

Influence of concentration polarization to NF membrane separation mechanism

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ABSTRACT

The research discuss the influence of concentration polarization to NF membrane separation mechanism and rejection effect. Under the constant situation the rejection rate of NaCl、Na₂SO₄、PEG200 and PEG600 are during 20~40%、89~96%、46~54% and 93% respectively. And the used Hydorsep NF membrane is no charge so the concentration polarization effect the rejection rate less. NF membrane mainly rejection mechanism is sieving effect and surface force. The research according Kimura and Sourirajun model to quantify the relationship about rejection rate and flux, the result is under the constant cross-flow velocity the average solute transport parameter and dynamic solution permeability of NaCl is 5.57×10^{-6} m/s and 4.78×10^{-15} (m) ; the average solute transport parameter and dynamic solution permeability of Na₂SO₄ is 2.29×10^{-7} m/s and 3.56×10^{-15} (m).

Keywords : NF ; membrane ; concentration polarization

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