

# AGMIN NEWSLETTER No. 415

## Cost Benefit Analysis of Kupramine®

Kupramine® has been proven as a powerful and highly cost-effective algicide for use in lakes, potable water reservoirs, fish hatcheries, rice paddies and irrigation conveyance systems. The key benefits of Kupramine® in this application are:

### 1. Algicidal Effectiveness

Kupramine® has been demonstrated to be effective in both laboratory cultures and field conditions at a concentration range of 0.2 – 1.0mg Copper per litre. Blue-green algae are very susceptible to Kupramine® even at 0.2mg/L of Copper, with more than 99.9% of algal cells destroyed within 24 hours.

### 2. Environmental Fate

Kupramine® addition rates to water will increase the initial copper concentration by 0.2 to 0.5 mg/L. Typical background levels of copper in Australian rivers and storage reservoirs are in the range 0.05 – 0.15 mg/L. At these concentrations, copper is not toxic to fish, animals or humans. Measurements on residual copper levels have demonstrated that the added copper from Kupramine® is removed by algae and aquatic weeds, thereby restoring the original, background concentration of copper in the water body. Water treated with Kupramine® is safe for use as potable water for human consumption, for animal use and for irrigation. Australian soils are generally deficient in copper and the added copper from irrigation water is beneficial to plants.

### 3. Ease of Application

Kupramine® is a liquid product, which is readily dispensed by pumps (centrifugal, peristaltic or mono pumps). Kupramine® is readily miscible with water in all proportions and aqueous solutions can be applied to the water surface by boom-spray or aerial spray. These properties provide significant advantages over solid or crystalline products such as copper sulphate, which are difficult to handle, dispense and dissolve in water.

### 4. Cost-Benefit

Kupramine® has been shown to be 5-10 times more active than copper sulphate as an Algicide when tested under identical conditions. Moreover, Kupramine® is faster acting and is more stable in natural waters in removing algae. The ease of application of Kupramine® by conventional dispensing systems and pump sprays provides further user benefits. Finally, the health and safety features of Kupramine® as a liquid ensure that operators are not exposed to dusts as occurs with copper sulphate crystals.



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