

**TREATMENT OF TEXTILE WASTEWATER BY THERMOLYSIS
AND COAGULATION**

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ABSTRACT

The decolorization and reduction of COD of dyeing wastewater from textile mill was conducted using catalytic thermal treatment (thermolysis) accompanied with and without coagulation. Thermolysis in the presence of a homogeneous iron (III) chloride catalyst was found to be effective in comparison to other catalysts FeSO_4 , ZnO and CuSO_4 used. A maximum reduction of COD and color achieved are 31% and 94%, respectively, at a catalyst concentration of 0.05 g/L and at pH 10. Commercial alum was the most effective coagulant for coagulation, resulting in 28% COD and 42% color reduction at pH 8 and coagulant dosage of 1.0 mL of 5% solution. Coagulation of the clear supernatant obtained after thermolysis resulted in an overall reduction of 81% COD and 99% color at pH 8 and coagulant dosage of 1.0 mL. The application of thermolysis followed by coagulation, thus, is the most effective treatment method in removing nearly 81% COD and 99% color at a lower dose of coagulant (0.5 g/L).