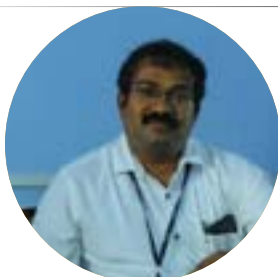


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Generation of bioenergy using MFC

MFC employs the conversion of chemical energy into electrical energy through the action of catalytic microorganisms by its principles. The active parts of MFC might be included in simple designs and cost-effective materials will offer more perspective for harnessing the energy from wastewater. However, some of the drawbacks of microbial fuel cells are high internal resistance, current instability, low electricity production and usage of expensive materials. These are the major practical barriers for implementing a commercial scale MFC. Cost of MFC is significantly depended on electrode materials. Inventing a sustainable and environment-friendly electrode is one of the most important parameters in MFC and it is prepared by using environmental waste materials. The present research reveals different types of metal compounds mixed with biochar in a specific percentage ratio as electrode materials manufactured for MFC. The performances of these electrodes were compared with conventional electrode as anode material. The biochar was synthesized from agricultural waste using carbonization at high-temperature. The electrochemical and statistical analyses for their performance and material characteristics with respect to resistivity, power production, and specific surface area in MFC were analyzed. Also, the economic potential and environmental benefits of using biochar electrodes in comparison to existing electrode material are also discussed.

Biography

K.Senthilkumar has completed his Ph.D. from Anna University, Chennai, India. He is Associate Professor in the department of Chemical Engineering, Kongu Engineering College, Tamilnadu, India. He has published more than 30 papers in reputed journals and has been serving as Reviewer for renowned journals.

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