

## عنوان مقاله:

Adsorptive removal of anionic dye from aqueous solutions by mixture of Kaolin and Bentonite clay: Characteristics, isotherm, kinetic and thermodynamic studies

## محل انتشار:

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## خلاصه مقاله:

The textile effluents are considered as potential source of water contaminations. Thus the effective methods were adopted for the removal of dyes and colorants from the textile effluents. In the present research, the removal of textile dye Congo red was carried out by bentonite clay blend with kaolin. The kaolin-bentonite clay (KBC) was used as adsorbent. The adsorption properties of KBC towards Congo red were investigated, at various temperatures 303-318  $\pm$  2 K under the optimized conditions. The adsorption equilibrium data were fitted in Langmuir, Freundlich and Dubinin-Radushkevich adsorption isotherm models and the values of the respective constants were evaluated by employing standard graphical method. From the graph, it was founded that Langmuir model is the best fitted isotherm. Feasibility of adsorption process (RL) and sorption energy (Es) was also determined. The pH of adsorbent was estimated by pH drift method. Kinetics of dye removal was investigated that it follows pseudo second order rate constant. The surface (morphology of adsorbent was observed by the Scanning Electron Microscope (SEM

## کلمات کلیدی:

Adsorption isotherms, Modified adsorbent, Kaolin-bentonite clay, Thermodynamics; Kinetics, Desorption

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