

عنوان مقاله:

Review of Membrane Reactors for Hydrogen Production via Hydrocarbon Reforming and Water-Gas Shift Reactions

محل انتشار:

هشتمین کنفرانس بین المللی شیمی، مهندسی شیمی و نفت (سال: 1399)

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نویسندگان:

Mojtaba Binazadeh - Assistant Professor, Chemical Engineering Department, School of Chemical and Petroleum Engineering, Shiraz University, Shiraz, Iran

Sajad Mamivand - MSc Student, School of Chemical and Petroleum Engineering, Sharif University of Technology, Tehran

خلاصه مقاله:

Several petrochemical units produce hydrogen by steam reforming of methane, methanol, ethanol, and water-gas shift. These reactions are generally endothermic and require high temperature operation. Moreover, the hydrocarbon or Co conversion as well as hydrogen yield in the conventional units is limited by thermokinetic equilibrium. Membrane reactors offer an increased conversion/ hydrogen yield by selective and distributed removal of hydrogen from the reactor which also reduces the thermal energy demand and results in a more economic and controllable operation. In this research prior studies on membrane technology for hydrogen production via hydrocarbon reforming are reviewed and their configurations and added-values are explained.

کلمات کلیدی:

Hydrogen production, Hydrocarbon reforming, Water-gas shift, Membrane reactor

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