

AGMIN NEWSLETTER No. 213

Cupricide® Addition Rates

Agmin Cupricide® is a very efficient Algicide when used at the correct concentration. The active ingredient of Cupricide® is copper, which is bound in a stable complex with organic ligands known as "ethanolamines". Required copper concentrations are expressed in the range 0.2 – 1.0mg/L (0.2-1.0ppm), depending on the particular species of algae growing in the water body.

Typically, it has been found that only the top 1 metre surface layer of water needs to be treated with Cupricide®. However, in many situations it is desirable to treat the entire water volume in shallow dams, water reservoirs, fishponds and storage tanks. In these applications, we have calculated the addition rates of Cupricide® to treat the entire volume of water, at three copper concentration levels of 0.2, 0.5 and 1.0mg/L. (See Table below).

The water volume can be estimated from the dimensions of the dam or reservoir, by multiplying the three measurements of length x depth x width (in metres); this product in cubic metres (m³) can be converted to litres by multiplying by 1000.

$$\begin{aligned} \text{E.g., } 10 \text{ metre (long)} \times 4 \text{ metres (wide)} \times 2 \text{ metres (deep)} &= 80\text{m}^3 \\ \text{Water volume} &= 80\text{m}^3 \times 1000 = 80,000 \text{ litres.} \end{aligned}$$

Or for circular water tanks multiply Diameter (metres) x Diameter (metres) x Height (metres) x 0.785. This result is in cubic metres (m³) and can be converted to litres by multiplying by 1000.

$$\begin{aligned} \text{E.g., Diameter 3 m tank has 5 m height:} \\ 3 \times 3 \times 5 \times 0.785 &= 35.33 \text{ m}^3 \end{aligned}$$

$$\text{Water volume} = 35.33 \times 1000 \{ 35,330 \text{ litres}$$

Cupricide® Additions Required

Multiply the water volume in cubic metres;

- a) For low intensity algal infestation 2 ml
- b) For medium intensity algal infestation 5 ml
- c) For high intensity algal infestation 10 ml

Water Volume	0.2 mg/L Copper	0.5 mg/L Copper	1.0 mg/L Copper
1000 litres	2 ml	5 ml	10 ml
5000 litres	10 ml	25 ml	50 ml
10,000 litres (10KL)	20 ml	50 ml	100 ml
50,000 litres (50KL)	100 ml	250 ml	500 ml
100,000 litres (100KL)	200 ml	500 ml	1000 ml
500,000 litres (500KL)	1.0 litre	2.5 litres	5.0 litres
1,000,000 litres = 1 Megalitre	2.0 litres	5.0 litres	10.0 litres
5 Megalitres	10.0 litres	25.0 litres	50.0 litres
10 Megalitres	20.0 litres	50.0 litres	100.0 litres

Units:

1 mg/L =	1 ppm Copper
1000 litres =	1 Kilolitre (KL)
1,000,000 litres =	1 Megalitre (ML)
1 mg =	10 ⁻³ grams
1 ml =	10 ⁻³ litres



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