عنوان مقاله:

The effect of phase inversion promoters on the structure and performance of S-PVC ultrafiltration flat sheet membrane in oil/water separation process

محل انتشار:

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نویسندگان:

Ebrahim Gholami Parandani - *Membrane Research Lab, Faculty of Chemical Engineering, Babol Noshirvani University of Technology, Babol, Iran*

Gholamreza Bakeri - *Membrane Research Lab, Faculty of Chemical Engineering, Babol Noshirvani University of Technology, Babol, Iran*

خلاصه مقاله:

Low molecular weight compounds were added to the PVC casting solution as the phase inversion promoters and their effects on the structure of polyvinyl chloride flat sheet membrane as well as its performance as ultrafiltration membrane for oily wastewater treatment were investigated. Acetic acid, ethanol, methanol, water, acetone and glycerol were added individually to the PVC solution to prepare the casting solution containing 11 wt.% PVC, 4.45 wt.% nonsolvent additive and 84.55 wt.% NMP; then the flat sheet membranes were fabricated via phase inversion method. The fabricated membranes were characterized with different tests which the results showed that neat PVC and PVC membrane with acetone as the additive have better performance in ultrafiltration applications for oil in water separation process, e.g. theses membranes present 48.75 L/(m2 hr) pure water flux and 100% oil rejection

کلمات کلیدی:

PVC flat sheet membrane, phase inversion promoter, membrane structure, ultrafiltration membrane