

عنوان مقاله:

A Nano-porous Faujasite Membrane for Nanofiltration: Preparation and Characterization

محل انتشار:

نخستین کنگره بین المللی نانوفناوری و کاربردهای آن در صنایع نفت، گاز و پتروشیمی (سال: 1385)

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خلاصه مقاله:

Zeolite membranes as nanofilters have potential in separating mixtures that are difficult to isolate with traditional techniques. They offer distinct advantages in the nano-separation of close-boiling mixtures and azeotropes in many industrially important separation processes. Nano-scale separations such as air pollution control, removal of H₂S and SO₂ in obtaining ultra-pure gas streams, H₂ production from steam/methane reforming, and the separation of aromatic and n/i-isomers are some of their various applications in the petrochemical industry. In this work, nanoporous faujasite membranes (pore diameter = 0.74 nm) was prepared on cylindrical Porous Mullite Supports. Seeding treatments were performed using the NaX zeolite powders prepared before. The obtained zeolite was characterized with XRD and SEM. A thin and continuous X-type zeolitic top layer covered the outer surface of the support.

کلمات کلیدی:

Faujasite; nanofiltration membranes Membrane; Hydrothermal; NaX-type Zeolite; Tubular Ceramic Support

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