

SUMMARY

The aim of this research was to study the removal of two organic pollutants (n-Butanol and benzyl alcohol) from water by adsorption in fixed bed using activated carbon.

The analysis was done by a gas liquid chromatography (G.L.C) with a flame ionization detector system with direct injection of aqueous solutions.

Six experiments were carried out to study the effect various influent concentration of single pollutant from solution on the performance of activated carbon.

Twenty five experiments were carried out to study the effect of various initial conditions (influent concentration of n-Butanol and benzyl alcohol, flow rate of solution, bed depth, temperature, different linear velocities with constant contact time, type of bed and two types of grades carbon of different sizes) on the performance of activated carbon.

The range of concentration used was $(50-150 \times 10^{-3} \text{ kg/m}^3)$ for n-Butanol and benzyl alcohol.

The calculated Heat of adsorption indicated that the system undergoes physical adsorption.

A mathematical model was used to predict the breakthrough curves. This model was in a good agreement with the experimental data for each pollutant.