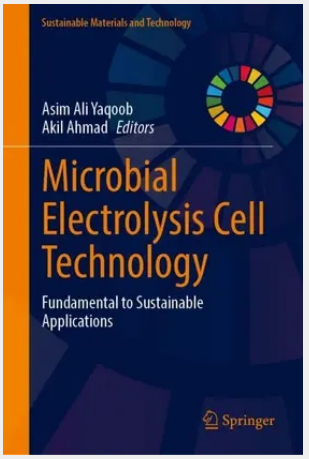
Yaqoob / Ahmad

Microbial Electrolysis Cell Technology

Fundamental to Sustainable Applications



This book covers the different aspects of microbial electrolysis cell (MEC) technology and its applications in wastewater treatment such as nutrient recovery and heavy metals removal. The MEC technique is related to the technique the microbial fuel cells (MFC);, while the MFC uses the microbial decomposition of organic molecules to generate an electric current, MEC partly reverses the process by using an electric current to generate hydrogen or methane from organic material. If a sustainable energy source is used to generate the electric current, the generated hydrogen or methane can be used in an internal combustion engine or PEM fuel cell to generate energy. The chapters in this book describe the basic principles and working mechanism of the MEC, its effectiveness depending on the kind of microorganisms present, type of electrode materials, use of catalysis, and lastly its potential industrial applications for environmental remediation. This book benefits students, young researchers, academicians, and industrial scientists who are working in the field of environmental pollutants and their safe removal using new technologies.

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