Institute of Chemical Engineering

Impact of the heat capacity of adsorbed phase on process performance in the capture of CO2 from flue gas using pressure swing adsorption

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Abstract: The present study aims at demonstrating how important it is to include the substantial increase in CO2 heat capacity around the critical temperature in the modelling of relevant PSA separations. It is shown that this parameter may considerably alter simulation results, especially in the cases when the adsorbed phase concentration is high, regeneration pressure is moderate and CO2 content in the enriched stream is large.

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