

عنوان مقاله:

Experimental Study of SO₂ and CO₂ adsorption on Multi-walled Carbon Nanotubes

محل انتشار:

سومین همایش ملی کاربردهای شیمی در فناوریهای نوین (سال: 1392)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Naghme Iraj - *Chemical Eng. Dep. Faculty of Engineering, University of Isfahan, Isfahan, Iran*

Foad Aghamiri - *Chemical Eng. Dep. Faculty of Engineering, University of Isfahan, Isfahan, Iran*

Elham Molyanyan - *Chemical Eng. Dep. Faculty of Engineering, University of Isfahan, Isfahan, Iran*

Mohamad Reza Talaie - *Chemical Eng. Dep. Faculty of Engineering, University of Isfahan, Isfahan, Iran*

خلاصه مقاله:

Adsorption equilibrium of sulfur dioxide and carbon dioxide on pristine multi-walled carbon nanotube (MWCNT) were measured. The adsorption isotherm for both gases on MWCNT were obtained at 313.15 K and 323.15 K and pressures up to 2.5 bar by a static volumetric method. MWCNT sample presented higher adsorption capacity for sulfur dioxide in comparison with the carbon dioxide in same conditions. Maximum adsorption capacity of MWCNT for sulfur dioxide and carbon dioxide at a pressure about 2 bar and temperature of 303.15 K were 2.472 and 0.844 mmol per gram of adsorbent, respectively. Experimental data of MWCNT were correlated by Freundlich, Sips and Langmuir equations. The models gave the best fit with a correlation coefficient greater than 0.99.

کلمات کلیدی:

Adsorption, Multi-walled carbon nanotube, Equilibrium, isotherm, SO₂, CO₂

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/233346>

