What is claimed is:

1. A vinylidene fluoride porous hollow fiber membrane comprising a vinylidene fluoride resin and a hydrophilic resin, wherein

the hydrophilic resin is contained at a concentration of from 0.5 to 10% by weight based on the weight of the hollow fiber membrane, and resides on outer and inner surfaces of the hollow fiber membrane and on the pore surfaces in the membrane; and

the membrane has a ratio Pi/Po of 2.5 to 50.0 where Pi and Po denote an average pore size on inner surface (Pi) and an average pore size on outer surface (Po), respectively, and has a pure water permeation rate satisfying the following formula:

$$(FLUX_d / FLUX_w) \times 100 \geq 40.0$$

wherein $FLUX_d$ represents a pure water permeation rate ($L/m^2/hr/98$ kPa) of the hollow fiber membrane in a dry state, and $FLUX_w$ represents a pure water permeation rate ($L/m^2/hr/98$ kPa) of the hollow fiber membrane in a wet state

the hydrophilic resin is a polyvinyl alcohol resin having a viscosity-average molecular weight of 10,000 or more and less than 100,000.

2. The vinylidene fluoride porous hollow fiber membrane according to claim 1, wherein the vinylidene fluoride resin porous hollow fiber membrane has a surface pore ratio of outer surface of 5% or higher and 40% or lower relative to total outer surface area of the hollow fiber membrane, and a fraction particle size of 0.01 μm or larger and 5.0 μm or smaller.

3. The vinylidene fluoride porous hollow fiber membrane according to claim 1 or 2, wherein the hydrophilic resin is approximately uniformly distributed in a membrane cross-sectional direction of the hollow fiber membrane.

4. The vinylidene fluoride porous hollow fiber membrane according to any one of claims 1 to 3, wherein the hydrophilic resin is distributed in a

membrane cross-sectional direction such that the difference in peak area ratio resulting from oxygen 1S (O1s) orbital in XPS analysis between the outer surface and the inner surface is within a range of ± 10% based on the peak area ratio of the central portion of the hollow fiber membrane.

5. A method for producing a vinylidene fluoride resin porous hollow fiber membrane, the method comprising:

extruding a spinning liquid containing a vinylidene fluoride resin, a solvent, inorganic particles for forming pores, and an aggregater from a co-axial spinneret,

bringing the extruded spinning liquid into contact with an internal coagulating liquid injected from the center of the co-axial spinneret, and

immersing the extruded spinning liquid in an external coagulation bath containing an external coagulating liquid,

wherein the internal coagulating liquid contains a hydrophilic resin at a concentration of 0.1 to 15% by weight based on the internal coagulating liquid, has a lower coagulating property than the external coagulating liquid, and has a temperature of from 80 to 170°C.

6. The method according to claim 5, wherein the spinning liquid extruded from a spinneret enters a dry spinning zone and then an extruded fibrous material is brought into contact with the external coagulating liquid.

7. The method according to claim 5 or 6, wherein

the spinning liquid has a three dimensional solubility parameter δ (s, c) of 21 to 33 (MPa$^{1/2}$), and

the internal coagulating liquid has a three dimensional solubility parameter δ (i, c) of 23 to 35 (MPa$^{1/2}$).