

## عنوان مقاله:

Study of the Adsorption of Amido Black 10B Dye from Aqueous Solution Using Polyaniline Nano-adsorbent: Kinetic and Isotherm Studies

## محل انتشار:

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## خلاصه مقاله:

In the present study, adsorptive properties of Polyaniline (PAn) were investigated for Amido Black 10B dye in aqueous solution. Different variables, including adsorption time, adsorbent dosage, solution pH and initial dye concentration were changed, and their effects on dye adsorption onto PAn nano-adsorbent were investigated. The study yielded the result that an increase in pH decreases the adsorption efficiency of nano-adsorbent. Also, Dye adsorption capacity increased with increase in the initial dyeconcentration. Optimum adsorption time and nano-adsorbent dosage were obtained 30 min and 0.1 gr, respectively. Kinetic studies illustrated that the Amido Black 10B dye adsorption process onto PAn nano-adsorbent followed the pseudo-second-order model, which indicates that the adsorption process is chemisorption-controlled. Also, adsorption equilibrium data were fitted to Freundlich isotherm. The maximum dye adsorption capacity, predicted by the Langmuir isotherm, was 142.85 mg/g. Moreover, Dubinin-Radushkevich isotherm showed that the adsorption of dye onto PAn nano-adsorbent is a chemisorption process

## کلمات کلیدی:

Amido Black 10B; Isotherm; Kinetic; Nano-adsorbent; Polyaniline

## لینک ثابت مقاله در پایگاه سیویلیکا:

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