Adsorption Characteristics of Pure and Binary Gases on Lix Zeolite

박주용, 양세일, 최도영, 장성철, 이창하[1], 최대기*
한국과학기술연구원; [1]연세대학교
(dkchoi@kist.re.kr*)

Adsorption equilibrium of the gases H_2, CO_2, CO and CH_4 on Lix Zeolite(UOP) were performed by static volumetric method in the pressure range of 0 to 20 bar at temperature of 293.15 K, 303.15 K, and 313.15 K. The parameters obtained from single component adsorption isotherm(Langmuir isotherm, Langmuir-Freundlich isotherm and Dual-Site Langmuir). The dynamics characteristics of the adsorption were studied through the breakthrough experiments using hydrogen mixture (H_2/CO_2, H_2/CO, H_2/CH_4) under various operating conditions.
The experimental values under various operating conditions like adsorption pressure and feed flow rate were compared with predicted ones using balance equation.