

عنوان مقاله:

Preparation and Characterization of Carbon Molecular Sieve Membranes for Water Treatment

محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

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خلاصه مقاله:

A novel composite carbon molecular sieving membranes (CMSM) consisting of an activated carbon and phenolic resin, applicable to water treatment, was fabricated by carbonization and thermal deposition. The selectivities of these membranes are much higher than those typically found with polymeric materials, and the selectivities are achieved without sacrificing productivity. In this study, the carbon molecular sieve membranes are made from activated carbon powder mixed with solution of novolac phenolic resin. The obtained material was dispersed by ultrasonic and pressed at two levels of high pressure and then raw disks are carbonized at 850 °C. The carbonization treatments were done on two kinds of carbon disks; with and without coating. The membranes were characterized using Scanning Electron Microscopy (SEM). The images revealed more uniform porous structure for the membranes produced at higher pressure.

کلمات کلیدی:

Membrane, Activated Carbon, Molecular Sieve, CMSM, Phenolic Resin

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