DEGRADASI ZAT WARNA *ERIOCRHOME BLACK T* (EBT) SECARA FOTOLISIS DAN SONOLISIS DENGAN KATALIS MODIFIKASI LEMPUNG ABU SEKAM PADI YANG DIKOMPOSITKAN DENGAN TiO_2

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ABSTRACT

DEGRADATION OF *ERIOCHROME BLACK T* (EBT) DYE BY PHOTOLYSTIC AND SONOLYSTIC USING MODIFICATION RICE HUSK ASH CLAY COMPOSED TiO_2 CATALYST

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Eriochrome Black T is an anionic azo dye used for dyeing silk. Eriochrome Black T is non-biodegradable, carcinogenic, causes health problems such as irritation to the eyes, and is toxic to living things in the waters. In this study, the degradation of Eriochrome Black T dye was carried out by photolysis with UV-C lamp (λ = 254 nm) and sonolysis without and with the addition of a modified catalyst of rice husk ash clay composited with TiO_2. The results of this study were measured by spectrophotometer UV-Vis at 538 nm. The optimum catalyst mass obtained is 10 mg. From the two degradation methods of Eriochrome Black T by photolysis using UV-C lamp and sonolysis for 240 minutes, the degradation percentage was 52.36% and 26.55%, respectively. Furthermore, the degradation percentage of Eriochrome Black T with the addition of modified rice husk ash clay modified catalyst with TiO_2 increased to 87.59% and 56.32%, respectively. The results of HPLC analysis showed that there was a decrease in the peak of the Eriochrome Black T chromatogram after degradation

Keywords: *Eriochrome Black T,* Degradation, Photolysis, Sonolysis, Catalyst