



REMOVAL OF SOME ENVIRONMENTALLY RELEVANT HEAVY METALS USING LOW-COST NATURAL SORBENTS

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Abstract

The sorption of metal ions from aqueous solution plays an important role in water pollution control and in recent years there has been considerable interest in the use of low-cost adsorbents. Many researchers have tried to exploit naturally occurring materials as low-cost adsorbents, for removing of heavy metals. In this article the removal performance of various low-cost adsorbents derived from agricultural waste or natural material is evaluated. The metal adsorption capacities of low cost adsorbents presented vary, depending on the characteristics of the individual adsorbent, concentration of metal ions, pH, and contact time. Biosorption technology, utilizing natural materials and agricultural wastes either in natural form or modified form is highly efficient for the removal of metal ions from aqueous media and offers a cost-effective alternative compared to traditional chemical and physical remediation and decontamination techniques.

The data obtained may be useful for environmental engineers in designing heavy-metal-containing wastewater treatment systems.

Key words: agricultural waste, biosorption, heavy metal, low cost adsorbents, natural material

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