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KEY WORD : WASTEWATER TREATMENT / OZONE / TEXTILE

WARAPORN GALLAYALERT : TEXTILE WASTEWATER TREATMENT BY OZONE. THESIS ADVISOR : UDOM KOMPAYAK, B.Sc.(Sanitation) Hons., M.P.H. (Env.Health.) , SHALASAI HUANGPRASERT, B.Sc.(Sanitation) , M.P.H.(Env.Health.) , WITAYA YOOSOOK, B.Sc.(Occupational Health) Hons., M.Eng.(Sanitation), D.Engineering (Process Engineer)Hons. 125p. ISBN 974-589-228-9

This study was conducted to determine the efficiency of ozone as an oxidizing agent in textile wastewater treatment. The experiments were designed to test efficiency at 3 levels (loading) of textile wastewater and 13 reaction-times ( 0 , 0.5 , 1 , 1.5 , 2 , 2.5 , 3 , 3.5 , 4 , 4.5 , 5 , 5.5 and 6 hours).

The results of loading 1 revealed that increased reaction-times resulted in a higher efficiency of color, COD and pH reduction by 0 - 85.7%, 0 - 67.4% and 0 - 8.1%, respectively. The efficiencies of loading 2 were 0 - 84.9%, 0 - 65.7% and 0 - 7.6%, respectively, and in loading 3 were 0 - 76.3%, 0 - 53.8% and 0 - 10.5%, respectively. But the efficiency in removal of SS and BOD decreased with an increase in the reaction times. In loading 1 SS and BOD concentrations were increased by 0 - 32.9% and - 34.9%. In loading 2 SS and BOD concentrations were increased by 0 - 31.6% and 0 - 38.5% and in loading 3 the concentrations of SS and BOD were increased by 0 - 27.6% and 0 - 21%, respectively. A statistical analysis showed that there was a significant difference (P value < 0.05) between the 3 loading levels in their efficiencies at removing color, COD and pH and in increasing SS and BOD concentrations. The results of the experiments did not show any change in TS concentration at the different reaction-times (P value < 0.05).