

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

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Abstract: The present work consists to a valorization of available local clay for water remediation. The used 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. The characterization of the sample clay, performed using XRD, FT-IR, DTA and SEM, show its morphology 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 experiments of parnitrophenol (PNP) in aqueous medium have been carried out using raw kaolinite and urea-intercalated kaolinite. The results showed that the capacity of PNP adsorption on the intercalated kaolinite is more important than that of raw one. The evaluated experimental values of the adsorption isotherms are in agreement with Langmuir and Freundlich models. In all 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 urea intercalated kaolinite is a spontaneous process

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