

Treatment of an industrial wastewaters by electrocoagulation (EC) using Al electrodes assisted by the mucilage of *Opuntia ficus indica*

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The electrocoagulation-electroflotation (EC-EF) process was assisted with the mucilage of *Opuntia ficus indica* (OFI) plant in order to enhance the COD removal efficiency from the industrial wastewater of food aromsa and ingredients production Gebze, Kocaeli, Turkey. Investigated parameters includ initial pH, Current density (j) and mucilage concentration. The EC using the Al electrodes and at optimum concentration 200 mg/L of mucilage of the OFI, pH 3 and $j= 60 \text{ A/m}^2$ improved the COD removal efficiency with 28.17 % in shorter time of $t= 40 \text{ min}$ (3048C). The operating costs, energy consumption were calculated as $3.809 \text{ \$/m}^3$, 4.762 kWh/m^3 respectively.

Mots clés : Electrocoagulation-electroflotation, Aromsa wastewater, COD, *Opuntia ficus indica* mucilage.