

عنوان مقاله:

Ruthenium nanoparticles loaded on activated carbon as adsorbent for Removal of sunset yellow: kinetics and isotherm study

محل انتشار:

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خلاصه مقاله:

Colored compounds are the most easily recognizable pollutants in the environment because of their appearance. Most of the industries such as textile, paper, carpet, and printing use dyes and pigments to color their products [1]. Due to their good solubility, synthetic dyes are common water pollutants and they may frequently be found in trace quantities in industrial wastewater. Nanoparticles have very interesting physicochemical properties, such as ordered structure with high aspect ratio, ultra-light weight, high mechanical strength, high electrical conductivity, high thermal conductivity, metallic or semi-metallic behavior and high surface area [2]. In this research Ruthenium nanoparticle loaded on activated carbon has been used as adsorbent for the removal and recovery of sunset yellow from wastewater. The batch studies have been carried by observing the effects of pH, concentration of the dye, amount of adsorbents, of adsorbent, contact time etc. The results showed that as the amount of the adsorbent increased, the percentage of dye removal increased accordingly sunset yellow contents and its removal percentage were determined using a UV-Vis spectrophotometer before and after adsorption. The graphical correlation of various adsorption isotherm models like Langmuir, Freundlich, Tempkin have been carried out for this adsorbent

کلمات کلیدی:

Nano-particle; Ruthenium; sunset yellow; isotherm study

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