

Biochars have been extensively applied in soil remediation, carbon sequestration, and in climate change mitigation. However, in recent years, there has been a significant increase in biochar research in water treatment due to their stupendous adsorptive properties for various contaminants. This is attributed to their large surface areas, pore structures, chemical compositions, and low capital costs involved making them suitable candidates for replacing activated carbons. This chapter discusses the preparation methods and properties of biochars and their removal efficacy for organic contaminants and microbial control. Factors affecting adsorption and the mechanisms of adsorption of organic pollutants on biochars are also concisely discussed. Biochars present environmentally benign and low-cost adsorbents for removal of both organic pollutants and microbial control for wastewater purification systems.

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