

Treatment of Olive Mill Wastewater by Electrocoagulation Processes and Water Resources Management

Authors : Walid K. M. Bani Salameh, Hesham Ahmad, Mohammad Al-Shannag

Abstract : In Jordan having deficit atmospheric precipitation, an increase in water demand during summer months . Jordan can be regarded with a relatively high potential for waste water recycling and reuse. The main purpose of this paper was to investigate the removal of Total suspended solids (TSS) and chemical oxygen demand (COD) for olive mill waste water (OMW) by the electrocoagulation (EC) process. In the combination of electrocoagulation by using coupled iron-aluminum electrodes the optimum working pH was found to be in range 6. The efficiency of the electrocoagulation process allowed removal of TSS and COD about 82.5% and 47.5% respectively at 45 mA/cm² after 70 minutes by using coupled iron-aluminum electrodes. These results showed that the optimum TSS and COD removal was obtained at the optimum experimental parameters such as current density, pH, and reaction time.

Keywords : olive mill wastewater, electrode, electrocoagulation (EC), TSS, COD

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