اسم البحث : Preparation Of Activated Carbon From Fuel Oil Wastes For Removal Of Ortho-Xylene From Aqueous Solution By New Circulating System

الرابط : https://www.semanticscholar.org/paper/Preparation-Of-Activated-Carbon-From-Fuel-Oil-For-Mohammed-quot/f691e75001cd04eca92d617ae72f69ebbc8f09e9?p2df

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الكلمات المفتاحية : Activated carbon; Xylene; Adsorption; Pollution; Kinetics

الملخص :

This investigation was concern to study the removal of o-xylene pollutants from aqueous solution using activated carbon synthesized from fuel oil wastes. Characterizations of activated carbon were also discussed. The thermodynamic parameters were calculated using adsorption process on an active carbon in the o-xylene solutions concentration of (50,200,300) ppm at four different temperatures and periods of time. Equilibrium adsorption study was done by using a new circulating system, which indicated that synthetic activated carbon fit very well with the Freundlich and Temkin isotherm models. The specific adsorption percentage of o-xylene was highly affected by addition of activator and decreasing with temperature compared to that of control sample. It has been found that the adsorption rate was increased by increasing the o-xylene concentrations, and these values indicated that the o-xylene adsorption onto active carbon was spontaneous and exothermic in nature. The o-xylene adsorption onto active carbon was fitted through the pseudo-first order model with high correlation coefficient values.