

**THE EFFECT OF TiO₂ ON AZO DYE (TARTRAZINE)
DEGRADATION PROCESS USING UV LIGHT**

NUR SOLEHAH BINTI ABDUL FATAF

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ABSTRACT

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The effect of contaminants to human health and environment are at alarming rate. This is because, wastewater are polluted with the effluent coming from industry especially food industry. Food industries use various types of dyes such as azo dyes, anthraquinone and triphenylmethane. In this study, the dye used was azo dye which is Tartrazine. Plus, there are many research shows that Tartrazine can cause harm and suffers to the environment especially human health. Ergo, researchers found so many ways to treat azo dye in wastewater effluent such as photocatalytic degradation process. Photocatalytic degradation by using TiO₂ as the catalyst is proven efficient to degrade the dye. This study was conducted to determine the optimum weight of TiO₂, pH, radiation time and to evaluate the effectiveness of TiO₂ as photocatalyst in the photodegradation process by using UV radiation under different parameters. The parameters are in the absence of catalyst and UV radiation, absence of catalyst in the presence of UV radiation, presence of catalyst in the absence of UV radiation and in the presence of catalyst and UV radiation. Based on this research, optimum conditions that can increase the percent of degradation were 30 mg of catalyst in pH 7. For optimum time, different conditions have different optimum time. Nevertheless, among four conditions that have been set, the results show that photodegradation in the presence of catalyst and UV radiation has the highest percent of degradation which 90.3%. This indicates that this condition was the most effective condition for photodegradation to occur.

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