

AGMIN NEWSLETTER No. 214A

Cupricide® Drip System Application in Irrigation Conveyance Systems

Cupricide® can be applied in flowing channels with water flow rates up to 20 Megalitres per hour (20ML/hour). The product Cupricide® should be applied as soon as algae begin to interfere noticeably with normal flow of water, e.g., clogging of lateral headgates, suction screens and siphon tanks.

The water flow rate can be estimated using the formula:

$$\text{Average Width (m)} \times \text{Average Depth (m)} \times \text{Velocity (m/s)} \times 3.6 = \text{ML/hour}$$

The dose rate of Cupricide® should be maintained for a period of 3 hours at a copper concentration of 1.0mg/L in flowing water. The table below gives some guidelines for the drip rate of Cupricide® under various water flow rates in a channel or water conveyance system.

Drip Rate Guide for Cupricide® for various Application Times

Water Flow Rate		Cupricide® Drip Rate (litres per hour) for different application times			Volume of Cupricide® Applied (litres) At various application times		
ML/hour	ML/day	3 hrs	12 hrs	24 hrs	3 hrs	12 hrs	24 hrs
1.0	24.0	9.5	1.0	0.6	28.5	12.0	14.4
5.0	120.0	47.5	5.0	3.0	142.5	60.0	72.0
10.0	240.0	95.0	10.0	6.0	285.0	120.0	144.0
15.0	360.0	142.5	15.0	9.0	427.5	180.0	216.0
20.0	480.0	190.0	20.0	12.0	570.0	240.0	288.0

Strong algal infestation: Application Time - 3 Hours

The 3 hour period Cupricide® application will provide 1.0mg Copper per litre of flowing water, which is satisfactory to remove susceptible blue-green algae (Cyanobacteria), when the algal bloom is in the final exponential growth stage with a large algal mass.

Medium algal infestation: Application Time - 12 hours

This drip rate will provide 105 µg per litre Copper (105 ppb) and may be employed when the algal bloom is in the upper linear to the commencement of exponential growth phase.

Light algal infestation: Application Time - 24 hours

The algae growth cycle commenced, but still in the earlier linear stage with low counts of algal cells. The drip rate will provide 60 µg of Copper per litre (60ppb). This Cupricide® absorption into the algal cells is low, but on the other hand it provides a long term inhibiting effect against algae cell multiplication.

Variable Flow Rate:

The drip rate of Cupricide® for variable Water Flow Rate should be the 12 hours application times and should be considered as an alternate between “shock application” at low water flow rate, and “light application” at the high flow rate.

For intermediate values of flow rates between 1-20ML/hour, the above recommended drip rates of Cupricide® should be adjusted by interpolation, on a pro-rata basis



AGMIN CHELATES PTY LTD

(A.C.N. 006 413 458) (A.B.N. 30 006 413 458)

32 Wattlepark Avenue, MOOLAP, VIC. 3224

Phone: (03) 5248 3828 Fax: (03) 5248 1603

Email: service@agmin.com.au Website: www.agmin.com.au

