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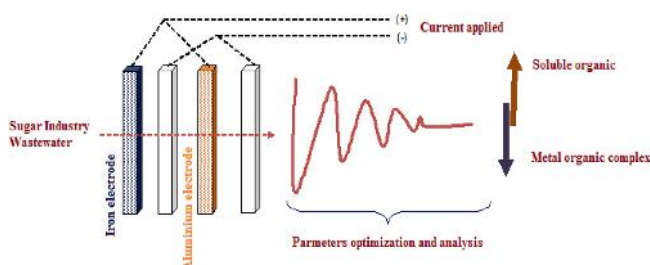
Method article

Treatment of sugar processing industry effluent up to remittance limits: Suitability of hybrid electrode for electrochemical reactor

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GRAPHICAL ABSTRACT



ABSTRACT

Sugar industry is an oldest accommodates industry in the world. It required and discharges a large amount of water for processing. Removal of chemical oxygen demand and color through the electrochemical process including hybrid iron and aluminum electrode was examined for the treatment of cane-based sugar industry wastewater. Most favorable condition at pH 6.5, inter-electrode gap 20 mm, current density 156 A m^{-2} , electrolyte concentration 0.5 M and reaction time 120 min, 90% COD and 93.5% color removal was achieved. The sludge generated after treatment has less organic content, which can be used as manure in agricultural crops. Overall the electrocoagulation was found to be reliable, efficient and economically fit to treat the sugar industry wastewater.

- Electrocoagulation method for sugar processing industry wastewater treatment Optimization of operating parameters for maximum efficiency.
- Physicochemical analysis of sludge and scum.
- Significance of hydride metal electrode for pollutant removal.

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