

## **POTABLE WATER RESERVOIRS, ETC. - ANABAENA, MICROCYSTIS, ETC.**

### General Information

#### PRODUCT INFORMATION

This product 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.

#### APPLICATION RESTRICTIONS:

[For end-use products in containers >5 gallons or >50 pounds.] 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.

[For end-use consumer products in containers less than 5 gallons or less than 50 pounds] Do not apply this product in a way that will contact adults, children, or pets, either directly or through drift. Some states may require permits for the application of this product to public waters. Check with your local authorities.

[For all sizes] Do not enter or allow others to enter until application of product has been completed in the area.

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 this product 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 this product 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 (See label for formula).

#### GENERAL TREATMENT FACTORS AND CONSIDERATIONS:

The following suggestions apply to the use of this product as an algaecide or cyanobactericide in all labeled sites:

- Begin applications early in the day under calm, bright conditions when water temperatures are at least 60°F (15.5°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.
- Before applying, dilute this product 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. This product will disperse within the water column, however, apply as evenly as possible throughout the target area.
- Spray shoreline areas first to avoid trapping fish.
- 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.

### Limitations, Restrictions, and Exceptions

POTABLE WATER RESERVOIRS, PONDS, LAKES, IRRIGATION CONVEYANCE SYSTEMS, DITCHES, CANALS AND LATERALS - CONTROL OF SOME GENERA OF ALGAE AND CYANOBACTERIA WITH ALGIMYCIN PWF - ANABAENA, MICROCYSTIS, ETC.

FOR 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.

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 any waters.

**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:

Avg. Width (ft.) x Avg. Depth (ft.) x Velocity (ft./sec) x 0.9 = 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.

(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.)

Method

[Spray](#)

Rates

[field\\_rates 0](#)

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Timings

[Early in the season when algae and/or cyanobacteria problems become evident and water temperature above 60°F or 15.6°C.](#)