Removal of Inorganic Ions in Single and Binary Mixed Electrolyte Systems by a Nanofiltration Membrane

陳柔閔 、柯雅雯

E-mail: 9221183@mail.dyu.edu.tw

ABSTRACT

Abstract The research discuss the influence of concentration、pressure and crossflow to NF membrane separation mechanism and rejection effect at the condition of non-concentration polarization. Under the constant situation the rejection of Na+、Ca2+、Cl-、SO42- are greater than 90 %、99 %、90 %、99 %, respectively. And the used NF-70 membrane is charge so the concentration of ions in single and binary mixed electrolyte systems effect the rejection rate and permeability more. The model of the research according Dey and others, based on the irreverersible thermodynamics approach and Donnan equilibrium theory have been used to derive an expression for Na+、Ca2+、Cl-、SO42- rejection for single and binary mixed electrolyte systems. Key words ：Nanofiltration；binary mixed electrolyte；concentration polarization

Keywords : nanofiltration ; binary mixed electrolyte ; concentration polarization

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