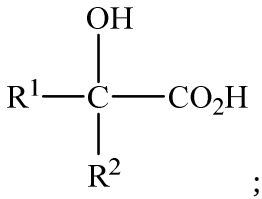
We claim:

1. A cleaning composition for semiconductor substrates comprising:

(i) between approximately 5% by weight and approximately 50% weight of an alkanolamine having two or more or more than two alkanol groups;

(ii) between 25% by weight and approximately 70% by weight of an alkanolamine having one alkanol group;

(iii) an alpha hydroxy acid having the following structure:



; and

(iv) water.

2. The composition of claim 1, further comprising one or both of (v) catechol and (vi) gallic acid.

3. The composition of claim 1, further comprising (vii) a corrosion inhibitor.

4. The composition of claim 1, wherein the alkanolamine having two or more or more than two alkanol groups comprises triethanolamine.

5. The composition of claim 1, wherein the alkanolamine having one alkanol group comprises one or more of monoethanolamine, 2-(2-Aminoethoxy)ethanol, N-methylethanolamine and monoisopropylamine.

6. The composition of claim 1, wherein the alkanolamine having one alkanol group comprises monoethanolamine.

7. The composition of claim 1, wherein the alpha hydroxy acid is selected from the group of glycolic acid, lactic acid, tartaric acid, citric acid, malic acid, gluconic acid, glyceric acid, mandelic acid, tartronic acid, saccharic acid and dihydroxymalonic acid and mixtures thereof.

8. The composition of claim 1, wherein the alpha hydroxy acid comprises gluconic acid.

9. The composition of claim 1, wherein the composition comprises between approximately 2.5% by weight and approximately 25% weight of the alpha hydroxy acid.

10. The composition of claim 1, wherein the composition comprises approximately 10% weight of the alpha hydroxy acid.

11. The composition of claim 1, wherein the composition comprises between approximately 2.5% by weight and approximately 25% weight of gluconic acid.

12. The composition of claim 1, wherein the composition comprises approximately 10% weight of gluconic acid.

13. The composition of claim 1, wherein the composition comprises approximately 6% weight of catechol.

14. The composition of claim 1, wherein the composition comprises approximately 3% weight of gallic acid.

15. The composition of claim 1, wherein the composition comprises between approximately 5% by weight and 15% by weight in combination of catechol and gallic acid.

16. The composition of claim 1, wherein the composition comprises approximately 10% by weight in combination of catechol and gallic acid.

17. The composition of claim 1, wherein the composition comprises (i) approximately 20% by weight of triethanolamine and (ii) between approximately 35% by weight and approximately 45% weight of monoethanolamine.

18. The composition of claim 1, wherein the composition comprises (i) approximately 20% by weight of triethanolamine, (ii) between approximately 35% by weight and approximately 45% weight of monoethanolamine and (iii) approximately 10% weight of gluconic acid.

19. The composition of claim 1, wherein the composition comprises (i) approximately 20% by weight of triethanolamine, (ii) between approximately 35% by weight and approximately 45% weight of monoethanolamine, (iii) approximately 10% weight of gluconic acid and (iv) approximately 9% by weight in combination of catechol and gallic acid.

20. A method of removing residues from a microelectronic device or semiconductor substrate comprising the step of contacting the device or substrate with the cleaning composition of claim 1.