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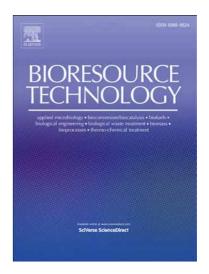
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Cellulose: A review as natural, modified and activated carbon adsorbent

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Abstract

solvents due to hydrogen bonding and crystallinity. Natural cellulose shows lower adsorption capacity as compared to modified cellulose and its capacity can be enhanced by modification usually by chemicals. This review focuses on the utilization of cellulose as an adsorbent in

Cellulose is a biodegradable, renewable, non-meltable polymer which is insoluble in most

natural/modified form or as a precursor for activated carbon (AC) for adsorbing substances

from water. The literature revealed that cellulose can be a promising precursor for production

of activated carbon with appreciable surface area (~1300 m²g⁻¹) and total pore volume (~0.6

cm³g⁻¹) and the surface area and pore volume varies with the cellulose content. Finally, the

purpose of review is to report a few controversies and unresolved questions concerning the

preparation/properties of ACs from cellulose and to make aware to readers that there is still

considerable scope for future development, characterization and utilization of ACs from

cellulose.

Keywords: Activated carbon, adsorbent, adsorption, cellulose, lignocellulosic

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