

## **ABSTRACT**

### **STUDY OF EFFECT POTENTIAL, CONTACT TIME, AND pH ON METHOD OF THE ELECTROCOAGULATION RESTAURANT WASTEWATER USING Fe ELECTRODE WITH MONOPOLAR AND DIPOLAR ARRANGEMENT**

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Electrocoagulation process is a method that is considered quite effective in removing organic compounds in wastewater compared to conventional coagulation methods. In this research, studied the process of electrocoagulation for restaurant wastewater use Fe metal as an electrode with a continuous system. The results of electrocoagulation restaurant wastewater samples were analyzed using a spectrophotometer UV -Vis at a wavelength of 200-700 nm. Monitoring carried out at a wavelength of 254, 272, 365, 436 and 565 nm as a cue reduced concentration of organic particles in the restaurant wastewater. In addition, monitoring is also done using the ratio absorbance at a wavelength of 254 nm to a wavelength of 365 nm ( $E_2/E_3$ ) and the ratio of absorbance at a wavelength of 436 nm to the absorbance at a wavelength of 565 nm ( $E_4/E_6$ ) due to the higher value of  $E_2/E_3$  and  $E_4/E_6$  values indicate that the molecular weight organic compounds in wastes a low.

Electrocoagulation process carried out to study the influence of several electrochemical parameters including the potential, the contact time and pH, on the value of COD, BOD, and turbidity of the effluent is processed because all three parameters of the quality of the wastewater. In this study, experiments were performed with monopolar and dipolar arrangement of electrodes. For monopolar electrode arrangement, the optimum conditions occur at a potential of 6 volts, the contact time of 30 minutes, and pH 7. As for the dipolar arrangement is not obtained under optimum conditions. The decline in the value of COD, BOD and turbidity for monopolar electrode arrangement is 10.05%, 20.75% and -21.17%.