

Effects of operational parameters on the removal efficiency of non-ionic surfactant by electroflotation

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ABSTRACT

Due to their wide use and resistance to biodegradation, untreated surfactant solutions were commonly found in large quantities in industrial or urban wastewaters. In this paper, we present the results of separation of non-ionic surfactant (Tween 20) from aqueous solution by electroflotation (EF) using two stainless steel electrodes. Our goal was to investigate the influence of physicochemical and electrolysis parameters on the performance of EF system for surfactant recovery. Thus, the efficiency of separation of Tween 20 reached 74.79% at neutral pH and a current density of 8.42 mA/cm². The initial concentration of the effluent was 10 CMC. Therefore, the results of this study show that EF is highly attractive for the treatment of wastewater containing organic pollutants.

Keywords: Surfactant; Tween 20; Removal; Electroflotation; Efficiency

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