عنوان مقاله:

The electrochemical characterization of PVC based heterogeneous cation exchange membrane modified by an oxidizing agent in the casting solution

محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

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خلاصه مقاله:

In this research, polyvinylchloride/ styrene-butadiene-rubber blend heterogeneous cation exchange membranes were prepared by solution casting technique using tetrahydrofuran as solvent and cation exchange resin powder as functional groups agent. Potassium perchlorate was also employed as an additive in membrane fabrication. The effect of additive concentration in the casting solution on properties of home-made membranes was studied. SEM images showed uniform particles distribution and also relatively uniform surfaces for the membranes. Moreover,images revealed that addition of KClO4 in the casting solution led to an improvement in resin particles distribution in the membranes matrix. The increase of KClO4 loading in casting solutioncaused to increase in membranes water content. The membrane permselectivity and transport number were increased initially by increase of additive concentration up to 8 %wt and then they showed decreasing trend with higher additive content. The areal electrical resistance of themembranes was also initially enhanced with increase in additive concentration to 16 %wt and thenit began to decrease by more additive loading.

کلمات کلیدی:

Cation exchange membrane, Membrane fabrication, Potassium perchlorate;Characterization