



AQUATIC
TECHNOLOGIES



COPTROL Algicide

Your questions answered:

How does Coptrol work? Is it safe?

What types of algae will it control?

Generally speaking all free floating and filamentous green algae including brown slime.

Will it affect livestock, birds and fish?

When used in accordance with the label directions, Coptrol will not harm livestock, birds or fish.

How does it work?

Algae seek out Coptrol for its nutrient value and absorb it through their cell wall. Digestive enzymes within the cell break down the compound and release copper within the cell to kill algae.

How effective is Coptrol?

Coptrol kills algae and nothing else. It is a copper miser, when compared with copper sulphate (bluestone) it uses one fifth to one eighth of the amount required if copper sulphate was used and achieves a better result. Results are apparent soon after application. When used as directed it does not harm humans, fish, stock, wildlife, plants, pastures or turf.

How safe is it?

It is completely safe when used in human drinking water. See a [word of caution](#) later in these notes concerning blue-green algal blooms. There is no risk to domestic animals where Coptrol is used in farm impoundments. It will not corrode metal surfaces such as water tanks, irrigation equipment, spray valves and pumps.

It is not corrosive to aircraft and aircraft equipment. It will not build up in the soil.

Coptrol is specific to algae in water and should not be used for aquatic weed control. Common weeds often mistaken for algae are Duckweed, Azolla and Salvinia.

It will not harm rice, hydroponic plants, turf, pastures and golf greens.

No withholding period is required when used as directed.

Coptrol will not kill aquatic weeds. Common weeds often mistaken for algae are Duckweed, Azolla and Salvinia.

How is it applied?

Coptrol is easy to apply. First, measure and dilute the required amount of Coptrol; in about one in ten in water, then apply evenly over the surface of the water being treated.

Coptrol may be applied from aircraft, from boats or can be sprayed from the banks of larger storages. It may be dripped directly into flowing water in high volume treatments such as flood irrigation water.



AQUATIC
TECHNOLOGIES



Can Coptrol be used in conjunction with farm animals?

In normal circumstances, use of Coptrol to treat stock water, dams or waterways will not present a toxicity problem. On the contrary, copper deficiency in pastures grazed with sheep and cattle in large areas of NSW, Australia, has been a persistent problem for many years.

Hungerford (1975) stated that animals grazing from a pasture which contains less than 4 ppm of copper will certainly suffer from Copper deficiency. He further suggested that the popular copper sulphate worm drench of earlier years may have masked the inherent copper deficiency over wide areas of pasture in NSW.

Word of caution: **Blue-green algal blooms** occur when there are high nutrient levels in the water, low flows in rivers, low wind and high temperatures. The main problem with blue-green algae is the ability of some, to produce highly potent toxins. The toxins produced can persist in water for weeks.

In Australia no recorded human deaths have been attributed to blue-green algal toxins. The best documented case of human deaths occurred in Brazil, where around 75 dialysis patients died after direct exposure to toxins in their dialysis fluid. However, many stock deaths have been documented in Australia. The first scientifically documented case of an algal bloom causing deaths was in South Australia's Lake Alexandrina in 1878, where cattle, pigs, horses and sheep died within hours of drinking contaminated water. The toxins produced can persist in water for weeks. The toxins can also be concentrated by shellfish, which pose a potential health risk if they are consumed.

Modern sensors now exist to detect algae and determine the presence of cyanobacteria. More details may be obtained by contacting Aquatic Technologies.

Extreme diligence should be exercised when treating potable water supplies which are heavily infested. As each water storage is unique it is **recommended to obtain & rely on specific independent advice.**

Treatment of algal blooms with Coptrol will cause the dead algae to release the neurotoxins into the water immediately. These toxins may present a hazard to livestock immediately upon treatment and for a further period of about 28 days. The degree of risk depends on the type of algae present, the level of infestation and the time taken for aquatic bacteria to detoxify the toxins.

However, if the treatment is not undertaken immediately the algae will continue to bloom, releasing increasing amounts of toxin into the stock water supply with inevitable serious results.

When Coptrol treatment finally occurs the released toxins will be present in the water at much higher rates and for much longer periods. It is best to treat algal blooms early and to exclude livestock for at least 28 days.

What about Ragwort toxicity?

The alkaloid in Ragwort weed (*Senecio jacobaea*), which is toxic to horses and cattle, does not affect sheep which often graze on the weed. However, the Ragwort alkaloid reduces sheep's

ability to excrete copper and thus Coptrol should not be used in water sources where sheep are grazing on Ragwort.



AQUATIC
TECHNOLOGIES



Can Coptrol be used in Ornamental fish ponds?

Water treated with Coptrol at a level of 1 ppm elemental Cu (copper) does not result in a significant copper residue problem for fish. Chelated copper compounds, especially Coptrol, are highly specific to algae and have been shown to present a minimum hazard to fish.

For more information on fish see Coptrol use in aquaculture.

USEFUL HINT: Decomposing algae treated with Coptrol may lead to oxygen depletion of the water. Lack of oxygen may cause fish to suffocate. Therefore, in bodies of water containing fish, it is best to kill algae slowly. It is recommended to treat only one third of the area, then wait 10 days to allow the oxygen level to build up again. Then, resume the treatment beginning from the shore and moving outwards in bands to avoid trapping fish in treated areas.

Can water treated with Coptrol be used for irrigation?

Water treated with Coptrol at copper levels of 0.2 ppm to 1.0 ppm present no hazard when used for watering or irrigating green pastures or crops. Copper as a micro-nutrient is frequently included in all-purpose fertilizers. Copper is also used liberally in horticultural pesticide formulations, such as copper oxychloride and Bordeaux mixture.

Is it safe to swim with Coptrol?

Yes, swimming, fishing, (except in blue-green algae infestations) and other recreational activities will not be inhibited by treatment of the water with Coptrol.

What about dogs, cats and other pets?

When Coptrol is used at rates authorised on the label, it will not present any hazard to companion animals. What humans can drink, pets can also.

How long will Coptrol last in the water?

The active life will depend on the level of algae present at time of treatment. Coptrol is only removed from treated water when it is killing algae. Algae seek out Coptrol for its nutrient value and absorb it into their cell wall. Digestive enzymes within the cell break down the compound and release the copper within the cell to kill algae. Copper persistence in the water at algitoxic levels is longer than with old-fashioned inorganic copper compounds such as bluestone.

Will I need more than one treatment?

Generally speaking no. Used at the correct rate, Coptrol will control most infestations in a single treatment. However, there are a number of situations where more than one treatment is advisable. In bodies of water containing fish, it is best to kill algae slowly. It is recommended to treat only one third of the area, then wait 10 days to allow the oxygen level to build up again. In particularly heavy infestations of mixed algae, a second treatment after 10-15 days may prove useful to ensure clean sparkling water.

Can Coptrol be used in drinking water tanks?

The three components of Coptrol are specifically exempted from the schedules of the NHMRC* Uniform Poisons Standard. Coptrol can be used in all water for human consumption. However, if the water tank is sealed from sunlight algae cannot grow and treatment with Coptrol is unnecessary.

*National Health and Medicine Research Council of Australia.



AQUATIC TECHNOLOGIES



Will it work in winter?

Yes, Coptrol can be used at any time of the year, providing water temperature does not fall below 16°C (61°F).

How can I apply it?

Because it is a highly soluble liquid Coptrol is really easy to apply. For general application to farm dams/ponds, simply dilute 1:10 to 1:20 with water and spray evenly over the surface from aircraft, from boats or pontoons, from the banks of smaller storages or even dripped directly into flowing water.

Why is Coptrol so effective in rice crops?

Algae, or slime, are a perpetual problem in rice crops in Australia and in other parts of the world. In some years there are so many algae in the water that great slabs lie all over the surface smothering the emerging crop.

Coptrol offers a new approach in the prevention and control of free floating and filamentous algae in rice.

Far from being irritant and invasive, it is extremely adaptable in application. It can:

- Piggyback on herbicide and insecticides flown on to aerially sown or drill sown crops.
- Be mixed with water and dripped in to water flowing into bays.
- Be poured from banks directly into flooded bays.

When using Coptrol in a tank mix with chlorpyrifos RCI Compatibility Agent should be added at the rate of 1 % of the total volume of mix. This protects the two products from reacting with each other. And allows growers the opportunity of flying both Coptrol and the insecticide on together.

Compare Coptrol with other products

A) Chelated Copper Products

Is Coptrol the same as other chelated products?

No.

How is it different?

It is a different formula using a superior method of chelation.

What is the difference?

Coptrol contains more Copper and more Chelating agent, you can observe the difference by comparing the viscosity of the products.

The competition has a watery consistency, whereas Coptrol has the consistency of honey.

Why is it important?

Copper is the active ingredient that kills the algae; the chelating agent is the method used to deliver copper into an algal cell. Most importantly the chelating agent protects copper from reacting with other chemicals and the environment.



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Does less chelating agent make a product less effective?

Yes, reducing the chelating agent available will potentially reduce the stability of the compound.

How does this affect my decision to control algae?

Unlike Coptrol, competitive products have up to 20% water added to their formulations. The effect of this extra water is:

1. The product will have a reduced ability to protect a crop from algal growth when used as a preventative.
2. Lower levels of chelate will mean tank mixes with other products will be less stable and more likely to react with the other chemicals included in a mix.
3. It is less effective when dealing with brown slime.
4. It cannot be used with the compatibility agent.