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## ADSORPTION OF TARTRAZINE ON AN IRON MODIFIED ZEOLITIC TUFF

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### Abstract

The adsorption of tartrazine from aqueous solution was evaluated using an iron (III) modified zeolitic tuff. The adsorbent was characterized by scanning electron microscopy and X-ray power diffraction; the modification process does not affect the crystalline structure of the zeolitic tuff. Sorption kinetic, isotherms, dose and pH effects were determined and the adsorption behavior was analyzed. The sorption equilibrium was reached in 72 hours, the adsorption capacity determined by the Langmuir model was 1.05 mg/g. Sorption capacity of Fe-zeolitic tuff for tartrazine was not influenced by pH. Kinetic pseudo-second order and Freundlich models were successfully applied to the experimental results, indicating that the adsorption process was chemisorption on a heterogeneous material.

*Key words:* adsorption, equilibrium, Fe-zeolitic tuff, tartrazine

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