frozen.

KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCION

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 eyelids open and rinse slowly with water for 15-20 minutes. Remove contact lenses if present after 5 minutes then continue rinsing eye. Call poison control center or doctor for treatment advice. **IF SWALLOWED:** Call a poison control center 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 a doctor. Do not give anything by mouth 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 poison control center or doctor for treatment advice. **Have the product container or label with you when calling a poison control center or doctor, or going for treatment. If a medical emergency arises contact Arch Chemicals Emergency Action Network in the US call 1-800-654-6911 or outside the US call 423-780-2970. For help with a spill, leak, fire or exposure involving this material call CHEMTREC 1-800-424-9300.** Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage. Measure against circulatory shock, respiratory depression and convulsions may be needed.

PRECAUTIONARY STATEMENTS/HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed. Causes moderate eye irritation. Harmful if inhaled. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Avoid contact with the eyes, skin or clothing. Wear protective eyewear. Wear long-sleeved shirt and long pants, socks, shoes and gloves. **ENVIRONMENTAL HAZARDS:** This pesticide is toxic to fish and aquatic organisms. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent sites. Direct application of this product to water may cause a significant reduction in the populations of aquatic invertebrates, plants, and fish. Do not treat more than one-half of lake or pond at one time to avoid depletion of oxygen levels due to decaying vegetation. Allow one to two weeks between treatments for oxygen levels to recover. Trout and other species of fish may be killed at application rates recommended on this label, especially in soft or acid waters. Do not use in waters containing trout, goldfish, koi or other sensitive species if carbonate hardness is less than 50 ppm. Fish toxicity generally decreases when the hardness of the water increases. Do not contaminate water when disposing of equipment wastewaters. Consult your local state Fish and Game Agency before applying this product to public waters. Permits may be required before treating such water.

The maximum usage level of Algimycin PWF Algaecide in potable waters is 9.2 mg/L.

STORAGE AND DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

PESTICIDE STORAGE: Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Store in a cool, dry area. Always store above 32°F. Do not allow to freeze. Freezing may cause product separation. Product will freeze. Always keep container closed. Product should be stored and handled in stainless steel, fiberglass, PVC's, polypropylenes or plastic equipment. Keep away from galvanized pipe and nylon storage handling equipment. If container is damaged, place the container in a plastic bag. In the event of a spill, neutralize with limestone or baking soda before disposal. Concentrate may deteriorate concrete.

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: (For <5 gallon non-refillable containers only):** Nonrefillable container. Do not reuse container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning if available or puncture and dispose of in 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. **(For >5 gallon non-refillable containers only):** Nonrefillable container. Do not reuse container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ with water and recap. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand on its 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 or reconditioning if available or puncture and dispose of 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. **(For 275 gallon refillable container only):** Refillable container. 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 mix tank. Fill container about 10 percent full with water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat rinsing procedure two more times. Then offer for recycling or reconditioning if available or puncture and dispose of 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.

WARRANTY STATEMENT: To the extent consistent with applicable law neither the manufacturer nor the seller makes any warranty, expressed or implied concerning the use of this product other than indicated on the label. To the extent consistent with applicable law buyer assumes risk of use of this material when such use is contrary to label instructions. Read and follow the label directions.