

EXPERIMENTAL STUDY ON REMOVAL EFFICIENCY OF BLENDED COAGULANTS IN TEXTILE WASTEWATER TREATMENT

N. MURALIMOHAN¹, T. PALANISAMY² & M. N. VIMALADEVI³

^{1,2}Department of Civil Engineering, K.S.R. College of Engineering, Tiruchengode, Tamil Nadu, India

³Department of Chemistry, K.S.R. Institute of Technology, Tiruchengode, Tamil Nadu, India

ABSTRACT

A preliminary investigation was carried out for the feasible use of blended coagulants to the treatment of textile waste water. In this paper, natural coagulant *Moringa oleifera* and Chemical Coagulant Alum of 10, 20, 40, 60 and 80 mL dosages were used. Floc formation in coagulation process had been studied in the laboratory scale to determine the optimum dosage of natural coagulants. Various proportions of MO: $(Al_2(SO_4)_3)$ like 0:0, 100:0, 90:10, 80:20, 70:30, 60:40, 50:50, 40:60, 30:70, 20:80, 10:90 and 0:100 were used in Pre and post treated textile wastewaters with coagulants were considered to evaluate the percentage removal efficiency on the major pollutants of concern in textile effluent such as turbidity, TSS, TDS, COD and BOD. From the observed results, the blended coagulant MO: $(Al_2(SO_4)_3)$ of 50:50 dosage ratio gives better removal efficiencies with respect to turbidity, TSS, TDS, COD and BOD and appears to be suitable for textile waste water treatment, when compared with other dosage ratios.

KEYWORDS: Alum, Floc, Jar Test, *Moringa oleifera*, Textile Waste Water