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## ADSORPTION CHARACTERISTICS OF Co(II) IONS FROM AQUEOUS SOLUTIONS ON ROMANIAN PEAT MOSS

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### Abstract

Peat moss has been widely used as low-cost adsorbent to remove a variety of pollutants, including organic compounds and metal ions from aqueous effluents. Various functional groups allow such compounds to bind on active sites of peat moss. The adsorbent used in this study was Romanian peat moss sampled from Poiana Stampei (Romania). The adsorption of Co(II) ions from aqueous solutions on Romanian peat moss was studied in batch experiments, in order to establish the influence of initial solution pH, peat moss dose, initial Co(II) concentration and contact time on the adsorption efficiency. The adsorption data fitted well the Langmuir isotherm model. The maximum adsorption capacity ( $q_{m,qx}$ ) was 30.67 mg/g. The effect of temperature on Co(II) adsorption process was also investigated in the temperature range between 9 and 64 °C, and various thermodynamic parameters, such as  $\Delta G$ ,  $\Delta H$  and  $\Delta S$ , have been calculated.

*Key words:* adsorption, Co(II) ions, isotherms, Romanian peat moss

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