

## عنوان مقاله:

Polyimide mixed matrix membranes: preparation and characterization for CO<sub>2</sub> selective separation

## محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

تعداد صفحات اصل مقاله: 8

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## خلاصه مقاله:

CO<sub>2</sub> removal and / or capturing is one of the most important tasks in gas separation and environmental protection. Some mixed matrix membranes (MMMs) were fabricated in order to improve membraneseparation performance of CO<sub>2</sub> selective permeation using polyimide of Matrimid 5218 as backboneand zeolite 4A as filler. Scanning Electron Microscopy (SEM) analysis showed acceptable connections between the two phases and the MMMs performed higher performances for CO<sub>2</sub>permeation compared with the neat polymeric membrane to some extent. Although a glassy polyimidewas used, thermal treatment at a temperature around glass transition temperature (T<sub>g</sub>) of the polyimide repaired probable defects and there were no voids around the fillers, as gas permeation tests revealed. Also, MMMs showed higher thermal stabilities than that of neat polymeric membrane. This is essential for many CO<sub>2</sub> separation and capturing operations.

## کلمات کلیدی:

Mixed Matrix Membrane, Polyimides, Zeolite 4A, CO<sub>2</sub> permeation

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/340924>

