

## Phosphoric Acid Doped Polybenzimidazole (PBI) Membrane for High Temperature Operation of Polymer Electrolyte Membrane Fuel Cell (PEMFC)

박구곤\*, 안은진, 박진수, Palanichamy Krishnan, 김창수  
한국에너지기술연구원  
(gugon@kier.re.kr\*)

Suitable procedure for casting uniform polybenzimidazole membrane was developed. The membranes were doped using phosphoric acid baths of different concentrations. Various alternative approaches like in-situ casting by incorporating phosphoric acid in the polymer solution, membrane casting by incorporating polyphosphoric acid as the source of phosphoric acid, etc. were attempted with the aim of increasing the phosphoric acid doping level in the polybenzimidazole membranes.

The membranes were characterized in terms of physical and chemical properties.