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SEPARATION SCIENCE & ENGINEERING

评估混合气在PDMS膜中渗透性能的操作模型

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摘要 An operational model is developed to evaluate and predict the permeation performance of mixed gas through poly (dimethylsiloxane) (PDMS) membranes by combining the ideal gas permeation model with the experimental analysis of the mixed gas transport character. This model is tested using the binary and ternary mixed gas with various compositions through the PDMS membranes, and the predicted data of the permeation flux and the compositions of the permeated gas are in good agreement with the experimental ones, which indicates that the operational model is applicable for the evaluation of the permeation performance of mixed gas through PDMS mem-branes.

关键词 operational model; poly (dimethylsiloxane) membrane; mixed gas; permeation performance

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Operational Model for Evaluating the Permeation of Mixed Gas Through Poly(dimethylsiloxane) Membrane

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Abstract :An operational model is developed to evaluate and predict the permeation performance of mixed gas through poly(dimethylsiloxane) (PDMS) membranes by combining the ideal gas permeation model with the experimental analysis of the mixed gas transport character. This model is tested using the binary and ternary mixed gas with various compositions through the PDMS membranes, and the predicted data of the permeation flux and the compositions of the permeated gas are in good agreement with the experimental ones, which indicates that the operational model is applicable for the evaluation of the permeation performance of mixed gas through PDMS mem-branes.

Key words operational model; poly (dimethylsiloxane) membrane; mixed gas; permeation performance.

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