



Modeling of carbon dioxide absorption in a gas/liquid membrane contactor

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ABSTRACT

In this study, the behavior of CO₂ absorption in flat sheet membrane contactors is developed. Physical and chemical absorption of CO₂ in co-current and counter-current flow were studied using both distilled water and 2-amino-2 methyl 1-propanol (AMP) as a solvent in the model. The effect of flow pattern, solvent type and gas and liquid velocity on absorption of carbon dioxide through the membrane contactor is obtained. The results indicate that the use of AMP instead of water leads to a better separation for carbon dioxide. Furthermore, unlike the liquid velocity, lower value of gas velocity showed higher performance for absorption.

Keywords: Flat sheet membrane contactor; Carbon dioxide; Absorption

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