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(54) Title: SELECTIVE SILICON OXIDE ETCHANT FORMULATION INCLUDING FLUORIDE SALT, CHELATING AGENT AND GLYCOL SOLVENT

(57) Abstract

The formulations of the present invention etch doped silicon oxide compounds, such as BPSG and PSG layers, at rates greater than or equal to the etch rate of undoped silicon oxide such as thermal oxide. The formulations have the general composition of a chelating agent, preferably weakly to moderately acidic (0.1–10 %; preferably 0.2–2.8 %); a fluoride salt, which may be ammonium fluoride or an organic derivative of either ammonium fluoride or a polyammonium fluoride (1.65–7 %; preferably 2.25–7 %); a glycol solvent (71–98 %; preferably 90–98 %); and optionally, an amine.