

عنوان مقاله:

Pervaporation separation of n-hexane/thiophene mixtures with PDMS/PA membrane

محل انتشار:

ششمین کنگره بین المللی مهندسی شیمی (سال: 1388)

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خلاصه مقاله:

The aim of this research is sulfur removal from gasoline by membrane. For this purpose separation of n-hexane and thiophene mixture is investigated by PDMS/PA composite membrane. Effects of feed temperature, permeate pressure, thiophene concentration and feed Reynolds number on the desulfurization efficiency were investigated for binary nhexane/ thiophene mixtures by pervaporation. Experimental results indicated that the change of thiophene concentration has negligible effects on total flux. Total flux slightly increases with increasing feed Reynolds number. With increasing the feed temperature and decreasing permeate pressure, total flux increases. Enrichment factor of thiophene increases by decreasing both feed temperature and permeate pressure. The highest total flux for the n-hexane/thiophene mixture was obtained at maximum feed temperature (53 °C) and permeate pressure (46 mmHg) to be 54 kg m⁻² h⁻¹. The highest enrichment factor of thiophene was obtained to be 1.42 at a feed temperature of 30 °C .and a permeate pressure of 23 mmHg

کلمات کلیدی:

Pervaporation, Desulfurization, Gasoline, N-hexane/thiophene mixtures, PDMS/PA composite membrane

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