O 58. TREATMENT OF METAL PLATING WASTEWATER BY ELECTROCOAGULATION PROCESS

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ABSTRACT: Metal plating industry has an important place among the rapidly developing industries. In these facilities, heavy metal rich wastewaters are generated from the facilities which have galvanized process. Heavy metals have a significant impact on environmental pollution. In this study, it was investigated that the heavy metals in wastewaters due to metal coating industry rinsing bath waters can be treated by electrocoagulation method. In this study, it was investigated that heavy metals (Cr^{+3} ve Zn^{+2}) in metal plating industry wastewater can be treated by electrocoagulation method. The experiments were carried out at room temperature in 1 L glass reactors. Two different electrodes, iron-iron and iron-copper, were used and experiments were performed at different pH values (pH 5-pH 12). Heavy metal analyzes were performed with ICP-MS. 99.9% Cr^{+3} removal was obtained in iron-copper electrode at the original ph value in 10 minutes and 99.9 % Zn^{+2} removal was obtained in iron-copper electrode at the pH value 9 in 30 minutes.

Key words: Chromium, Electrocoagulation, Treatment, Wastewater, Zinc.