

Preparation and Characterizations of Natural Material Based Ceramic Membranes

Authors : In-Hyuck Song, Jang-Hoon Ha

Abstract : Recently, porous ceramic membranes have attracted great interest due to their outstanding thermal and chemical stability. In this paper, we report the results of our efforts to determine whether we could prepare a diatomite-kaolin composite coating to be deposited over a sintered diatomite support layer that could reduce the largest pore size of the sintered diatomite membrane while retaining an acceptable level of permeability. We determined under what conditions such a composite coating over a support layer could be prepared without the generation of micro-cracks during drying and sintering. The pore characteristics of the sintered diatomite membranes were studied by scanning electron microscopy and capillary flow porosimetry.

Keywords : ceramic membrane, diatomite, water treatment, sintering

Conference Title : ICIM 2015 : International Conference on Inorganic Membranes

Conference Location : Tokyo, Japan

Conference Dates : May 28-29, 2015