ABSTRACT

Master's thesis: 109 p., 33 tables, 24 pictures, 100 references.

Object of investigation: pine sawdust, thermochemically modified in the presence of activators $(NH_4)_3PO_4$ and carbamide.

Research subject: adsorption properties of modified sawdust with respect to copper, nickel and iron (II) ions.

Objective: to develop a method for thermochemical modification of the sawdust using the carbonization activator $(NH_4)_3PO_4$, to investigate the efficiency of the obtained sorption carbon materials in copper, nickel and iron (II) ions removal from monocomponent solutions and in the presence of electrolytes.

In this paper, the effect of sorbent preparation conditions (concentration of activator, duration and carbonization temperature) on the sorption of copper, iron and nickel ions from aqueous solutions is studied. The specific sorption surface and functional groups on the surface of sawdust are determined. The effect of Ca^{2+} and Na^{+} ions on the extraction of copper ions from model solutions has been studied. The obtained results can be used to develop technologies for post-treatment of waste water.

SORPTION, MODIFICATION, CARBONIZATION, AMMONIUM PHOSPHATE, CARBAMIDE, HEAVY METALS