



**MODELING OF NITRATE ADSORPTION ON GRANULAR ACTIVATED CARBON
(GAC) USING ARTIFICIAL NEURON NETWORK (ANN)**

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Pollution of surface and ground waters causes risk to human health because of the potential health hazards of their contents of inorganic compounds. An oxide of nitrogen, such as nitrate is common pollutant in closed surface water systems and ground water contaminated with nitrogenous compounds. High concentrations of N-containing compounds in drinking water cause health problems such as cyanosis among children and cancer of the alimentary canal. Therefore, removal of nitrate from water samples is of significant important from the health and environmental point of view. In this work, the effective parameters on adsorption process that were initial concentration, contact time, pH and temperature used for modeling of nitrate adsorption by artificial neuron network. The Artificial neuron network is Feed-Forward and used for predict of initial concentration of pollutant in different times. Modeling of nitrate adsorption on granular activated carbon (GAC) using artificial neuron network is a very good and precise method to predict adsorption extent of nitrate on GAC in different conditions.