عنوان مقاله:

Feasibility study of coagulation system for greywater treatment andcomparison of economical effects with those of electrocoagulation in mining areas

محل انتشار:

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خلاصه مقاله:

Coagulants exert a significant influence on removing turbidity, TSS and COD. This study has examined the effects of poly-aluminium chloride (PAC), aluminium sulphate (alum) and ferric chloride on removal of turbidity, TSS, COD from greywater in residential complexes of miners working in decorative stone mines. Also, a comparison was undertaken with the electrocoagulation system to find out whether it was economical. Samples were collected over three days from the outlet pipes of greywater in the downstream of a village. The samples were sent to the laboratory to measure their organic materials. However, the Jar test was implemented by using all three coagulants, at concentrations of 100 to 1200 ppm. The results illustrate that the highest percentage of turbidity, COD and TSS removal were 98.24%, 94% and 77.25% respectively, which are related to PAC coagulant. The lowest cost to remove the organic materials in the coagulation method was harvested US $ 0.09/m3 for alum and howbeit. The cost for electrocoagulation method yielded US $ 0.05/m3 water

کلمات کلیدی:

Electrocoagulation, Coagulation, Greywater treatment, Mining areas