



Iron Oxy/hydroxide Nano Structures for Heavy Metal Removal

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Synthesis, Characterization and process optimization | In this book lepidocrocite and goethite nano structures are studied for their application in lead removal from aqueous solutions. Lepidocrocite and goethite nano particles were synthesized and characterized. Subsequently their performance in lead sorption was examined. Maximum adsorption capacity of lepidocrocite and goethite for lead adsorption via equilibrium studies was investigated. Furthermore capability of lepidocrocite and goethite in lead removal efficiency was compared and the more efficient adsorbent was employed to fabricate chitosan nano composite. Adsorption performance of prepared chitosan nano composite was investigated. The adsorption capacity for goethite was about two times greater than lepidocrocite. Hence, goethite was chosen as nano-filler for the chitosan polymer matrix. The modified quadratic model exhibited excellent stability for Pb (II) adsorption by goethite/chitosan nano composite. The results of adsorption study by goethite/chitosan nano composite showed that Pb (II) uptake was enhanced by chitosan film using goethite nano particles. | Format: Paperback | Language/Sprache: english | 100 pp.



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