CLAIMS

1. A stripper solution for removing photoresist from substrates, comprising:

30% by weight to 97% by weight of diethylene glycol butyl ether;

1% by weight to 7% by weight of quaternary ammonium hydroxide;

1% by weight to 75% by weight of 2-(2-aminoethoxy)ethanol or 2-(2-aminoethoxy)ethanol and secondary solvent;

0.001% by weight to 7% by weight of corrosion inhibitor; and

0.1% by weight to 20% by weight of water;

wherein the solution is essentially free of DMSO.

2. The stripper solution of Claim 1, wherein the quaternary ammonium hydroxide has substituents that are (C_1-C_8) alkyl, arylalkyl, benzyl, (C_1-C_5) alcohol, and combinations thereof.

3. The stripper solution of Claim 2, wherein the quaternary ammonium hydroxide includes at least one of tetramethylammonium hydroxide, tetraethylammonium hydroxide, ethyltrimethylammonium hydroxide, dimethyldipropylammonium hydroxide, or choline hydroxide.

4. The stripper solution of any one of Claims 1 to 3, wherein the 2-(2-aminoethoxy)ethanol is present in the amount of 3% by weight to 50% by weight.

5. The stripper solution of any one of Claims 1 to 4, wherein the secondary solvent is present in the amount of 5% by weight to 30% by weight.

6. The stripper solution of Claim 5, wherein the secondary solvent includes 3-methoxy-3-methyl-1-butanol or propylene glycol.

7. The stripper solution of any one of Claims 1 to 6,

wherein the diethylene glycol butyl ether is present in the amount of 50% by weight to 97% by weight;

wherein the quaternary ammonium hydroxide is present in the amount of 1% by weight to 6% by weight;

wherein the 2-(2-aminoethoxy)ethanol is present in the amount of 3% by weight to 40% by weight;

wherein the water is present in the amount of 0.1% by weight to 7% by weight;

and

wherein the corrosion inhibitor is present in the amount of 0.001% by weight to 3% by weight.

8. The stripper solution of Claim 7, wherein the corrosion inhibitor is selected from the group consisting of resorcinol, glycerol, sorbitol, and copper (II) nitrate hemi(pentahydrate).

9. The stripper solution of Claim 8, wherein the corrosion inhibitor includes copper (II) nitrate hemi(pentahydrate).

10. The stripper solution of Claim 9, wherein the corrosion inhibitor is present in the amount between 0.001% by weight to 0.1% by weight.

11. The stripper solution of any one of Claims 1 to 6, wherein the corrosion inhibitor includes a first corrosion inhibitor selected from the group consisting of resorcinol, glycerol, sorbitol, and copper (II) nitrate derivatives.

12. The stripper solution of Claim 11, further comprising 0.05% by weight to 7% by weight of a second corrosion inhibitor.

13. The stripper solution of Claim 12, wherein the second corrosion inhibitor is different from the first corrosion inhibitor and is selected from the group consisting of resorcinol, glycerol, sorbitol, and copper (II) nitrate hemi(pentahydrate).

14. The stripper solution of any one of Claims 1 to 13, wherein the freezing point is below -15°C and the flashpoint is above 97°C.

15. The stripper solution of Claim 14, wherein the freezing point is below -19°C.

16. A stripper solution for removing photoresist from substrates comprising:

50% by weight to 97% by weight of diethylene glycol butyl ether;

1% by weight to 5% by weight of quaternary ammonium hydroxide;

3% by weight to 40% by weight of 2-(2-aminoethoxy)ethanol;

0.001% by weight to 1% by weight of corrosion inhibitor; and

1% by weight to 10% by weight of water;

wherein a ratio of the amount of diethylene glycol butyl ether to the amount of water is greater than 5;

wherein the solution exhibits a flash point above 95°C; and

wherein the solution is essentially free of DMSO.

17. A method of removing at least one photoresist layer comprising the steps of:

contacting a substrate comprising at least one photoresist layer with the stripper solution according to any one of Claims 1 to 16 at a temperature and for a time to at least partially remove said at least one photoresist layer; and

rinsing said substrate after said contacting step.

18. The stripper solution of any one of Claims 1 to 6, wherein the corrosion inhibitor comprises at least one inhibitor selected from the group consisting of resorcinol, glycerol, sorbitol, and copper (II) nitrate hemi(pentahydrate).

19. The stripper solution of Claim 18, wherein the corrosion inhibitor is present in an amount of 0.001% by weight to 0.1% by weight.

20. The stripper solution of Claim 18,

wherein the diethylene glycol butyl ether is present in the amount of 50% by weight to 97% by weight;

wherein the quaternary ammonium hydroxide is present in the amount of 1% by weight to 6% by weight;

wherein the 2-(2-aminoethoxy)ethanol is present in the amount of 3% by weight to 40% by weight;

wherein the water is present in the amount of 0.1% by weight to 7% by weight; and

wherein said at least one corrosion inhibitor comprises a first corrosion inhibitor, said first corrosion inhibitor is present in the amount of 0.001% by weight to 3% by weight.

21. The stripper solution of Claim 20, wherein the first corrosion inhibitor is copper (II) nitrate hemi(pentahydrate).

22. The stripper solution of Claim 21, wherein the at least one corrosion inhibitor further comprises a second corrosion inhibitor that is selected from the group consisting of resorcinol, glycerol, and sorbitol.

23. The stripper solution of Claim 22, wherein the first corrosion inhibitor is present in an amount between 0.001% by weight to 0.1% by weight.

24. The stripper solution of Claim 18, wherein the corrosion inhibitor includes a first and a second corrosion inhibitor selected from the group consisting of resorcinol, glycerol, sorbitol, and copper (II) nitrate derivatives, wherein said second corrosion inhibitor is different from said first

corrosion inhibitor.

25. The stripper solution of Claim 18, wherein a ratio of the amount of the diethylene glycol butyl ether to the amount of the water is greater than 10.

26. The stripper solution of Claim 19, wherein a ratio of the weight percent of the diethylene glycol butyl ether to the weight percent of the water is greater than 15.

27. The stripper solution of Claim 26, wherein a sum of the weight percent of the diethylene glycol butyl ether and the weight percent of the (2-(2-aminoethoxy)ethanol) is from 70% to 97% by weight.

28. The stripper solution of Claim 27, wherein said solution is free of secondary solvent.