

Preparation, characterization and efficiency of activated carbon fiber from Luffa

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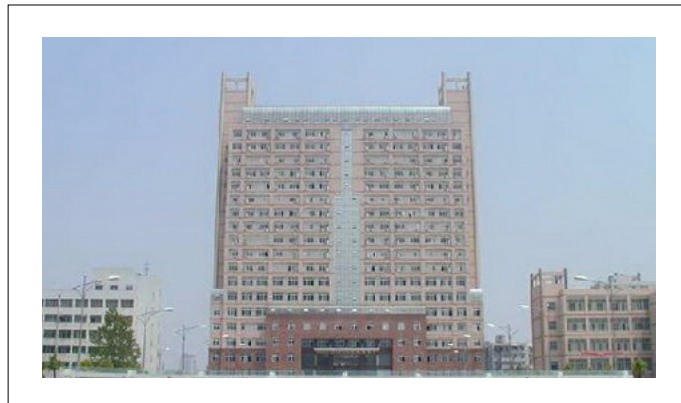
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Abstract

Biochar preparation from different materials has been attached with great attention during these years. This study was conducted to prepare activated carbon fiber (ACF) from luffa through the processes i.e. pre-treatment, pre-oxidation and carbonization activation. Besides, this study also characterizes the biochar and its effect, i.e. effect of pre-oxidation time and temperature also activation time and temperature on the compressive strength of ACF were investigated. The results from SEM, BET, FTIR and XRD show that the Biochar is very efficient. The products under the optimum conditions had a specific surface area of 478.441 m²/g with an average pore diameter of 3.783nm, and a pore volume of 0.193 cm³/g. The surface of the luffa fiber is degummed and exposed, which is beneficial to the subsequent process and the increase of product properties. The compressive strength of HP-ACF was prepared under the optimum conditions, which can

reach 0.2461 MPa. ACF is rich in micro-pores and has a good application prospect in the field of environmental protection.



Biography

Sanjrani M A, Studies Bachelor Degree in Geology from University of Sindh Jamshoro Pakistan, after working few years, got scholarship in China University of Geosciences Wuhan, China for Master's degree and engaged in research about Arsenic in groundwater. After Master's degree, joined China harbor Engineering Company and got scholarship again for PhD in Wuhan University of Technology China in 2017. Project on Constructed wetland for water treatment, already published Two SCI articles and several other articles in different journal of environmental science and engineering.

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