It is desired to provide polymer compositions for use in different applications or end-user products wherein the peroxide contents are not increased even upon storing for long periods of time, thereby providing end-user products with better stability and desired performance.

SUMMARY ~~OF THE INVENTION~~

[0001] ~~One aspect of t~~The present disclosure provides a peroxide stable polymer composition comprising: a mixture of (i) 95 *wt.%* to about 99.999 *wt. %* of polyvinylpyrrolidone/vinyl acetate copolymer (PVP/VA); and (ii) 0.001 *wt. %* to 5.0 *wt. %* of butylated hydroxy anisole (BHA).

[0011a] In an aspect, there is provided a peroxide stable polymer composition comprising:

a mixture of (i) from 95 *wt.%* to about 99.5 *wt.%* of polyvinylpyrrolidone/vinyl acetate (PVP/VA) copolymer; and (ii) from 0.5 *wt. %* to 5.0 *wt.%* of butylated hydroxy anisole (BHA).

[0002] ~~In another aspect, t~~The present disclosure provides a pharmaceutical composition comprising a peroxide stable polymer composition comprising a mixture of 95 *wt. %* to about 99.999 *wt. %* of polyvinylpyrrolidone/vinyl acetate copolymer (PVP/VA), and 0.001 *wt. %* to 5 *wt. %* of butylated hydroxy anisole (BHA); and at least one pharmaceutical active ingredient.

[0012a] In another aspect, there is provided a pharmaceutical composition comprising:

(i) a peroxide stable polymer composition comprising a mixture of from 95 *wt. %* to 99.5 *wt. %* of polyvinylpyrrolidone/vinyl acetate copolymer (PVP/VA), and from 0.5 *wt. %* to 5 *wt. %* of butylated hydroxy anisole (BHA); and

(ii) at least one active pharmaceutical ingredient (API).

[0003] ~~In yet another aspect, t~~The present disclosure provides a process for preparing a peroxide stable polymer composition comprising the steps of: (i) preparing a feed mixture comprising 95 *wt. %* to about 99.999 *wt. %* of PVP/VA copolymer and 0.001 *wt. %* to 5 *wt. %* of BHA in an aqueous and/or organic solvent; and (ii) spray drying the feed mixture of process step (i) to form a free-flowing peroxide stable polymer composition comprising a mixture of PVP/VA copolymer and BHA.

[0013a] In another aspect, there is provided a process for preparing a peroxide stable polymer composition comprising the steps of:

(i) preparing a feed mixture comprising from 95 *wt.*% to 99.5 *wt.* % of PVP/VA copolymer and from 0.5 *wt.* % to 5 *wt.* % of BHA in an aqueous and/or organic solvent; and

(ii) spray drying the feed mixture of process step (i) to form a free-flowing peroxide stable polymer composition comprising a mixture of PVP/VA copolymer and BHA.

[0004] ~~Another aspect of t~~The present disclosure provides a peroxide stable polymer composition consisting of: a mixture of (i) 95 *wt.* % to about 99.999 *wt.* % of polyvinylpyrrolidone/vinyl acetate copolymer (PVP/VA); and (ii) 0.001 *wt.* % to 5 *wt.* % of butylated hydroxy anisole (BHA).

[0014a] In another aspect, there is provided a peroxide stable polymer composition consisting of:

a mixture of (i) from 95 *wt.* % to 99.5 *wt.* % of polyvinylpyrrolidone/vinyl acetate copolymer (PVP/VA); and (ii) 0.5 *wt.* % to 5 *wt.* % of butylated hydroxy anisole (BHA).

What is claimed is:

1. A peroxide stable polymer composition comprising:

a mixture of (i) from 95 *wt.%* to about 99.~~9995~~ *wt.%* of polyvinylpyrrolidone/vinyl acetate (PVP/VA) copolymer; and (ii) from 0.~~001~~5 *wt. %* to 5.0 *wt.%* of butylated hydroxy anisole (BHA).

~~2. The peroxide stable polymer composition according to claim 1, wherein the BHA is present in an amount of from 0.1 to 4.0 *wt.%.*~~

~~3. The peroxide stable polymer composition according to claim 1, wherein the BHA is present in an amount of from 0.5 to 1.5 *wt.%.*~~

~~4~~2. The peroxide stable polymer composition according to claim 1, wherein the PVP/VA copolymer is a linear random copolymer having PVP monomers in an amount of from 50 *wt.%* to 80 *wt.%*, and VA monomers in an amount of from 20 *wt.%* to 50 *wt.%*.

~~5~~3. The peroxide stable polymer composition according to claim 1, wherein the weight ratio of the PVP and VA monomer is 60:40.

~~6~~4. The peroxide stable polymer composition according to claim 1, wherein the PVP/VA copolymer has a weight average molecular weight ranging from 20,000 to 40,000.

~~7~~5. The peroxide stable polymer composition according to claim 6, wherein the weight average molecular weight of the PVP/VA copolymer is in the range of from 24,000 to 30,000.

~~8~~6. The peroxide stable polymer composition according to claim 1, wherein the PVP/VA copolymer has a K value ranging from 10 to 150.

~~9~~7. The peroxide stable polymer composition according to claim ~~8~~6, wherein the K value of the PVP/VA copolymer ranges from 25 to 32.

~~10~~8. The peroxide stable polymer composition according to claim 1, wherein the polymer composition has peroxide content varying in the range of from 0 to 180 *ppm*, based on solid content of the PVP/VA copolymer.

~~11~~9. The peroxide stable polymer composition according to claim ~~10~~8, wherein the peroxide content varies in the range of from 0 to 120 *ppm* based on solid content of the PVP/VA copolymer.

~~12~~10. A pharmaceutical composition comprising:

(i) a peroxide stable polymer composition comprising a mixture of from 95 *wt. %* to 99.~~999~~5 *wt. %* of polyvinylpyrrolidone/vinyl acetate copolymer (PVP/VA), and from 0.5~~001~~ *wt. %* to 5 *wt. %* of butylated hydroxy anisole (BHA); and

(ii) at least one active pharmaceutical ingredient (API).

~~13~~11. The pharmaceutical composition according to claim ~~12~~10, wherein the composition is formulated in a solid dosage form selected from the group consisting of soft gelatin capsule, tablets, capsules, pellets, particulates, granules, powder, disc, caplets or sachets.

~~14~~12. The pharmaceutical composition according to claim ~~12~~10, wherein the active ingredient is selected from the group comprising antibiotics, anti-inflammatory agents, antifungal agents, anti-infectives, immunosuppressants, anti-depressants, anti-cancer agents, anti-tubercular agents, cardiovascular agents, gastrointestinal agents, anti-viral agents, anti-psychotic agents, anti-histamines, anti-diabetic agents, cholesterol lowering agents, immune modulators, anti-epileptic agents, analgesic agents, anti-psoriatic agents, anti-pyretics, anti-malarial agents, antiseptics, mucolytics, decongestants, sedatives, anti-coagulants, diuretics, cholinergics, dopaminergics, and mixtures thereof.

~~15~~13. A process for preparing a peroxide stable polymer composition comprising the steps of:

(i) preparing a feed mixture comprising from 95 *wt.%* to 99.5~~999~~ *wt. %* of PVP/VA copolymer and from 0.5~~001~~ *wt. %* to 5 *wt. %* of BHA in an aqueous and/or organic solvent; and

(ii) spray drying the feed mixture of process step (i) to form a free-flowing peroxide stable polymer composition comprising a mixture of PVP/VA copolymer and BHA.

~~16~~14. The process according to claim ~~15~~13, wherein the solvent includes at least one solvent selected from the group consisting of isopropanol, ethanol, water, dichloromethane, chloroform, ethyl acetate, ethyl methyl ketone, methanol, acetone, and mixtures thereof.

~~17~~15. The process according to claim ~~16~~14, wherein the solvent is selected from the group consisting of water, isopropanol or a mixture thereof.

~~18~~16. A peroxide stable polymer composition consisting of:

a mixture of (i) from 95 *wt. %* to 99.5~~999~~ *wt. %* of polyvinylpyrrolidone/vinyl acetate copolymer (PVP/VA); and (ii) 0.5~~001~~ *wt. %* to 5 *wt. %* of butylated hydroxy anisole (BHA).