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STUDY OF THE MODIFICATION OF THE DIATOMITE SURFACE BY CHEMICAL ACTIVATION FOR A PRACTICAL APPLICATION

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Abstract : The diagrams of X for the natural and modified diatomite show remarkable modification onthe surface of this material, we were tested the modified diatomite for filtration of water,using adsorption process.The adsorption isotherm on diatomite was studied using UV Spectrophotometry, the surfaceof diatomite was modified with Sulphuric acid by using chemical activation method, and thetrapping behavior of the modified diatomite for phenol was investigated.The influence of some parameters such as the pH of the medium and the initial concentrationof the pollutant on the process of adsorption was also evaluated.Diatomite and modified diatomite are effective adsorbents for removal of phenol fromsolution at pH 5.It was shown in the present investigation that the treatment of diatomite by sulphuric acidimproves its performance as adsorbent for phenol and, when the adsorption capacity wasincreased after chemical treatment.The experiment results show that adsorption isotherm fits in Freundlich equation.

Keywords : Surface modification, material, diatomite, Environnement, pollution