# Heterogeneous Adsorption of Phenolic Compounds on Porous Materials

심왕근, 이재욱[1], 문 희*
전남대학교 응용화학공학부; [1]서남대학교 화학공학과
(hmoon@chonnam.ac.kr*)

Phenolic derivatives have been widely used as intermediates in various industries. It has been also known that these materials can not only contaminate water and ground water but also cause a serious effect on human health. Adsorption process is one of the most effective methods for removing phenolic compounds, especially in low concentrations. In general, heterogeneous adsorption is closely related to the characteristics between the adsorbent and adsorbate. Thus it is useful to evaluate the energetic heterogeneity of porous adsorbent for understanding the adsorption system. The main objective of the present study is to investigate the effects of heterogeneity of selected adsorbents, namely, activated carbons and synthetic polymeric resins, on the adsorption of phenolic compounds. The generalized Langmuir-Freundlich isotherm equation was used to estimate the single solute adsorption equilibrium data and obtain a proper adsorption energy distribution. Also, the generalized regularization method was applied in calculating the adsorption energy distribution function that is a linear Fredholm integral equation of first kind.