CLAIMS

1. An oral care composition comprising:

a quinone selected from the group consisting of alkyl-substituted benzoquinones, halo-substituted benzoquinones, alkyl-substituted hydroquinones and halo-substituted hydroquinones; and

one or more antimicrobial agents selected from the group consisting of a zinc containing compound, a tin containing compound, tetrahydrocurcumin, a quaternary ammonium compound, a chlorophenol, and a combination of two or more thereof;

wherein the quinone is provided in an amount effective to provide a synergistic increase in antimicrobial activity, and wherein least one of said one or more antimicrobial agents is present at a concentration of from about 100 ppm to about 2000 ppm.

2. The composition of claim 1, wherein at least one of said one or more antimicrobial agents is selected from the group consisting of zinc citrate, zinc oxide, stannous chloride, tetrahydrocurcumin, cetylpyridinium chloride and triclosan.

3. The composition of claims 1 or 2, wherein at least one of said one or more antibacterial agents is zinc oxide.

4. The composition of any one of the foregoing claims, wherein the quinone is selected from tert-butylhydroquinone, tert-butyl benzoquinone, and a mixture thereof.

5. The composition of any one of the foregoing claims, wherein the quinone is tert-butylhydroquinone.

6. The composition of any one of the foregoing claims, wherein at least one of said one or more antibacterial agents is present at a concentration of about 200 ppm to about 1000 ppm.

7. The composition of any one of the foregoing claims, wherein the quinone is present at a concentration of from about 10 ppm to about 1000 ppm.

8. The composition of any one of the foregoing claims, wherein the quinone is present at a concentration of about 50 ppm.

9. The composition of any one of the foregoing claims, wherein the quinone is present at a concentration of about 12 ppm.

10. The composition of any one of the foregoing claims, wherein the composition is a dual-phase mouthwash, and wherein the quinone is present in a first phase; and the one or more antimicrobial agents is present in a second phase.

11. Use of a composition according to claims 1 to 10, for the manufacture of a medicament for use in a method for treating or preventing a disease or condition of the oral cavity.

12. Use according to claim 11, wherein the disease or condition of the oral cavity is an inflammatory disease or condition.

13. Use according to claim 12, wherein the inflammatory disease or condition of the oral cavity is selected from gingivitis, periodontitis, stomatitis, exfoliation of teeth due to neutropenia, endodontic pathoses and its sequela, acute and chronic ulceration of the oral mucosa, osteoclast/ondontoclast mediated resorptive lesions, dental caries, delayed wound healing, periodontal bone damage and acute and chronic osteomyelitis of the mandibular bone.

14. Use according to claim 13, wherein the gingivitis is acute necrotizing ulcerative gingivitis.

15. A composition according claims 1 to 10 for use in a method for treating or preventing a disease or condition of the oral cavity.

16. A composition according to claim 15 wherein the disease or condition of the oral cavity is an inflammatory disease or condition.

17. A composition according to claim 16 wherein the inflammatory disease or condition of the oral cavity is selected from gingivitis, periodontitis, stomatitis, exfoliation of teeth due to neutropenia, endodontic pathoses and its sequela, acute and chronic ulceration of the oral mucosa, osteoclast/ondontoclast mediated resorptive lesions, dental caries, delayed wound healing, periodontal bone damage and acute and chronic osteomyelitis of the mandibular bone.

18. A composition according to claim 17 wherein the gingivitis is acute necrotizing ulcerative gingivitis.

CLAIMS

1. An oral care composition comprising:

a quinone selected from the group consisting of alkyl-substituted benzoquinones, halo-substituted benzoquinones, alkyl-substituted hydroquinones and halo-substituted hydroquinones; and

one or more antimicrobial agents selected from the group consisting of a zinc containing compound, a tin containing compound, tetrahydrocurcumin, a quaternary ammonium compound, a chlorophenol, and a combination of two or more thereof;

wherein the quinone is provided in an amount effective to provide a synergistic increase in antimicrobial activity, and wherein least one of said one or more antimicrobial agents is present at a concentration of from about 100 ppm to about 2000 ppm.

2. The composition of claim 1, wherein at least one of said one or more antimicrobial agents is selected from the group consisting of zinc citrate, zinc oxide, stannous chloride, tetrahydrocurcumin, cetylpyridinium chloride and triclosan.

3. The composition of claims 1 or 2, wherein at least one of said one or more antibacterial agents is zinc oxide.

4. The composition of any one of the foregoing claims, wherein the quinone is selected from tert-butylhydroquinone, tert-butyl benzoquinone, and a mixture thereof.

5. The composition of any one of the foregoing claims, wherein the quinone is tert-butylhydroquinone.

6. The composition of any one of the foregoing claims, wherein at least one of said one or more antibacterial agents is present at a concentration of about 200 ppm to about 1000 ppm.

7. The composition of any one of the foregoing claims, wherein the quinone is present at a concentration of from about 10 ppm to about 1000 ppm.

8. The composition of any one of the foregoing claims, wherein the quinone is present at a concentration of about 50 ppm.

9. The composition of any one of the foregoing claims, wherein the quinone is present at a concentration of about 12 ppm.

10. The composition of any one of the foregoing claims, wherein the composition is a dual-phase mouthwash, and wherein the quinone is present in a first phase; and the one or more antimicrobial agents is present in a second phase.

11. A method of treating or preventing a disease or condition of the oral cavity comprising applying to an oral cavity surface of a subject in need thereof, the composition of any one of the foregoing claims.

12. The method of claim 11, wherein the disease or condition of the oral cavity is an inflammatory disease or condition.

13. The method of claim 12, wherein the inflammatory disease or condition of the oral cavity is selected from gingivitis, periodontitis, stomatitis, exfoliation of teeth due to neutropenia, endodontic pathoses and its sequela, acute and chronic ulceration of the oral mucosa, osteoclast/ondontoclast mediated resorptive lesions, dental caries, delayed wound healing, periodontal bone damage and acute and chronic osteomyelitis of the mandibular bone.

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14. The method of claim 13, wherein the gingivitis is acute necrotizing ulcerative gingivitis.

15. Use of a composition according to claims 1 to 10, for the manufacture of a medicament for use in a method for treating or preventing a disease or condition of the oral cavity.

16. Use according to claim 15, wherein the disease or condition of the oral cavity is an inflammatory disease or condition.

17. Use according to claim 16, wherein the inflammatory disease or condition of the oral cavity is selected from gingivitis, periodontitis, stomatitis, exfoliation of teeth due to neutropenia, endodontic pathoses and its sequela, acute and chronic ulceration of the oral mucosa, osteoclast/ondontoclast mediated resorptive lesions, dental caries, delayed wound healing, periodontal bone damage and acute and chronic osteomyelitis of the mandibular bone.

18. Use according to claim 17, wherein the gingivitis is acute necrotizing ulcerative gingivitis.

19. A composition according claims 1 to 10 for use in a method for treating or preventing a disease or condition of the oral cavity.

20. A composition according to claim 19 wherein the disease or condition of the oral cavity is an inflammatory disease or condition.

21. A composition according to claim 20 wherein the inflammatory disease or condition of the oral cavity is selected from gingivitis, periodontitis, stomatitis, exfoliation of teeth due to neutropenia, endodontic pathoses and its sequela, acute and chronic ulceration of the oral mucosa, osteoclast/ondontoclast mediated

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resorptive lesions, dental caries, delayed wound healing, periodontal bone damage and acute and chronic osteomyelitis of the mandibular bone.

22. A composition according to claim 21 wherein the gingivitis is acute necrotizing ulcerative gingivitis.

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