Claims:

1. A method of making a porous sintered body by particle injection molding a liquid injection composition into a shaped mold cavity, the method comprising:

flowing the liquid injection composition into the shaped mold cavity, wherein the liquid injection composition comprises:

at least one polymeric binder, and

from 20 to 50 percent by volume solid metal particles, based on total volume of the liquid injection composition;

causing the polymeric binder to solidify within the shaped mold cavity to form a solidified injection composition comprising solid binder surrounding the solid metal particles, wherein the polymeric binder comprises a primary binder that can be removed from the solidified injection composition by contacting the solidified injection composition with a liquid solvent selected from water, organic solvent, and a combination thereof, at a temperature in a range from 40 to 80 degrees Celsius;

removing the primary binder from the solidified injection composition by contacting the solidified injection composition with a liquid solvent selected from water, organic solvent and a combination thereof, at a temperature in a range from 40 to 80 degrees Celsius;

removing the solidified injection composition from the shaped mold cavity;

removing the solid binder from the solidified injection composition to form a porous non-sintered body; and

sintering the porous non-sintered body to form a porous sintered membrane, wherein the porous sintered membrane has a porosity in a range from 50 to 80 percent.

2. The method of claim 1, wherein the solid metal particles are dendritic or fibrous and have an apparent density below 2.0 grams per cubic centimeter.

3. The method of claim 1 or 2, wherein the polymeric binder comprises a secondary binder that can be removed from the solidified injection composition by heating the solidified injection composition to a temperature of not more than 600 degrees Celsius.