CLAIMS

WHAT IS CLAIMED IS:

1. A composition useful as a thermal resistant water washable protective coating in laser machining, said composition comprising from about 5-50% by weight of a water soluble ultraviolet light absorbing compound, disodium distyrylbiphenyl di sulfonate and from about 30-99% by weight of at least one water soluble polymer dispersed or dissolved in water selected from polyester or poly-2-ethyl-2-oxazoline; said ultraviolet light absorbing compound and water soluble polymer percentages by weight being based upon the total weight of the solids taken as 100% by weight.
2. The composition of claim 1, wherein the weight % of the disodium distyrylbiphenyl disulfonate is 8-40% being based upon the total weight of the solids taken as 100% by weight.
3. The composition of claim 1, wherein the weight % of the disodium distyrylbiphenyl disulfonate is 10-30% being based upon the total weight of the solids taken as 100% by weight.
4. The composition of claim 1, wherein said thermal resistant water washable protective coating also comprises a rinse aid.
5. The composition of claim 4, wherein said rinse aid comprises lithium styrene sulfonate.
6. A laser machining method, comprising applying a thermal resistant water washable protective coating using the composition as claimed in any one of the claims 1 to 5 to a substrate; allowing the applied coating to be condensed and hardened; and laser machining the substrate.
7. The laser machining method of claim 6, wherein said laser interacts with the thermal resistant water washable protective coating on the substrate surface and clears the coating at the point of contact by using a number of laser contact cycles to the said coating on the substrate surface to produce a thermal resistant and water washable protective mask.
8. The laser machining method of claim 7, wherein the number of cycles of laser

contact to clear the thermal resistant water washable protective coating on the substrate surface to produce a thermal resistant and water washable protective mask is less than 5.

9. The laser machining method of claim 7, wherein the number of cycles of laser contact to clear the thermal resistant water washable protective coating on the substrate surface to produce a thermal resistant and water washable protective mask is less than 3.

10. The laser machining method of claim 7, wherein the number of cycles of laser contact to clear the thermal resistant water washable protective coating on the substrate surface to produce a thermal resistant and water washable protective mask is 1.

11. The laser machining method of claim 7, further comprising processing said substrate surface containing the thermal resistant and water washable protective mask, wherein said processing comprises plasma etching with a measured total selectivity of greater than 25:1, where the selectivity represents the total plasma preparation and etch process for removal of silicon compared to removal of said mask as Si mask.

12. The laser machining method of claim 11, wherein the total selectivity of the plasma etch process is greater than 25:1 and less than 50:1, where the selectivity represents the total plasma preparation and etch process for removal of silicon compared to removal of said mask as Si mask.

13. The laser machining method of claim 11, wherein the total selectivity of the plasma etch process is greater than 50:1, where the selectivity represents the total plasma preparation and etch process for removal of silicon compared to removal of said mask as Si mask.

14. The laser machining method of claim 6, wherein the laser machining of the substrate comprises producing a semiconductor device.

15. The laser machining method of claim 6, wherein the laser machining of the substrate comprises producing a display devices.

16. The laser machining method of claim 6, wherein the laser machining of the substrate comprises producing a microelectromechanical system (MEMS).