average molecular weight of 1000 to 1000000.

[10] The composition for producing a sacrifice layer according to any of claims 1 to 9, which comprises said polymer in a content of 0.2 to 20 wt% based on the total weight of the composition.

[11] The composition for producing a sacrifice layer according to any of claims 1 to 10, wherein said polymer reduces the weight by 5% or less and by 80% or more when heated at 400°C for 1 hour and at 600°C for 1 hour, respectively, in an atmosphere of an inert gas or air.

[12] The composition for producing a sacrifice layer according to any of claims 1 to 11, which is produced in a manner where said solvent and said polymer are mixed and dissolved to prepare a solution, from which transition metal ions are then removed.

[13] A process for producing a composition for producing a sacrifice layer comprises:

preparing a solution by mixing a solvent and a polymer having a repeating unit containing a nitrogen atom with a lone pair and dissolving said polymer in the solvent, and

removing transition metal ions with an ion-exchange resin from the solution so that the total content of transition metals may be 3.0 ppb or less.

[14] A process for producing a semiconductor device comprising a porous material containing plural air gaps, comprises:

applying said porous material with the composition for producing a sacrifice layer according to any of claims 1 to 12, so that said air gaps are filled with said composition,

vaporizing a part or all of the solvent in said composition to form sacrifice areas made of a sacrificial material,

forming grooves on the surface of said porous material,