

RÉTENTION DE POLLUANTS SUR DES MATRICES À BASE D'ARGILE ANIONIQUE DANS LES EAUX USÉES DE L'INDUSTRIE ALIMENTAIRE POUR RÉHABILITATION ENVIRONNEMENTALE

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Abstract: In this work, we studied the retention of pollutants on anionic clays. The pollutant can result from different industries with a very high priority in food industry, hospital wastewater and others. Within our team, we have prepared various anions of anionic clays (Mg-Al in different ratios) and we have studied their behavior concerning the retention of pollutants. Lamellar double hydroxides (LDH), are positively charged layered materials containing divalent and trivalent cations. The electro-neutrality of the material is ensured by the presence of inter-foliar anions, solvated by water molecules. LDH also called anionic clays, because of the load carried by leaflets are very rarely found in natural form. Using this material, adsorption isotherms were determined as a function of agitation rate and temperature. It is important to identify the key factors in the management of food industry residues, which are relevant to the control of pollutants, on the basis of the anionic clays, and on the other. With materials prepared in our laboratories, we have studied the parameters that can influence the retention of pollutants on these materials. To see the influences of parameters, we varied: the nature of material used in the experiments; the adsorbent mass of materials studied the contact time and the pH of the polluting solution. The experiments have led to some conclusions, the most important is that if we add the LDH material, we can functionalize the anionic clay to achieve a more efficient material concern the retention of pollutants.

Keywords: lamellar double hydroxydes, wastewater, pollutants retention, food industry