POLISHING COMPOSITIONS AND METHODS OF USING SAME

Abstract

This disclosure relates to a polishing composition that includes at least one abrasive; at least one nitride removal rate reducing agent, an acid or a base; and water. The at least one nitride removal rate reduce agent can include a hydrophobic portion and a hydrophilic portion; in which the hydrophobic portion includes a C_{12} to C_{40} hydrocarbon group and is separated by zero to ten alkylene oxide groups from the hydrophilic portion. The polishing composition has a pH of about 2 to about 6.5, and can have a ratio of a removal rate for a silicon oxide to a removal rate for a silicon nitride of at least about 3:1 when polishing a patterned wafer comprising at least silicon nitride patterns overlayed with at least silicon oxide.

FIG. 1