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EQUILIBRIUM ISOTHERMS STUDIES FOR SORPTION OF LEAD IONS FROM AQUEOUS SOLUTIONS USING ROMANIAN PEAT SORBENT

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Abstract

In this work, the ability of Romanian peat for sorption of Pb (II) ions from aqueous solution has been determined using the batch experimental techniques. The sorption equilibrium has been studied at different pH values. The equilibrium adsorption level was determined to be dependent of the pH of solution and initial Pb(II) concentration.
The equilibrium adsorption capacity of Romanian peat sorbent for lead has been described by seven types of mathematical model isotherms, namely: Freundlich, Langmuir, Redlich-Peterson, Sips, Temkin, Toth and Dubin-Radushkevich isotherms. The thermodynamic parameters like free energy changes for adsorption of Pb(II) by Romanian peat sorbent have been computed and discussed.

Keywords: heavy metals, sorption isotherm, wastewater,

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