Étude de matériaux argileux et leur Impact surl'adsorption de certains polluants.

KHIREDDINE Ouahida

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Abstract: The present work consists to a valorization of available local clay for water remediation. Theused raw material is a clay soil from a region in the south of the Guelma city (Algeria).Several physico-chemical treatments have been realized in order to obtain purified clay. Thecharacterization of the sample clay, performed using XRD, FT-IR, DTA and SEM, show itsmorphology and its texture. Furthermore, the results correlated to the structural analysis,demonstrated that this clay is a disordered kaolinite of type 1:1. The adsorption experimentsof parnitrophenol (PNP) in aqueous medium have been carried out using raw kaolinite andurea-intercalated kaolinite. The results showed that the capacity of PNP adsorption on theintercalated kaolinite is more important than that of raw one. The evaluated experimentalvalues of the adsorption isotherms are in agreement with Langmuir and Freundlich models. Inall cases, the adsorption kinetics follows the mechanism of pseudo-second order. In addition,the thermodynamic study indicates that the adsorption of PNP on raw kaolinite and ureaintercalatedkaolinite is a spontaneous process

Keywords : soil, characterization, kaolinite, Intercalation, adsorption, Paranitrophenol.