

## Evaluation of Adsorption Isotherm of Single Gas and Adsorbent

강성신, 강정원<sup>†</sup>

고려대학교

(jwkang@korea.ac.kr<sup>†</sup>)

Adsorption has been used widely for removal of stinking and harmful gas. Recently, adsorption also has been paid attention as gas separation method such as carbon dioxide separation from landfill gas. Adsorption isotherms are basic data for the design and operation of these process such as PSA (pressure swing adsorption), TSA (temperature swing adsorption) and SMB (simulated moving bed). Many researchers have reported experimental data of gas isotherm and its correlated result, but existing adsorption databases just contain raw data without evaluation and uncertainty even for the simplest system such as single gas and commercial adsorbent. In this work, adsorption isotherm data are captured for isotherm database of adsorption and captured data are correlated with the appropriated model and evaluated with uncertainty. Uncertainties are estimated using a covariance matrix for captured data without uncertainty. Evaluated data from this procedure can be utilized as a guideline for design and operation of adsorption database.