

Isotherm, Kinetic and Thermodynamic Characteristics of Adsorption of Cephalomine from *Taxus chinensis* onto Sylopute

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**Abstract**

Batch experimental studies were carried out on the adsorption of cephalomannine from *Taxus chinensis* using Sylopute while varying parameters such as initial cephalomannine concentrations, contact times and adsorption temperatures. The Temkin isotherm model showed good fit to the equilibrium adsorption data. It was found that adsorption capacity decreased with increasing temperature and the adsorption of cephalomannine onto Sylopute was favorable and physical in nature. The adsorption kinetics were well described by the pseudo-second-order kinetic model, while intraparticle diffusion and boundary layer diffusion did not play a dominant role in cephalomannine adsorption according to the intraparticle diffusion model. Thermodynamic parameters ( $\Delta H^\circ$ ,  $\Delta S^\circ$ ,  $\Delta G^\circ$ ) revealed the exothermic, irreversible and non-spontaneous nature of adsorption.

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