Adsorption of 2,4,6-trichlorophenol (TCP) onto activated carbon

Abstract

The adsorption of 2,4,6-trichlorophenol (TCP) by activated carbon was carried out at 30 °C with initial concentrations of 100–600 mg/L. The adsorption capacity of TCP was 457.9 mg/g at 30 °C. The adsorption isotherm and kinetics of TCP by activated carbon are investigated. The equilibrium isotherms of TCP/acetone mixtures were determined using a conventional method. Pseudo-Ideal adsorption model was used to analyze the liquid phase adsorption equilibrium data of TCP. As a result, the adsorption isotherm followed the Langmuir class (L type) and fits the experimental data well. The adsorption isotherm constant in this work also was compared with other researcher's work showing the comparable values.