

## The Experimental and Modeling Adsorption Properties of Sr<sup>2+</sup> on Raw and Purified Bentonite

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**Abstract :** The adsorption properties of local bentonite (Semnan Iran) and purified prepared from this bentonite towards Sr<sup>2+</sup> adsorption, were investigated by batch equilibration. The influence of equilibration time, adsorption isotherms, kinetic adsorption, solution pH, and presence of EDTA and NaCl on these properties was studied and discussed. Kinetic data were found to be well fitted with a pseudo-second order kinetic model. Sr<sup>2+</sup> is preferably adsorbed by bentonite and purified bentonite. The D-R isotherm model has the best fit with experimental data than other adsorption isotherm models. The maximum adsorption of Sr<sup>2+</sup> representing the highest negative charge density on the surface of the adsorbent was seen at pH 12. Presence of EDTA and NaCl decreased the amount of Sr<sup>2+</sup> adsorption.

**Keywords :** bentonite, purified bentonite, Sr<sup>2+</sup>, equilibrium isotherm, kinetics

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