

Title (en)
METHOD AND APPARATUS FOR CLEANING A SEMICONDUCTOR WAFER

Title (de)
VERFAHREN UND VORRICHTUNG ZUR REINIGUNG VON HALBLEITER-WAFERN

Title (fr)
PROCEDE ET DISPOSITIF DE NETTOYAGE DE TRANCHE DE SEMI-CONDUCTEUR

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EP 1145287 A1 20011017 (EN)

Application
EP 00964988 A 20000913

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Abstract (en)
[origin: WO0131691A1] A method utilizing gaseous form of chemical cleaning fluids in conjunction with post-CMP scrubbing, thereby enhancing the cleaning efficiency of the chemicals. An additional advantage is that usage of chemical fluids would also be reduced. According to an embodiment of the present invention, a vapor generator introduces vapors of chemical solutions (e.g., hydrofluoric acid) to a sealed brush station during various cleaning steps for varying extents of time. The vapors interact with contaminants or defects on the wafer surface. Since these defects offer preferential sites for reaction or condensation of the vapors, the vapors selectively interact with these defects and contaminants. Hence, the cleaning efficiency of the chemical is enhanced. Because the cleaning process is performed within a sealed brush station, it is also possible to conserve the amount of chemicals being used. In an alternate implementation, the chemical vapors can also be introduced together with deionized water, if keeping the wafer surface wet is a requirement. The use of chemicals in a gaseous form also offer advantages from a flow control standpoint because precise control of chemical reaction on the wafer surface can be easily achieved.

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