**CLAIMS**

1. A porous polymeric membrane which comprises a porous membrane having an average pore size between:

0.001-10.0 microns, or

0.01-5.0 microns, or

between 0.05-1 microns, or

between 0.1-0.22 microns, or

between 0.2-0.45 microns, formed of a first polymer,

said porous polymeric membrane having a surface which is modified on its surface with a cross-linked second polymer formed from a polymerizable fluorine containing monomer that contains continuous chain of 5 carbon atoms or less with fluorine atoms, said monomer being polymerized and crosslinked on said membrane, said membrane contains less than 25 ppb of C6 PFCA (Perfluorocarboxylic acid), less than 25 ppb of C8 PFCA and less than 25 ppb of combined C9-14 PFCA.

2. The porous polymeric membrane of claim 1 contains less than 25 ppb of C6 PFCA (Perfluorocarboxylic acid), less than 25 ppb of C8 PFCA and less than 25 ppb of combined C9-14 PFCA after it is exposed to gamma radiation of up to 50 kGy.

3. The porous polymeric membrane of claim 1 wherein the first polymer comprising of polyvinylidene fluoride, nylons, polyamides, polyimides, polyethersulfones, polysulfones, polyarylsulfones, cellulose, regenerated cellulose, cellulose esters, acrylic polymers methacrylic polymers, copolymers acrylic methacrylic polymers, and combinations thereof.

4. The porous polymeric membrane of claim 1, wherein the membrane is an asymmetric membrane or a symmetric membrane.

5. The porous polymeric membrane of claim 1, wherein the membrane comprises a polyvinylidene fluoride membrane or a polyethersulfone membrane.

6. The porous polymeric membrane of claim 1, can be incorporated into a filter unit to facilitate venting of air or gas.

7. A porous polymeric membrane having a surface treatment, comprising:

a porous membrane having an average pore size between about 0.001 and 0.22 microns formed of a first polymer, said porous membrane having a surface which is modified on its surface with a cross-linked second polymer; wherein the cross-linked second polymer further comprises between 3.2% to 4.4% by weight fluorinated acrylate and 0.66 to 0.89 1,6 hexanediol diacrylate.

8. A porous polymeric membrane having a surface treatment, comprising:

a porous membrane having an average pore size between about 0.001 and 0.22 microns formed of a first polymer, said porous membrane having a surface which is modified on its surface with a cross-linked second polymer; wherein the cross-linked second polymer further comprises between 2.6% to 4.4% by weight fluorinated acrylate and 0.60 to 1.15 1,6 hexanediol diacrylate.

9. The porous polymeric membrane having a surface treatment of claims 7-8, wherein the cross-linked second polymer further comprises between 0.15-0.17% initiator.

10. The porous polymeric membrane having a surface treatment of claims 7-8, wherein the cross-linked second polymer further comprises 0.15-0.17% 2,2-dimethoxy-2-phenylacetophenone.

11. The porous polymeric membrane having a surface treatment of claims 7-8, wherein the first polymer comprising of polyvinylidene fluoride, nylons, polyamides, polyimides, polyethersulfones, polysulfones, polyarylsulfones, cellulose, regenerated cellulose, cellulose esters, acrylic polymers methacrylic polymers, copolymers acrylic methacrylic polymers, and combinations thereof.

12. The porous polymeric membrane having a surface treatment of claims 7-8, wherein the membrane is an asymmetric membrane or a symmetric membrane.

13. The porous polymeric membrane having a surface treatment of claims 7-8, wherein the membrane comprises a polyvinylidene fluoride membrane or a polyethersulfone membrane.

14. The porous polymeric membrane having a surface treatment of claims 7-8, can be incorporated into a filter unit to facilitate venting of air or gas.

15. The porous polymeric membrane having a surface treatment of claims 7-8, further comprising decamethyltetrasiloxane as a solvent.

16. A method for preparing a polymeric surface treatment for membranes, comprising:

preparing a polymeric solution comprising a monomer, a cross-linker, and an initiator within a solvent;

applying the polymeric solution to a PES or PVDF membrane;

exposing the membrane having the polymeric solution applied thereto to an energy source; and

drying the polymeric solution, wherein the monomer is a fluorinated monomer and the initiator is a photoinitiator.

17. The method of claim 16, wherein the membrane is an asymmetric membrane or a symmetric membrane, and wherein the applying step is a coating step by immersing the membrane in a tray of the polymeric solution or directly disposing the polymeric solution on the membrane using a pipette.

18. The method of claim 16, wherein the fluorinated monomer is 2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,9,9,10,10,11,11,12,12,12-nonadecafluorododecyl ester.

19. The method of claim 16, wherein the cross-linker is a diacrylate.

20. The method of claim 16, wherein the cross-linker is 1,6-hexanediol diacrylate or octafluorohexyl diacrylate.