

### Removal of binary metal ions from aqueous solutions using sawdust modified with citric acid

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Toxic heavy metal contamination of ecosystems can seriously affect the environment and human being. Sawdust, a renewable bioresource, was investigated as an adsorbent of heavy metal ions from aqueous solutions. The adsorption of binary heavy metal ions with sawdust modified with citric acid was studied at varying adsorption time, solution pH, and agitation time. The adsorption of metal ions in presence of the other metal ion reduced the adsorption capacity of either metal ion. The results show that sawdust modified with citric acid significantly increased the adsorption capacity of metal ions and modified sawdust could be used as an adsorbent for heavy metal ions removal from aqueous solutions.