

# ADSORPTION STUDY OF ALOIN ON ACTIVATED CHARCOAL

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Adsorption of aloin on activated charcoal was studied in this research in order to explore the potential ability of activated charcoal (Granular and powdered charcoal) to remove aloin from Aloe Vera. A simple and less time consuming analytical test method was developed to quantify aloin. Different parameters for adsorption on to charcoal were optimized such as the dosage of charcoal used, stirring time, column height etc. Experiments were carried out under above optimized conditions. The amount of aloin removed was examined at different initial concentrations of aloin. From these experimental data, adsorption isotherms were obtained at 25 °C and data were modeled with the Langmuir and Freundlich isotherms. The adsorption process was found to be monolayer, favorable and makes a strong bond between the adsorbent and the adsorbate. The kinetics of adsorption reaction is pseudo second order. Percentage removal of aloin was higher for powdered charcoal than that of granulated charcoal in both stirring and column methods. However, to remove aloin in natural Aloe vera gel it is advisable to use granular charcoal.