ABSTRACT

PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES

The present invention is directed to the etching of a material selected from the group consisting of silicon dioxide, silicon nitride, boronphosphorus silicate glass, fluorosilicate glass, siliconoxynitride, tungsten, tungsten silicide and mixtures thereof under plasma etch conditions, particularly for cleaning operations to remove silicon dioxide or silicon nitride from the walls and other surfaces within a reaction chamber of a plasma-enhanced chemical vapor deposition reactor. The etching chemicals used in the etch process are trifluoroacetic acid and it derivatives, such as; trifluoroacetic anhydride, trifluoromethyl ester of trifluoroacetic acid and trifluoroacetic acid amide and mixtures thereof.