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Equilibrium study of adsorption of Pb^{2+} from aqueous solution onto Algerian bentonite clay

S. Dib, M. Boufatit*

Faculté de Chimie, USTHB, BP 32, El-Alia, Bab-Ezzouar, Algiers 16111, Algeria
Tel./Fax: +213 21 24 73 11; email: maboufatit@yahoo.com

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ABSTRACT

The adsorption of Pb(II) onto Algerian bentonite clay (Mostaganem region) was examined with respect to adsorbent dosage, solution pH, shaking time and initial concentration of metal. The results showed that the removal efficiency of Pb^{2+} by Algerian bentonite clay could reach 92% when the initial concentration of metal ions was 10 mg/L and shaking time 2 h. Two isotherm equations, the Freundlich and Langmuir models, were applied to describe equilibrium isotherms for the adsorption of Pb^{2+}. The experimental results indicated that Algerian clay had significant potential for removing Pb^{2+} from wastewater using the adsorption method and a low-cost adsorbent.

Keywords: Pb^{2+}, Algerian bentonite clay; Adsorption isotherm

* Corresponding author.

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