

ULTRAPURE COLLOIDAL SILICA FOR USE IN CHEMICAL MECHANICAL POLISHING APPLICATIONS

Abstract

A method of chemical mechanical polishing a surface of a substrate including the step of: contacting the substrate and a composition including a plurality of colloidal silica particles having less than 200 ppb of each trace metal impurity, excluding potassium and sodium, have less than 2 ppm residual alcohol and wherein the cumulative concentration of the trace metal, excluding potassium and sodium, is in the range from about 0.5 to about 5 ppm; and a medium for suspending the particles; wherein the composition is an ultrapure colloidal silica dispersion; and wherein the contacting is carried out at a temperature and for a period of time sufficient to planarize the substrate.

Fig. 9