

# Electrocoagulation treatment of raw palm oil mill effluent: Effect of operating parameters on floc growth and structure

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## ABSTRACT

During electrocoagulation of palm oil mill effluent (POME), operating parameters as electrolysis time, current intensity, inter-electrode distance and initial pH have a profound influence on floc growth and structure. These characteristics can be determined by microscopical and particle size analysis. The microscopical analysis revealed pollutant particles agglomerating and forming a more substantial network when the treatment time increases. The floc also grows substantially when the current intensity is increased from 1 to 20 A. However, the floc's size increase and looks denser with the decreasing space between anodes and cathodes. Meanwhile, the floc has more tendency to form in acidic solution rather than in basic or neutral condition. The results of this work can be a subject to the other researcher to find the appropriate operating parameters to treat highly polluted wastewaters based on the floc growth and structure.

## KEYWORDS

Floc growth; Morphological structure; Electrocoagulation; POME; Particle size

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