

[12] Patent

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<p>[21] Application No.: GCC/P/2002/2241</p> <p>[22] Filing Date: 30/09/2002</p> <p>[30] Priority:</p> <p>[31] Priority No.    [32] Priority date    [33] State</p> <p>                  308671/2001            04/10/2001            JP</p> <p>                  308672/2001            04/10/2001            JP</p> <p>[72] Inventors: 1- Shin-ichi Menegishi, 2- Masahiro Henmi, 3- Toshiyuki Ishizaki, 4- Koichi Dan</p> <p>[73] Owner: Toray Industries, Inc., 2-1 Nihonbashi Muromachi, 2-chome, chuo-ku, Tokyo, 103-8666, Japan</p> <p>[74] Agent: Saud M. A. Shawwaf</p>	<p>[51] Int. Cl.<sup>7</sup>: B01D 71/34; B01D 69/08; C02 F1/44</p> <p>[56] Cited Documents:</p> <p>- JP 56-136825 A (NITTO ELECTRIC INDUSTRIAL CO. LTD.) 26 October 1981</p> <p>- JP 2000-33241 A (TROY INDUSTRIES, INC.) 02 February 2000</p> <p>- JP 3-186324 A NOK CORP.) 14 August 1991</p>

[54] HOLLOW FIBER MEMBRANE AND METHOD OF PRODUCING THE SAME

[57] Abstract: A method of producing a hollow fiber membrane includes discharging a polyvinylidene fluoride solution comprising a polyvinylidene fluoride resin and a poor solvent at a temperature above a phase separation temperature into a cooling bath at a temperature below the phase separation temperature to coagulate the polyvinylidene fluoride resin. The hollow fiber membrane comprises a polyvinylidene fluoride resin having spherical structures that have an average diameter in the range of 0.3 to 30  $\mu\text{m}$ .

No. of claims: 20

No. of figures: 5

