

MICROWAVE ASSISTED PREPARATION OF ACTIVATED CARBON FROM INDIAN BAMBUSA BALCOOA

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Abstract

Bamboo (Bambusa balcooa) an abundantly available renewable resource is spread over a large area in the north eastern part of India. The influence of carbonization temperatures (450^o–600^oC) and impregnation ratios of char: basic activating agents (1:1) of the prepared activated carbon on the pore development and yield were investigated. In the present investigation, activated carbon was prepared from Bambusa balcooa (Bhaluka) by microwave treatment with strong basic media. The operational variables including chemical impregnation ratio, microwave power and irradiation time on the carbon yield were identified. The activated carbon prepared were characterized by Fourier transform infra-red spectroscopy (FTIR), X-ray diffraction (XRD), Scanning electron microscopy (SEM) and iodine number indicate increase in porosity suitable for adsorption studies.

Keywords: Activated carbon, Carbonization, Microwave treatment, Chemical impregnation ratio