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Copper Sulphate

- Molecular formula: CuSO₄.5H₂O.
- Molecular weight: 249.68.
- Colour: Blue.
- Solubility: Soluble in water.
- Odour: Odourless.
- Melting point: 4 H₂O @ 110 °C (230 °F).
- Boiling point: 5 H₂O @ 150 °C (302 °F) (760 mmHg).
- Uses: Fungicides used for control bacterial and fungal-diseases that controlled by this fungicides include mildew, leaf spots, blights and apple scab; an algaecide, herbicide in irrigation and municipal water treatment systems; an molluscicide, used to kill and repel slugs and snails.

- Causes: Industrial exposure to copper fumes, dusts, or Mists may result in metal fume fever with Atrophic changes in nasal mucous membranes. Chronic copper poisoning results in Wilson’s disease, characterized by hepatic cirrhosis, brain damage, demyelization, renal disease, and copper deposition in the cornea.
The Thesiss Submitted By- Atulkumar Ramakant Chourpagar to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Toxicity, Bioaccumulation and Detoxification of Heavy Metal Pesticides in a Freshwater Female Crab, *Barytelphusa cunicularia* (Westwood) and Impact Assessment on its Reproduction

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**Mercuric Chloride**

- **Molecular formula**: $\text{HgCl}_2$
- **Molecular weight**: 271.50
- **Colour**: White crystalline
- **Solubility**: Soluble in water
- **Odour**: Odourless
- **Melting point**: 38-39°C
- **Boiling point**: 35°C
- **Uses**: Preserving wool and anatomical specimens; disinfecting; browning and etching steel and iron; intensifier in photography; white reserve in fabric printing, tanning leather; depolarized for dry batteries; freeing gold from lead; magic photographs.
- **Causes**: Inorganic mercury poisoning is associated with tremors, gingivitis and/or minor psychological changes. Monomethylmercury causes damage to the brain and the central nervous system, while fetal and postnatal exposure have given rise to abortion, congenital malformation and development changes in young children. In 1963 a severe neurological disorder was first recognized among persons living in the Minamata Bay, Japan and consuming local fish suffered methyl mercury poisoning. Toxicological effects include neurological damage, reproductive impairment, growth inhibition, developmental abnormalities and altered behavioral responses. Readily absorbed via respiratory tract (elemental mercury vapor, mercury compound dusts), intact skin, and G.I. tract. Spilled and heated elemental mercury is particularly hazardous.
Systematic Position of Freshwater crab, 

*Barytelphusa cunicularis* [Westwood]

- **PHYLUM:** ARTHROPODA  
- **CLASS:** CRUSTACEA  
- **SUBCLASS:** DECAPODA  
- **ORDER:** BRACHYURA  
- **FAMILY:** PARATELPHUDEA  
- **GENUS:** BARYTELPHUSA  
- **SPECIES:** CUNICULARIS  

[By Diwan and Jain, 2000]
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