

IMPROVED ALKALINE CHEMISTRY FOR POST-CMP CLEANING

Abstract

5 This disclosure discusses cleaning of semiconductor wafers after the
Chemical-Mechanical Planarization (CMP) of the wafer during the
manufacturing of semiconductor devices. Disclosed is an alkaline
chemistry for the post-CMP cleaning of wafers containing metal, particularly
copper, interconnects. Residual slurry particles, particularly copper or
10 other metal particles, are removed from the wafer surface without
significantly etching the metal, leaving deposits on the surface, or imparting
significant contamination to the wafer while also protecting the metal from
oxidation and corrosion. Additionally, at least one strong chelating agent is
present to complex metal ions in solution, facilitating the removal of metal
15 from the dielectric and preventing re-deposition onto the wafer.

Figure 1