عنوان مقاله:

PALLADIUMMEMBRANE FABRICATION ON SLCA NANOPOROUS FLMIALUMNA SUPPORT

محل انتشار:

سومین کنفرانس بین المللی مواد فوق ریزدانه و نانوساختار (سال: 1390)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

Nanoporous layer with high chemical and mechanical strength is very attractive in hydrogen purification. In this study, dense palladium coating was fabricated on macroporous O-alumina using nanoporous silica thin film as surface modifier. The silica film has been prepared by an acid catalytic sol-gel process under the action of CTAB template. TEOS was starting material and homogeneous, clear transparent solution was prepared and coated on O-alumina disk by dip-coating. Then heated slowly (1 C/min) to 400°C in air. Pd layer deposited electrolessly on it. Surface morphology of silica film and palladium layer have been studied by AFM and SEM. There is shown silica inorganic nanoscale walls produced between ordered surfactant micells. palladium layer that shows the grains of palladium .grains is about 10pm which leads to formation of a relatively dense film

کلمات کلیدی:

Palladium membrane; sol-gel; permeability; diffusion barrier