

Removal of Organic Compounds in Water Using a NF Membrane : Effect of Feed Concentration and Co-existing Inorganic Ions

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ABSTRACT

The research investigates the effect of feed concentration ferulic acid bis phenol A by on the removal of NF membrane. In addition, effect of co-existing inorganic ions (such as NaCl and Na₂SO₄) is also discussed. Rejection of ferulic acid, bis phenol A, NaCl and Na₂SO₄ are by NF-270 greater than 70%、99%、60%、95%, respectively. Results also show increasing the feed concentration of the organic compound usually leads to the decrease of rejection, which can be explained by the increase of concentration driving force across the membrane. The relationship between rejection and permeate flux was developed based on the irreversible thermodynamics approach and was modified to extend the applicability to both the single and binary mixed systems.

Keywords : NF-270 membrane ; ferulic acid ; bis phenol A ; feed concentration ; co-existing inorganic ions

Table of Contents

封面內頁 簽名頁 授權書 iii 中文摘要 v 英文摘要 vi 誌謝 vii 目錄 viii 圖目錄 xi 表目錄 xiii 第一章 前言 1.1 研究緣起 1.2 研究目的 1.3 研究內容 第二章 文獻回顧 2.1 薄膜的基本性質 2.1.1 薄膜的材料與構造 2.1.2 薄膜操作的分類 2.1.3 薄膜的操作參數 2.2 NF薄膜的分離原理及傳輸機制 2.3 NF薄膜對自來水中污染物質的去除 2.3.1 對有機污染物的去除 2.3.2 對離子物質的去除 2.3.3 有背景離子存在下對有機物的去除 2.4 薄膜阻塞的成因與影響通量衰減的因素 2.4.1 薄膜阻塞的主要原因 2.4.2 清水通量與操作壓力間的關係 2.4.3 影響清水通量衰減的因素 2.5 質量傳輸與分離成效的預測模式 第三章 實驗材料與研究方法 3.1 研究流程 3.2 實驗設備與材料 3.2.1 實驗裝置 3.2.2 所使用的薄膜種類 3.2.3 試驗水樣 3.3 預備試驗 3.3.1 新薄膜的預備試驗 3.3.2 決定薄膜的截留分子量(MWCO) 3.4 試驗步驟 3.5 分析方法 3.5.1 電導度(Conductivity) 3.5.2 阿魏酸與雙酚A的分析-UV254吸光度 3.5.3 陽離子分析 3.5.4 陰離子分析 第四章 結果與討論 4.1 預備試驗 4.1.1 基線水通量的測定 4.1.2 薄膜之截留分子量(MWCO)的測定 4.2 NF薄膜對單一電解質之處理成效 4.2.1 氯化鈉溶液 4.2.2 硫酸鈉溶液 4.3 進流濃度與背景離子對阿魏酸之處理成效的影響 4.3.1 單一阿魏酸溶液 4.3.2 阿魏酸-氯化鈉混合溶液 4.3.3 阿魏酸-硫酸鈉混合溶液 4.4 進流濃度與背景離子對雙酚A之處理成效的影響 4.4.1 單一雙酚A溶液 4.4.2 雙酚A-氯化鈉混合溶液 4.4.3 雙酚A-硫酸鈉混合溶液 4.5 分離成效之預測模式的建立與驗證 第五章 結論與建議 參考文獻 附錄 圖目錄 圖2.1濃度極化層與溶質傳輸示意圖 圖2.2清水通量與操作壓力之間的關係圖 圖3.1研究流程 圖3.2批次式循環薄膜試驗設備 圖3.3 (a)阿魏酸與(b)雙酚A的化學結構式 圖4.1新膜的清水通量隨時間的變化關係 圖4.2以不同分子量的PEG測定薄膜之MWCO的實驗結果 圖4.3氯化鈉溶液之清水通量關係與操作壓力的關係 圖4.4在不同操作壓力時，氯化鈉溶液之去除率的關係 圖4.5進流濃度對氯化鈉去除率的影響 圖4.6比較在不同掃流速度與進流濃度時之氯化鈉溶液的去除率 圖4.7氯化鈉之去除率與穩態清水通量的關係 圖4.8進流濃度對硫酸鈉去除率的影響 圖4.9比較在不同掃流速度與進流濃度時之硫酸鈉溶液的去除率 圖4.10進流濃度對硫酸鈉溶液之穩態清水通量的影響 圖4.11阿魏酸溶液之穩態清水通量與操作壓力的關係 圖4.12進流濃度對阿魏酸溶液之去除率的影響 圖4.13比較在不同掃流速度與進流濃度時之阿魏酸溶液的去除率 圖4.14在不同操作壓力時，阿魏酸溶液之去除率與進流濃度的關係 圖4.15阿魏酸溶液於不同進流濃度時的去除率與穩態清水通量之關係 圖4.16固定氯化鈉進流濃度 5×10^{-4} 時，阿魏酸進流濃度對阿魏酸氯化鈉去除率的影響 圖4.17固定阿魏酸進流濃度 5×10^{-6} 時，氯化鈉進流濃度對阿魏酸與氯化鈉去除率的影響 圖4.18 不同掃流速度與阿魏酸進流濃度對(a)阿魏酸與(b)氯化鈉之去除率影響 圖4.19固定硫酸鈉進流濃度 1×10^{-5} 時，阿魏酸進流濃度對阿魏酸與硫酸鈉去除率的影響 圖4.20固定阿魏酸進流濃度 1×10^{-6} 時，硫酸鈉進流濃度對阿魏酸與硫酸鈉去除率的影響 圖4.21進流濃度對雙酚A溶液之去除率的影響 圖4.22雙酚A溶液之進流濃度與穩態清水通量的關係 圖4.23固定氯化鈉進流濃度 1×10^{-5} 時，雙酚A進流濃度對雙酚A與氯化鈉去除率的影響 圖4.24固定雙酚A進流濃度 1×10^{-6} 時，氯化鈉進流濃度對雙酚A與氯化鈉去除率的影響 圖4.25雙酚A/氯化鈉濃度比值對去除率的關係 圖4.26比較單一溶質去除率實驗值與模式預測值 圖4.27比較混合溶液去除率實驗值與模式預測值 表目錄 表2.1不同薄膜型式的特性與應用 表2.2.薄膜的適用操作特性及去除範圍表 表2.3 整理NF薄膜去除DBPFP的研究結果 表2.4 各參數對薄膜移除THMFP的影響 表2.5 整理NF薄膜去除有機物之研究結果 表2.6 NF/RO薄膜之傳輸模式的整理 表2.7 Extendd Nernst-Planck model之文獻整理 表3.1 試驗所用NF薄膜之基本資料 表3.2 本研究的試驗設計 表4.1 不同掃流速度與操作壓力時的基線水通量結果 表4.2進流濃度和背景離子(硫酸鈉)濃度的變化對雙酚A-硫酸鈉混合溶液之去除率的影響 表4.3單一溶質時的 P_s 、 P_{s1} 和 P_{s2} 預測值 表4.4混合溶液的 P_{mix} 、 P_{s1} 、 P_{s2} 和 P_{s1-s2} 值及 P_{s1-s2} 預測值

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