



ELECTROCOAGULATION/ELECTROFLOTATION – METHODS APPLIED FOR WASTEWATER TREATMENT

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Abstract

The applications of electrochemical technologies based on electrocoagulation/ electroflotation for removal of pollutants as oil, organic compounds expressed through Chemical Oxygen Demand (COD), heavy metal ions together with colloidal particles from wastewaters in the presence of a cationic polyelectrolyte (PRODEFLOC CRC 301 commercial product, dose of 0.25 mg/L) are discussed. Experiments were performed into an electrocoagulation/electroflotation cell without diaphragm with monopolar electrodes in order to establish the optimal operational conditions (e.g.: electroflotation/ electrocoagulation time, electric current intensity or electricity quantity) for removal efficiencies of more than 60 % COD, 95 % oil, 80 % turbidity and 85 % zinc ions. This treatment can be applied instead of conventional mechanical-chemical techniques that lead sometimes to irregular average removal degrees of all important pollutants.

Keywords: electrocoagulation/electroflotation, cationic polyelectrolyte, colloidal particles, oil, zinc ions, organic compounds, wastewater.

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