سیویلیکا - ناشر تخصصی مقالات کنفرانس ها و ژورنال ها
گواهی ثبت مقاله در سیویلیکا
CIVILICA.com

عنوان مقاله:

Effect of superhydrophobic Co3O4 nanoparticles on the performanceof PES flat sheet membrane for direct contact membrane distillation

محل انتشار:

سومین کنفرانس بین المللی دستاوردهای نوین پژوهشی در شیمی و مهندسی شیمی (سال: 1395)

تعداد صفحات اصل مقاله: 4

نویسندگان:

N Gholamzadeh - *Chemical and Oil & Gas Engineering Department, Kavosh Institute of Higher Education, MahmoodAbad, Iran*

M. Jahanshahi - *Nanotechnology Research Institute, School of Chemical Engineering, Babol University of Technology,Babol, Iran*

M Peyravi - *Nanotechnology Research Institute, School of Chemical Engineering, Babol University of Technology,Babol, Iran*

خلاصه مقاله:

Polyethersulfone (PES)/Co3O4 flat sheet composite membranes were prepared for direct contact membrane distillation (DCMD) by the phase inversion immersion precipitation process. The effect of blending superhydrophobic Co3O4 nanoparticles into the PES dope solution was studied. The concentration of the nanoparticles in the dope solution was varied at different wt.% (0.5 and 1wt.%). Theprepared membranes were characterized by water contact angle and viscosity and DCMD at feed temperature of 27 °C. The salt rejection was greater than 99.8% when a 35 g/L NaCl solution was used as feed. With a vapour flux increase from 7.46 to 14.13 kg/m2 h when compared to the neat .membrane, this nanocomposite membrane could be of great potential in the desalination process through DCMD

کلمات کلیدی:

Membrane distillation, Synthesis of Co3O4 nanoparticles, hydrophobicity

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/530907