Thesis Title Color Removal in Wastewater from Painting Industry by Coagulation Process

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ABSTRACT

This study was the experiment of color removal in wastewater from painting industry by coagulation process which used alum and ferric sulfate as coagulants.

The concentrations of alum which used in this experiment were 0.40, 0.80 and 1.60 g/l and those of ferric sulfate were 0.25, 0.50 and 1.00 g/l and adjusted the beginning pH value were 7, 9 and 11.

The experimental results showed that the efficiency of turbidity and COD reduction were 49.39% - 99.90% and 6.26% - 35.17% respectively and pH value after coagulation was 5.41 - 10.27 as alum was coagulant. In case of ferric sulfate was coagulant, the efficiency of turbidity, COD reduction and pH value were 48.63% - 99.90%, 19.19% - 33.65% and 4.81-10.33 respectively.

Considering the results of the experiment, it was found that the optimum dose of alum for treatment of wastewater from painting industry

were 0.8 g/l (with the beginning pH value was 9). The results of this condition were shown that the efficiency of turbidity and COD reduction after coagulation were 98.64% and 29.94%.