

AGMIN NEWSLETTER No. 417

Kupramine® Safety Directions and Toxicological Data

1. Introduction

Kupramine® has been registered by the NRA for use as an algaecide in lakes, potable water reservoirs, farms, fish and industrial ponds, fish hatcheries, rice paddies, raceways and irrigation systems. The product is designed to be diluted at 1:10 in water, and applied to the water surface of the area to be treated.

2. Safety Directions

The safety directions on the label have been developed based on current standards issued by TGA and NOHSC and known hazards of copper sulphate and its chelated compounds. These standard hazard statements are:

Harmful if swallowed. Will irritate eyes, nose, throat and skin. Avoid contact with eyes and skin. If product on skin, immediately wash area with soap and water. If product in eyes wash it out immediately with water. Wash hands after use.

3. Toxicology

Copper sulphate is currently on the NRA TGAC exempt list. It is included in Schedule 5 of the SUSDP for concentrations less than 15%, except in preparations for internal use, or in other preparations containing 5% or less copper sulphate. It is included in Schedule 6 of the SUSDP, except when in Schedule 5, in preparations for internal use or in other preparations containing 5% or less copper sulphate. No ADI has been established for copper sulphate.

The toxicity of copper sulphate has been considered previously. It has an oral LD₅₀ of 300 mg/kg body weight in the rat, while in the mouse the LD₅₀ is 50 mg/kg body weight. Clinical signs observed included salivation, vomiting, diarrhoea, gastric haemorrhage, tachycardia, hypotension, haemolytic crisis, convulsions and paralysis. Copper sulphate is a severe skin and eye irritant, and can cause allergic contact dermatitis in susceptible individuals. Long term dosing with copper sulphate in a range of species produced effects relating to irritation of the stomach, decreased body weight gain, liver effects and anaemia.

No toxicological data relating to Kupramine® have been established. No allowable Daily Intake has been established for copper; however it is ubiquitous in the environment and forms part of the normal diet. The proposed use pattern of Kupramine® should result in copper levels at the time of application of up to 1 mg/L in the treated water. This is equal to the National Water Quality Management Strategy Australian Drinking Water Guidelines recommended levels for aesthetic quality (1 mg/L), and half the Drinking Water Guidelines recommended level for health (2 mg/L). As reapplication is only recommended at a minimum of 14 day intervals, use of Kupramine® is unlikely to produce copper levels of concern in drinking water.



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