

**REMOVAL OF Cu(II) FROM AQUEOUS SOLUTIONS BY USING
SULPHURIC ACID TREATED *Annona muricata* SEEDS**

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ABSTRACT

REMOVAL OF CU(II) FROM AQUEOUS SOLUTIONS BY USING SULPHURIC ACID TREATED *Annona muricata* SEEDS

This study investigated the potential of *Annona muricata* seed powder as an adsorbent to adsorb Cu(II) in the aqueous solution. *Annona muricata* seed powder was treated with sulphuric acid to enhance adsorbent capability and properties. The adsorbent was characterized by spectroscopic and quantitative analysis. The influence of pH, contact time, adsorbent dosage, contact time and initial metal concentration were studied in batch experiments. The pH_{zpc} and $\text{pH}_{\text{slurry}}$ value of SA-AMSP were 4.50 and 5.46 respectively. The maximum adsorption for metal was found at pH 6 with 17.98 mg/g. The adsorption equilibrium was established after 40 minutes. Adsorption of Cu(II) increased as the initial metal concentration increased. Pseudo-second order showed the best fitting with ($R^2=0.922$). It was found that the adsorption fits well with the Langmuir isotherm equation. The maximum adsorption capacity for Langmuir isotherm was found at 187.83 mg/g.