

CLAIMS

What is claimed is:

1. An antimicrobial solution, comprising a therapeutically effective amount of:
an extract of the plant *Hypericum spp.*;
- 5 optionally in combination with one or more pharmaceutically acceptable carriers, additives, and/or diluents.
2. The antimicrobial solution of claim 1, further comprising Neem oil.
- 10 3. The antimicrobial solution of claim 2, wherein the neem oil includes one or more of linoleic acid, oleic acid, palmitic acid, stearic acid, alpha-linoleic acid, or palmitoleic acid.
4. The antimicrobial solution of claim 3, wherein the neem oil includes between 6–16% of linoleic acid, 25–54% of oleic acid, 16–33% of palmitic acid, and 9–24% of stearic acid.
- 15 5. The antimicrobial solution of claim 1, wherein the extract of the plant *Hypericum spp.* comprises extract from *Hypericum perforatum*.
6. The antimicrobial solution of claim 1, wherein the extract of the plant *Hypericum spp.*
- 20 comprises hypericin as a main active ingredient.
7. The antimicrobial solution of claim 2, wherein the neem oil and the extract of the plant *Hypericum spp.* are present in equal ratios (v/v) within the antimicrobial solution.
- 25 8. The antimicrobial solution of claim 2, wherein the neem oil comprises at most 10% (v/v) of the antimicrobial solution.
9. The antimicrobial solution of claim 2, wherein the extract of the plant *Hypericum spp.* and the Neem oil are provided in a ratio of greater than 100:1.
- 30 10. The antimicrobial solution of claim 1, wherein the extract of the plant *Hypericum spp.* comprises at most 5% (v/v) of the antimicrobial solution.

11. The antimicrobial solution of claim 1, wherein the extract of the plant *Hypericum spp.* comprises at most 10% (v/v) of the antimicrobial solution.
12. The antimicrobial solution of claim 1, further comprising carrageenan.
13. The antimicrobial solution of claim 1, further comprising a chlorhexidine.
14. The antimicrobial solution of claim 1, wherein the pharmaceutically acceptable carrier comprises glycerol.
15. The antimicrobial solution of claim 1, wherein the one or more pharmaceutically acceptable additives includes a flavor-enhancing additive, preferably menthol.
16. The antimicrobial solution of claim 1, wherein the one or more pharmaceutically acceptable carriers, additives, and/or diluents comprise at least 10% (v/v) of the antimicrobial solution.
17. The antimicrobial solution of claim 1, wherein the one or more pharmaceutically acceptable carriers, additives, and/or diluents comprise at least 33% (v/v) of the antimicrobial solution.
18. The antimicrobial solution of claim 1, wherein the antimicrobial solution is delivered in the form a lotion, a hydrogel, a mouth spray, and/or a nasal spray.
19. The antimicrobial solution of claim 18, wherein the antimicrobial solution is delivered in 50 μ L – 200 μ L doses per actuation of the mouth spray and/or nasal spray.
20. A method of treating or preventing infection of the upper respiratory tract of humans by a microbial pathogen, comprising administering to a mouth and/or nose of a user an antimicrobial solution comprising:
neem oil, and
an extract of the plant *Hypericum spp.*;

optionally in combination with one or more pharmaceutically acceptable carriers, additives, and/or diluents.