



Indian Natural Zeolite: A Low Cost Adsorbent for the Removal of Fe (III) Metal Ions from Aqueous Model Solution

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ABSTRACT

The adsorption studies on the removal of iron from aqueous solution using non-treated natural zeolite; locally available was carried out under varying experimental conditions. The maximum adsorption was observed to be a function of solution of pH, contact time, initial concentration of ions and temperature, has been found out that specific surface of zeolite takes leading part at the adsorption of iron from aqueous solution with different concentrations. Natural zeolite showed maximum adsorptive removal of iron at about pH 3 and doses 1 gm 50 ml for iron aqueous solution in 2.5 hours contact time. Ion exchange is probably one of the major adsorption mechanisms for binding of Fe(III) ions on the surface of natural zeolite. The experimental results strongly support this hypothesis. On the basis of experimental results as well as the model parameters, it can be said that the adsorbent natural zeolite may be used in developing an adsorptive technology for the removal of iron.

Keywords: Indian Natural Zeolite (INZ), Iron(III) ions, Adsorption.
