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Multicomponent Langmuir-Freundlich equation for the prediction of adsorption equilibria of CO2/N2/O2 mixtures over ZMS 13X

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Abstract: Experimental results are presented which concern the adsorption equilibria of gaseous mixtures containing carbon dioxide, nitrogen and oxygen over zeolite molecular sieves 13X Grace which may be used in the separation of CO_2 from flue gases. Experimental results are compared with the results of calculations using the Langmuir-Freundlich equation. Good agreement is found between the experiment and calculations. It is shown that the Langmuir-Freundlich equation can be used for the calculation of gas-solid equlibria in systems containing mixtures of CO_2, N_2, O_2 and zeolite molecular sieves 13X Grace.

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