

DEGRADASI ZAT WARNA NAPHTOL BLUE BLACK SECARA SONOLISIS DAN FOTOLISIS DENGAN PENAMBAHAN TiO_2 -ANATASE

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ABSTRACT

Degradation of naphtol blue black dye had been done by sonolysis and photolysis with adding anatase- TiO_2 . Sonolysis method were performed using an ultrasound with frequency 45 kHz, and photolysis using an irradiation of UV light $\lambda = 359$ nm. The optimum condition for degradation of 6 mg/L naphtol blue black by sonolysis with addition of 0.1000 g anatase- TiO_2 were found at pH = 3.0 and temperature $30 \pm 1^\circ C$. Percentage of degradation at pH and temperature optimum was 65.20% within 120 minutes treatment. Degradation of 6 mg/L naphtol blue black by photolysis with addition of 0.1000 g anatase- TiO_2 was optimum at pH=3.0 and percentage of degradation was 68.72% within 120 minutes irradiation without stirring. The combine of sonolysis and photolysis method simultaneously for degradation of naphtol blue black dye by adding anatase- TiO_2 , achieved 92.51% degradation after 60 minutes treatment.

Keywords : sonolysis, photolysis, naphtol blue black

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