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HOMOGENEOUS POLYETHERSULFONE COMPOSITE MEMBRANE AND ITS APPLICATION OF BROMINE FROM AQUEOUS SOLUTION

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Two kinds of polyethersulfone composite membranes were prepared by phase inversion method. The anion exchange resin/PES (polyethersulfone) membranes were prepared via blending process, using resin 201×7 as function particle and PES as matrix material. The AgCl/PES membranes were prepared via in-suit synthesized process to afford uniform distribution of AgCl in PES matrix. The membrane adsorbents were characterized by scanning electron microscope (SEM), nitrogen adsorp¬tion (Brunauer, Emmett and Teller) and Fourier transform infrared spectroscopy (FTIR), and adsorption properties were investigated and compared. Meanwhile, the reaction mechanism was discussed. The results indicated all the tested performance of the PES membranes was generally improved by the existence of adsorbents. Additionally, with the increase of adsorbents, the porosity and adsorption properties improved significantly. Compared with other adsorbents, the composite membranes show high adsorption capacity of bromine. It is suggested that this research will provide a new line for the application of bromine from aqueous solution.

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