Metal recovery using bioelectrochemical system

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ABSTRACT

Metal containing wastewater is generated in large quintiles due to rapid industrialization. Generally, the metal present in wastewater is not biodegradable, and can be accumulated in living animals, humans and plant tissue, causing disorder and diseases. The conventional metal recovery methods include chemical, physical and biological methods, but these are chemical and energy intensive. The recent development in bioelectrochemical systems (BES) technology provides a new approach for metal recovery; this technology offers a flexible platform for both reduction and oxidation reaction oriented process. The use of MFCs will be a new platform for more efficient and low energy approach for metal recovery from the wastewater. So far, metal recover was extensively studied using chemical, physical and biological methods. The BESs present a new and efficient approach for removing and recovery metals from different wastewater, suggesting the use of different electrode for metal recovery can be a new efficient and effective approach.

Keywords: Bioelectrochemical System, Power Generation, Resource Recovery, Water Recycling, Wastewater Treatment

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