

Summary

According to a first aspect of the present invention, there is provided a polishing pad, comprising: a chemical agent present in an amount sufficient to be released and dissolving into an aqueous abrasive particle polishing medium during chemical mechanical planarization and reducing abrasive particle agglomeration; and a binder, formed into the pad, wherein said pad includes a surface and wherein as said pad is abraded, the surface is renewed exposing at least a portion of said chemical agent; wherein said chemical agent is coated on fibers; and said fibers comprise fibers that are soluble in said aqueous abrasive particle polishing medium during chemical mechanical planarization.

According to a second aspect of the present invention, there is provided a method of forming a polishing pad, comprising: combining a chemical agent into a binder wherein said chemical agent is present in an amount sufficient to be released and dissolve into an aqueous abrasive particle polishing medium during chemical mechanical planarization and reducing abrasive particle agglomeration, wherein said chemical agent is coated on fibers, said fibers comprising fibers that are soluble in said aqueous abrasive particle polishing medium during chemical mechanical planarization; and forming said binder and chemical agent into a chemical mechanical planarization polishing pad.

According to a third aspect of the present invention, there is provided a method of polishing with a polishing pad, comprising: contacting a polishing pad having a surface with a substrate; said pad comprising a chemical agent combined into a binder wherein said chemical agent is present in an amount sufficient to be released and dissolve into an aqueous abrasive particle polishing medium during chemical mechanical planarization and reducing abrasive particle agglomeration, wherein said chemical agent is coated on fibers, said fibers comprising fibers that are soluble in said aqueous abrasive particle polishing medium during chemical mechanical planarization; abrading said pad and exposing at least a portion of said chemical agent and said fibers; and dissolving the exposed portion of said chemical agent and said fibers in said aqueous abrasive particle polishing medium during chemical mechanical planarization.

An aspect of the present disclosure relates to a polishing pad. The polishing pad may include a binder and a chemical agent, which chemical agent is present in an amount sufficient to be released and dissolving into an aqueous abrasive particle polishing medium during chemical mechanical planarization and reducing abrasive particle agglomeration. The pad may also include a surface and as the pad is abraded, the surface may be renewed exposing at least a portion of the chemical agent.

A further aspect of the present disclosure relates to a method of forming a polishing pad. The method may include combining a chemical agent into a binder wherein the chemical agent is present in an amount sufficient to be released and dissolve into an aqueous abrasive particle polishing medium during chemical mechanical planarization and reducing abrasive particle agglomeration. In addition, the method may include forming the binder and chemical agent into a chemical mechanical planarization polishing pad.

Yet a further aspect of the present disclosure relates to a method of polishing with a polishing pad. The method may include contacting a polishing pad having a surface with a substrate. The pad may include a chemical agent combined into a binder wherein the chemical agent may be present in an amount sufficient to be released and dissolve into an aqueous abrasive particle polishing medium during chemical mechanical planarization and reducing abrasive particle agglomeration. The method may also include abrading the pad and exposing at least a portion of the chemical agent.

Brief Description of Drawings

The above-mentioned and other features of this disclosure, and the manner of attaining them, will become more apparent and better understood by reference to the following description of embodiments described herein taken in conjunction with the accompanying drawings, wherein:

FIG. 1 illustrates an example of a CMP pad contemplated herein.

FIG. 2 illustrates another example of a CMP pad contemplated herein.

FIG. 3 illustrates a further example of a CMP pad contemplated herein.