

Product Information Sheet



C375

Cupric Sulfate Pentahydrate

Synonym: Copper(II) Sulfate Pentahydrate
 CAS: 7758-99-8
 Formula: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
 Molecular Wt: 249.68

Properties

Form: Powder
 Appearance: Blue, Crystalline
 Application: Plant Micronutrient, Fungicide, Herbicide, Algicide
 Solubility: Soluble in Water
 Storage Temp: Room Temperature
 Storage Temp of Stock Solution: Room Temperature
 Other Notes: Plant Tissue Culture Tested

Application Notes

Used as a micronutrient in plant tissue culture.

Can also be used as a fungicide, although some fungi are capable of persisting through elevated levels of copper ions (Johnson, 1935). As an herbicide, it can be used to control the growth of aquatic plants, as well as algae (Newbold, 1975; Robson et al, 1976). It also inhibits the growth of bacteria, such as *Escherichia coli* (Tetaz & Luke, 1983).

It is used in Fehling's Solution and Benedict's Solution to test for reducing sugars. Reducing sugars will cause the blue color of the copper in solution to change to an insoluble red solution of copper(I) oxide. Can also be used in the Biuret reagent to test for proteins.

References

Merck 13, 2682

Gadd, G. M., & Griffiths, A. J. (1977). Microorganisms and heavy metal toxicity. *Microbial Ecology*, 4(4), 303-317.

Johnson, GF (1935) "The Early History of Copper Fungicides". *Agricultural History* 9(2): 67-79.

Le Jeune, A. H., Charpin, M., Deluchat, V., Briand, J. F., Lenain, J. F., Baudu, M., & Amblard, C. (2006). Effect of copper sulphate treatment on natural phytoplanktonic communities. *Aquatic toxicology*, 80(3), 267-280.

Newbold, C (1975) Herbicides in aquatic systems. *Biological Conservation* 7(2):97-118.

Robson, T. O., Fowler, M. C., & Barrett, P. R. (1976). Effect of some herbicides on freshwater algae. *Pesticide Science*, 7(4), 391-402.

Sadler, W. R., & Trudinger, P. A. (1967). The inhibition of microorganisms by heavy metals. *Mineralium Deposita*, 2(3), 158-168.

Tetaz, T. J., & Luke, R. K. (1983). Plasmid-controlled resistance to copper in *Escherichia coli*. *Journal of bacteriology*, 154(3), 1263-1268.

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