

What is claimed is:

1. An antimicrobial composition comprising

(a) at least one isothiazolin-3-one selected from the group consisting of comprising 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and

(b) at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, basic zinc carbonate, zinc oxides, zinc hydroxides, and combinations thereof,

wherein said isothiazolin-3-one is present in an amount of from 1 to 500 ppm, the zinc compound is present in an amount of from 5 to 200,000 ppm, and the weight ratio of the isothiazolin-3-one to the zinc compound is from ~~1:2000~~ 100 to 100:1.

~~2. The composition of claim 1 wherein component (a) is present in an amount of from 1 to 500 ppm, component (b) is present in an amount of from 5 to 200,000 ppm, and the weight ratio is from 1:100 to 100:1.~~

~~32. The composition of claim 1 wherein component (a) is present in an amount of from 5 to 500 ppm, and component (b) is present in an amount of from 5 to 500 ppm.~~

~~43. The antimicrobial composition of claim 1 wherein said composition further includes a compound selected from the group consisting of N-(n-butyl)-1,2-benzisothiazolin-3-one, 4,5-dichloro-2-n-octyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, mixtures of 5-chloro-2-methyl-4-isothiazolin-3-one (C1MIT) and 2-methyl-4-isothiazolin-3-one, and dithio-2,2'-bis(benzmethylamide), and combinations thereof.~~

~~4. The antimicrobial composition of claim 1 wherein said zinc compound is zinc oxide.~~

~~5. The antimicrobial composition of claim 1 wherein said zinc compound is selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, basic zinc carbonate, zinc hydroxides, and combinations thereof.~~

~~65. The antimicrobial composition of claim 1 wherein said zinc compound is zinc chloride.~~

~~76. The antimicrobial composition of claim 1 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations~~

thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1 % w/w based on the total weight of said composition.

7. The antimicrobial composition of claim 6 wherein said pyrithione salts are selected from the group consisting of copper pyrithione, zinc pyrithione, sodium pyrithione and combinations thereof.

8. An antimicrobial composition concentrate, which upon dilution with water provides the amounts of components (a) and (b) as specified in claim 1, said concentrate comprising isothiazolin-3-one in an amount of between 1 and 95% w/w.

9. The antimicrobial composition concentrate of claim 8 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof, and wherein said co-biocide is present in said concentrate in an amount of from about 1 to about 50% w/w based on the total weight of said concentrate.

~~10. — A composition comprising a polymer emulsion, said composition additionally comprising a wet state preservative comprising a combination of~~

~~(a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and~~

~~(b) at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, basic zinc carbonate, zinc oxides, zinc hydroxides, and combinations thereof,~~

~~wherein said combination is present in said composition in a total amount of between about 10 ppm and about 400 ppm, and~~

~~wherein the molar ratio of component (a) to component (b) is between about 4:1 and about 1:2.~~

~~11. — The composition of claim 10 wherein said polymer emulsion comprises a polymer selected from the group consisting of acrylic and substituted (meth)acrylates, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, and nitrile, and copolymers thereof.~~

~~12. — The antimicrobial composition of claim 10 wherein said zinc compound is selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, basic zinc carbonate, zinc hydroxides, and combinations thereof.~~

~~13. — The antimicrobial composition of claim 12 wherein said zinc compound is zinc chloride.~~

~~14. — The composition of claim 10 wherein said composition further includes a compound selected from the group consisting of: 4,5-dichloro-2-n-octyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, mixtures of 5-chloro-2-methyl-4-isothiazolin-3-one (CIMIT) and 2-methyl-4-isothiazolin-3-one, and dithio-2,2'-bis(benzmethylamide), and combinations thereof.~~

~~15. — The composition of claim 10 which further comprises a co-biocide selected from the group consisting of pyrithione salts, pyrithione acids, and combinations thereof, and wherein said co-biocide is present in said composition in an amount of from about 0.001 to about 1.0 % w/w based on the total weight of said composition.~~

~~16. — The composition of claim 15 wherein said pyrithione salts are selected from the group consisting of copper pyrithione, zinc pyrithione, sodium pyrithione, and combinations thereof.~~

10. The antimicrobial composition concentrate of claim 9 wherein said pyrithione salts are selected from the group consisting of copper pyrithione, zinc pyrithione, sodium pyrithione, and combinations thereof.

4711. A coating composition selected from the group consisting of paints, adhesives, sealants, caulks, mineral and pigment slurries, printing inks, agricultural pesticide formulations, household coating products, personal care products, metal working fluids, and combinations thereof, wherein said coating composition contains

a polymer emulsion as a liquid base medium, and  
the antimicrobial composition of claim 1a wet-state preservative comprising a combination of (a) at least one isothiazolin-3-one selected from the group consisting of 1,2-benzisothiazolin-3-one, N-(n-butyl)-1,2-benzisothiazolin-3-one, and combinations thereof and (b) at least one zinc compound selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, basic zinc carbonate, zinc oxides, zinc hydroxides, and combinations thereof, wherein said combination is present in said composition in a total amount of between about 10 ppm and about 400 ppm, and wherein the molar ratio of component (a) to component (b) is between about 4:1 and about 1:2.

12. The coating composition of claim 11, wherein the antimicrobial composition is present in the coating composition in a total amount of between about 10 ppm and about 400 ppm.

13. The coating composition of claim 11, wherein the molar ratio of the isothiazolin-3-one to the zinc compound is between about 4:1 and about 1:2.

~~14.~~ 14. The coating composition of claim ~~17~~ 11 wherein said liquid base medium is selected from the group consisting of acrylic and substituted (meth)acrylates, styrene/butadiene, ethylene vinyl acetate, polyvinyl acetate, styrene/butadiene/N-methylol acrylamide, nitrile and copolymers thereof.

~~19. The coating composition of claim 17 wherein said zinc compound is selected from the group consisting of zinc chloride, zinc sulfide, zinc carbonate, basic zinc carbonate, zinc hydroxides, and combinations thereof.~~

~~20. The coating composition of claim 17 wherein said zinc compound is zinc chloride.~~