

<b>Thesis title</b>	Wastewater Treatment of Textile Dyes by Ozonation process and Plastic Media Coated with Rutile TiO <sub>2</sub> as a Catalyst
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## ABSTRACT

This research is to study the efficiency of treating wastewater from dyeing fabric by the ozonation process. By using rutile TiO<sub>2</sub> coated plastic media to catalyze. Which uses O<sub>3</sub> generators with a capacity of 2.62 - 3.10 g/hr. By studying the factors that affect the treatment efficiency of COD and color, such as the pH of the water used in the treatment at pH 3, pH 7 and pH 11, the initial COD concentration of 100%, 50% and 25% which have values in the range of 100 -320 mg/L. O<sub>3</sub> exposure time 120 min. From the study, it is found that the efficiency of reducing the impurities in wastewater by the ozonation process in the pH 11 state, the COD concentration at 50%, can reduce the COD. And the maximum color is at 33.3% and 90% from the 550 ADMI color intensity, with a COD of 180 mg/L. For the study of the efficiency of reducing the impurities of wastewater by ozonation process together with 2 g. of TiO<sub>2</sub>/1 L. of wastewater in the condition of pH 11, concentration COD Beginning at 100%, with the ability to reduce COD values And the maximum color is at 40% and 80% of the 270 ADMI color intensity, with a COD of 190 mg/L. The amount of O<sub>3</sub> suitable for treatment has an average value of 0.0374 g/min./10.5 L. of wastewater. The duration of O<sub>3</sub> exposure in both processes has a similar approach to the efficiency of COD and color treatment when increasing the duration of O<sub>3</sub> exposure.

**Keywords** : Ozonation process, Titanium Dioxide, Hydroxyl radical, Wastewater Textile Dyes