3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Copper(II) sulfate pentahydrate
Plant Cell Culture

Product Number **C 3036**
Store at Room Temperature

Product Description

Molecular Formula: $CuSO_4 \cdot 5H_2O$
Molecular Weight: 249.7
CAS Number: 7758-99-8
Synonym: cupric sulfate pentahydrate

This product is plant cell culture tested (0.04 µg/ml) and is appropriate for use in plant cell culture experiments.

Copper sulfate is a reagent that is used in many large-scale applications. Applications include textile dyeing, the preparation of azo dyes, wood preservation, and the tanning of leather. Copper sulfate pentahydrate occurs in nature as the mineral chalcanthite.[1]

Copper sulfate is frequently utilized to oxidize lipoproteins in the context of biological oxidative stress.[2,3] It is also used in studies of plants and plant pathogens.[4,5]

A protocol for the isolation of recombinant yeast 6-phosphofructo-2-kinase that uses copper sulfate has been published.[6] A procedure has been reported for the purification of dye- and metal ion-binding proteins in a polyvinylpyrrolidone-based aqueous two-phase system.[7]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (100 mg/ml), yieldng a clear blue solution. It is also soluble in methanol and glycerol, and slightly soluble in ethanol.[1]

References

1. The Merck Index, 12th ed., Entry# 2722.
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3. Nguyen-Khoa, T., et al., Oxidized low-density lipoprotein induces macrophage respiratory burst via its protein moiety: A novel pathway in atherogenesis? Biochem. Biophys. Res. Commun., **263(3)**, 804-809 (1999).
4. Grey, B. E., and Steck, T. R., The viable but nonculturable state of *Ralstonia solanacearum* may be involved in long-term survival and plant infection. Appl. Environ. Microbiol., **67(9)**, 3866-3872 (2001).
5. Muller, S. L., et al., Effects of copper sulfate on *Typha latifolia* seed germination and early seedling growth in aqueous and sediment exposures. Arch. Environ. Contam. Toxicol., **40(2)**, 192-197 (2001).
6. Dihazi, H., et al., One-step purification of recombinant yeast 6-phosphofructo-2-kinase after the identification of contaminants by MALDI-TOF MS. Protein Expr. Purif., **21(1)**, 201-209 (2001).
7. Fernandes, S., et al., Affinity extraction of dye- and metal ion-binding proteins in polyvinylpyrrolidone-based aqueous two-phase system. Protein Expr. Purif., **24(3)**, 460-469 (2002).

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