Claims

What is claimed is:

1. A photoresist stripper solution comprising:

(i) 1.0 wt% to 2.5 wt% of one or more neat inorganic base;

(ii) 90 wt% to 97 wt% of two or more organic solvents that are different from one another comprising (a) a first solvent that comprises one or more of a glycol ether solvent, an ether alcohol solvent and an aromatic ring-containing alcohol solvent or mixtures thereof and (b) a second solvent that comprises one or more polyol solvent;

(iii) 0.25 wt% to 2 wt% of one or more corrosion inhibitors; and

(iv) optionally one or more secondary solvent(s),

wherein the total wt % of components (i), (ii), (iii) and (iv) is equal to or less than 100 wt%;
wherein the photoresist stripper solution is free of amines; and
wherein the one or more corrosion inhibitors comprises sorbitol.

2. The photoresist stripper solution of claim 1 consisting essentially of components (i), (ii), (iii) and (iv).

3. The photoresist stripper solution of claim 1 consisting of components (i), (ii), (iii) and (iv).

4. The photoresist stripper solution of any of claim 1-3, wherein the one or more neat inorganic bases comprises KOH.

5. The photoresist stripper solution of any of claim 1-3, wherein the one or more neat inorganic bases comprises 1.75 wt% to 2.25 wt% of neat KOH or 1.75 wt% to 2.1 wt% of neat KOH or 1.75 wt% to 2.05 wt% of neat KOH or 1.75 wt% to 2.0 wt% of neat KOH or an amount of neat KOH selected from the list consisting of 1 wt%, 1.25 wt%, 1.5 wt%, 1.75 wt%, 1.8 wt%, 1.9 wt%, 2.0 wt%, 2.05 wt%, 2.1 wt% of neat KOH.

6. The photoresist stripper solution of any of claim 1-3, wherein the one or more neat inorganic bases comprises one or more of sodium hydroxide, potassium hydroxide, lithium hydroxide, rubidium hydroxide and cesium hydroxide.

7. The photoresist stripper solution of any of claim 1-3, wherein the solution comprises 94 wt% to 97 wt% of the two or more organic solvents.

8. The photoresist stripper solution of any of claim 1-3, wherein (a) the first solvent comprises 60 wt% to 80 wt% of one or more of an ether alcohol, an aromatic ring-containing alcohol

solvent or mixtures thereof and (b) the second solvent comprises 10 wt% to 30 wt% of one or more polyol solvent or wherein (a) the first solvent comprises 68 wt% to 77 wt% of one or more of an ether alcohol, an aromatic ring-containing alcohol solvent or mixtures thereof and (b) the second solvent comprises 11 wt% to 28 wt% of one or more polyol solvent or wherein (a) the first solvent comprises 60 wt% to 80 wt% of triethylene glycol monomethyl ether and (b) the second solvent comprises 10 wt% to 30 wt% of one or more polyol solvent or wherein the two or more organic solvents comprise (a) 60 wt% to 80 wt% the first solvent that comprises one or more of an ether alcohol, an aromatic ring-containing alcohol or mixtures thereof and (b) 10 wt% to 30 wt% the second solvent that comprises one or more of ethylene glycol, diethylene glycol, triethylene glycol, glycerol, propylene glycol and mixtures thereof or wherein (a) the first solvent comprises 68 wt% to 77 wt% of triethylene glycol monomethyl ether and (b) the second solvent comprises 11 wt% to 28 wt% of ethylene glycol, diethylene glycol, triethylene glycol, glycerol, propylene glycol and mixtures thereof or wherein (a) the first solvent that comprises 68 wt% to 77 wt% of triethylene glycol monomethyl ether and (b) the second solvent that comprises 11 wt% to 28 wt% of diethylene glycol and propylene glycol.

9. The photoresist stripper solution of any of claim 1-3, wherein the one or more corrosion inhibitors further comprises one or more of BZT, resorcinol, sebacic acid, glycerol and copper (II) nitrate.

10. The photoresist stripper solution of any of claim 1-3, wherein the one or more corrosion inhibitors further comprises 0.5 wt% to 1 wt% of BZT or wherein the one or more corrosion inhibitors further comprises 0.5 wt% of BZT or wherein the one or more corrosion inhibitors further comprises 1 wt% of BZT.

11. The photoresist stripper solution of any of claim 1-3, wherein the one or more corrosion inhibitors comprises 0.2 wt% to 1 wt% of sorbitol or wherein the one or more corrosion inhibitors comprises 0.2 wt% of sorbitol or wherein the one or more corrosion inhibitors comprises 0.5 wt% of sorbitol or wherein the one or more corrosion inhibitors comprises 1 wt% of sorbitol.

12. The photoresist stripper solution of any of claim 1-3, wherein the one or more corrosion inhibitors further comprises 0.2 wt% to 1 wt% of resorcinol or wherein the one or more corrosion inhibitors further comprises 0.2 wt% of resorcinol or wherein the one or more corrosion inhibitors further comprises 0.5 wt% of resorcinol or wherein the one or more corrosion inhibitors further comprises 1 wt% of resorcinol.

13. The photoresist stripper solution of any of claim 1-3, wherein the one or more corrosion inhibitors further comprises 0.2 wt% to 1 wt% of glycerol or wherein the one or more corrosion inhibitors further comprises 0.2 wt% of glycerol or wherein the one or more corrosion inhibitors further comprises 0.5 wt% of glycerol or wherein the one or more corrosion inhibitors further comprises 1 wt% of glycerol.

14. The photoresist stripper solution of any of claim 1-3, wherein the one or more corrosion inhibitors further comprises 0.2 wt% to 1 wt% of sebacic acid or wherein the one or more corrosion inhibitors further comprises 0.2 wt% of sebacic acid or wherein the one or more corrosion inhibitors further comprises 0.5 wt% of sebacic acid or wherein the one or more corrosion inhibitors further comprises 1 wt% of sebacic acid.

15. The photoresist stripper solution of any of claim 1-3, wherein the one or more corrosion inhibitors further comprises 0.005 wt% to 1 wt% of copper nitrate or wherein the one or more corrosion inhibitors further comprises 0.01 wt% of copper nitrate or wherein the one or more corrosion inhibitors further comprises 0.2 wt% of copper nitrate or wherein the one or more corrosion inhibitors further comprises 1 wt% of copper nitrate.

16. The photoresist stripper solution of any of claim 1-3, wherein the solutions are free of an amide-containing solvent or wherein the solutions are free of a sulfur containing solvent or wherein the solutions are free of dimethyl sulfoxide or wherein the solutions are free of n-methyl-2-pyrrolidone or wherein the solutions are free of dimethyl sulfoxide and n-methyl-2-pyrrolidone.

17. The photoresist stripper solution of any of claim 1-3, further comprising the secondary solvent, wherein the secondary solvent comprises one or more of water and an alcohol containing one hydroxyl group or further comprising the secondary solvent, wherein the secondary solvent comprises water or further comprising the secondary solvent, wherein the secondary solvent comprises an alcohol containing one hydroxyl group selected from the group of methanol, ethanol, propanol, isopropyl alcohol, butanol, tert-butyl alcohol, tert-amyl alcohol, 3-methyl-3-pentanol, 1-octanol, 1-decanol, 1-undecanol, 1-dodecanol, 1-tridecanol, 1-tetradecanol, 1-pentadecanol, 1-hexadecanol, 9-hexadecen-1-ol, 1-heptadecanol, 1-octadecanol, 1-nonadecanol, 1-eicosanol, 1-heneicosanol, 1-docosanol, 13-docosen-1-ol, 1-tetracosanol, 1-hexacosanol, 1-heptacosanol, 1-octacosanol, 1-triacontanol, 1-dotriacontanol, 1-tetratriacontanol and cetearyl alcohol.

18. The photoresist stripper solution of any of claim 1-3, further comprising 1 wt% to 15 wt% of the secondary solvent.

19. A photoresist stripper solution comprising:

(i) 2.03 wt% of KOH;

(ii) 12.75 wt% of propylene glycol, 69.5 wt% of triethylene glycol monomethyl ether, and 15 wt% diethylene glycol;

(iii) 0.5 wt% sorbitol; and

(iv) optionally one or more secondary solvent(s),

wherein the total wt % of components (i), (ii), (iii) and (iv) is equal to or less than 100 wt%.

20. A method for removing a photoresist or similar material from a substrate comprising the steps of:

(i) contacting the substrate with one or more of the photoresist stripper solutions of claims 1-19 for a time sufficient to remove a desired amount of the photoresist or similar material,

(ii) removing the substrate from the stripping solution,

(iii) rinsing the stripping solution from the substrate with DI water or a solvent, and

(iv) optionally drying the substrate.