CLAIMS

What is claimed is:

1. An ultra high molecular weight polyethylene (UPE) porous polymeric filter membrane comprising a polyol ligand having three or more hydroxyl groups, wherein the porous polymeric filter membrane is configured to be used in conjunction with a microelectronic fabrication system for providing a metal- or metal ion-depleted liquid composition.

2. The porous polymeric filter membrane of claim 1, wherein the polyol ligand is an amino polyol ligand.

3. The porous polymeric filter membrane of claim 2, wherein the porous polymeric filter membrane further comprises a polyphosphonic acid ligand.

4. The porous polymeric filter membrane of claim 3, wherein the polyphosphonic acid ligand is an amino polyphosphonic acid ligand or an amino diphosphonic acid ligand.

5. A method of removing one or more metal(s) or metal ion(s) from a liquid composition, the method comprising:

contacting an ultra high molecular weight polyethylene (UPE) porous polymeric filter membrane with a liquid composition comprising one or more metal or metal ions, the porous polymeric filter membrane comprising a polyol ligand having three or more hydroxyl groups, and

reducing an amount of the one or more metal or metal ions in the liquid composition.

6. The method of claim 5, wherein the porous polymeric filter membrane further comprises a polyphosphonic acid ligand.

7. The method of claim 5, wherein the liquid composition is an aqueous basic composition having a pH in a range of 10 to 14.

8. The method of claim 5, wherein the liquid composition comprises TMAH, TBAH, ammonium hydroxide, or concentrated HCl having an HCl concentration of greater than 10%.

9. A composite membrane comprising:

a first filter material and a second filter material that are an ultra high molecular weight polyethylene (UPE) porous polymeric filter membrane, an output facing surface of the first filter material in contact with an input facing surface of the second filter material,

wherein the first filter material or the second filter material comprises a polyol ligand having three or more hydroxyl groups and the second filter material is different from the first filter material, and

wherein the composite membrane is configured to be used in conjunction with a microelectronic fabrication system for providing a metal- or metal ion-depleted liquid composition.