

عنوان مقاله:

Pilot plant study on the treatment of textile wastewater with the objective of reuse

محل انتشار:

سومین کنفرانس برنامه ریزی و مدیریت محیط زیست (سال: 1392)

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خلاصه مقاله:

Wastewater of textile industry consist dye pigments as the most pollution of it. Reduction or completely removal of color from wastewater is the biggest challenge in textile industry. We studied on different methods to treat the wastewater include: activated sludge treatment system with extended aeration and slow filtration with four different media. All the experiments to remove color and pollutants were done continuously in pilot scale. By changing effective parameters efficiency of adsorbent used and also different aeration rate of biological process were investigated. Biological system could remove of about 80% of total pollutants and 40% of dye pigments. In show filtration using different surface adsorbents as filter beds, yields of color removal of each adsorbent has been examined according to column height, adsorbent capacity. This study demonstrated that the bed containing Granular activated carbon (GAC) show the highest efficiency in color removal of wastewater and Talc has the least efficiency in this experiment. Granular activated carbon (GAC), kaolin and Talk follow Freundlich isotherm but saw dust particles as adsorbent show good absorbency while do not follow any of Freundlich and Langmuir isotherms. Results were shown that the cost of Granular activated carbon necessary to remove one gram of absorbent respect to the cost of saw dust to remove the same amount if dye is approximately 30:10

کلمات کلیدی:

textile wastewater, adsorption, Kaolin, Talk, Saw dust

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