

## عنوان مقاله:

Preparation and characterization of PES nanofiltration membrane embedded with modified graphene oxide for dye removal from algal wastewater

## محل انتشار:

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## خلاصه مقاله:

The present work was concentrated to study the ability of nanofiltration membrane as a treatment method of algal colored wastewater discharge from Islamabad refinery, Kermanshah, Iran. The polyether sulfone nanofiltration membrane was modified with sodium dodecyl sulfate (SDS) as an anionic surfactant and applied for treatment of colored wastewater. Water contact angle Scanning electron microscopy (SEM) and were applied to characterization of prepared membranes. The pure water flux, relative flux reduction as a parameter that represents antifouling property of membrane and also dye rejection were studied by dead-end and cross-flow filtration system in the present research. The period of the filtration time was extended about 6 hours to evaluate the stability and flux reduction of membrane. The results indicated 23.26% flux reduction was observed for modified membrane that confirms the antifouling property of prepared membrane. The results demonstrated that the permeate was completely transparent (100% dye removal, 98.2% turbidity removal), and the pure water flux was enhanced for modified membrane to 27.21 (Kg/m<sup>2</sup>.h). In the present research nanocomposite polymeric membrane are introduced as an appropriate option for .the treatment of natural colored wastewater

## کلمات کلیدی:

Nanofiltration, Antifouling membrane, Algal wastewater, Color removal

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