

What is claimed is:

1. A storage stable topical liquid composition comprising:
 - a. 5% to 28% by weight ascorbic acid;
 - b. 5% to 20% by weight of a sugar alcohol agent; and
 - c. less than 10% by weight in total of one or more optional additional components;
 - d. dissolved in a non-aqueous skin-compatible solvent comprising polyol, C₍₁₋₆₎ alkanediol, glycol ether, dimethyl ether, or a combination thereof.
2. The composition of claim 1, wherein the composition demonstrates less than 3 mol % degradation of the ascorbic acid after storage for 8 weeks at 40° C ± 2° C in a sealed container.
3. The composition of claim 1, wherein the composition demonstrates less than 3 mol % degradation of the ascorbic acid after storage for 8 months at 40° C ± 2° C in a multi-use container.
4. The composition of claim 1, wherein the composition demonstrates less than 5 mol % degradation of the ascorbic acid after storage for 16 months at 40° C ± 2° C in a multi-use container.
5. The composition of any one of claims 1-4, wherein the sugar alcohol agent is selected from xylitol and xylitol derivatives.
6. The composition of any one of claims 1-5, wherein the sugar alcohol agent is selected from xylitylglucoside, anhydroxylitol, sorbitol, lactitol, maltitol, erythritol, mannitol, and combinations thereof.
7. The composition of any one of claims 1-4, wherein the sugar alcohol agent is a C5-C6 sugar alcohol.
8. The composition of claim 7, wherein the sugar alcohol agent is xylitol.

9. The composition of claim 8, wherein the composition comprises 7-20% by weight of xylitol.
10. The composition of claim 9, wherein the composition comprises 7-15% by weight of xylitol.
11. The composition of claim 10, wherein the composition comprises 10-15% by weight of xylitol.
12. The composition of claim 10, wherein the composition comprises 7-10% by weight of xylitol.
13. The composition of any one of claims 8 to 12, wherein the composition comprises 10-20% by weight of ascorbic acid.
14. The composition of any one of claims 8 to 12, wherein the composition comprises 15-20% by weight of ascorbic acid.
15. The composition of any one of claims 8 to 12, wherein the composition comprises 15% by weight of ascorbic acid.
16. The composition of any one of claims 1-15, wherein the solvent is selected from 1,3 propanediol, 1,2 propanediol, 1,3 butanediol, 1,5 pentanediol, 1,2 hexanediol, 1,6 hexanediol, glycerol, diglycerol, ethoxydiglycol, and dimethyl isosorbide.
17. The composition of any one of claims 1-16, wherein the solvent is 1,3 propanediol.
18. The composition of any one of claims 1-16, wherein the solvent is a mixture of 1,3 propanediol and 1,2 hexanediol.
19. The composition of any one of claims 1-18, wherein the composition comprises the one or more additional components.
20. The composition of claim 19, wherein the one or more additional components comprise a chemical exfoliant (e.g., at 0.1 to 2% in the composition).

21. The composition of claim 20, wherein the chemical exfoliant is salicylic acid.
22. The composition of any one of claims 19-21, wherein the one or more additional components comprise a moisturizing agent (e.g., at 1 to 5% in the composition).
23. The composition of claim 22, wherein the moisturizing agent is a urea agent or glycerin.
24. The composition of claim 19, wherein the one or more additional components are selected from tocopherols, tocotrienols (e.g., alpha, beta, delta and gamma tocopherols or alpha, beta, delta and gamma tocotrienols), azelaic acid, hydroxy acids (e.g., salicylic acid), a urea agent, panthenol, pinus pinaster bark extract, ferulic acid, glycerin, emulsifying agent, hyaluronic acid complex, madecassoside, madecassoside asiaticoside, acetyl zingerone, bakuchiol, and bis-ethylhexylhydroxydimethoxybenzylmalonate.
25. The composition of claim 19, wherein the one or more optional additional components are selected from one or more of: salicylic acid, ferulic acid, pinus pinaster bark extract, urea agent and glycerin.
26. The composition of any one of claims 19-25, wherein the composition comprises 0.5% salicylic acid.
27. The composition of any one of claims 19-25, wherein the composition comprises 0.5% ferulic acid.
28. The composition of claim 27, wherein the composition comprises 0.5% salicylic acid and 0.5% ferulic acid.
29. The composition of any one of claims 19-25, wherein the composition comprises 1.5% ferulic acid.
30. The composition of any one of claims 19-30, wherein the composition comprises 0.5% pinus pinaster bark extract.
31. The composition of any one of claims 19-30, wherein the one or more additional component comprises a urea agent.

32. The composition of claim 31, wherein the urea agent is selected from urea, hydroxyethyl urea, or a combination of urea and hydroxyethyl urea.
33. The composition of claim 32, wherein the composition comprises 2.5% urea.
34. The composition of claim 33, wherein the composition comprises 2.5% urea, 0.5% salicylic acid, and 0.5% ferulic acid.
35. The composition of any one of claims 1-34, wherein the ascorbic acid is dissolved at a concentration that is above its maximum concentration in the solvent alone.
36. The composition of any one of claims 1-19, wherein the composition comprises:
- a. 15% to 20% by weight ascorbic acid;
 - b. 7% to 10% by weight of xylitol; and
 - c. less than 10% by weight in total of one or more optional additional components selected from urea, salicylic acid, and ferulic acid;
 - d. dissolved in 1,3 propanediol or 1,2 propanediol.
37. The composition of claim 36, wherein the composition comprises 15% by weight of ascorbic acid.
38. The composition of any one of claims 36 to 37, wherein the composition comprises 7.5% by weight of xylitol.
39. The composition of any one of claims 36 to 38, wherein the composition comprises 2.5% urea.
40. The composition of any one of claims 36 to 39, wherein the composition comprises 0.5% salicylic acid.
41. The composition of any one of claims 36 to 40, wherein the composition comprises 0.5% ferulic acid.
42. The composition of claim 1, wherein the composition is of Table 2.
43. The composition of claim 1, wherein the composition is of Table 3.

44. The composition of any one of claims 1-43, wherein the xylitol-containing composition, when applied to skin, reduces or eliminates pathogenic staphylococcus mutants while maintaining the integrity of Staphylococcus epidermis.
45. A ready-to-use topical preparation in a multi-use container which is pre-filled with a storage stable topical composition according to any one of claims 1-43, wherein the multi-use container comprises means for dispensing a single dose of the storage stable topical composition.
46. The preparation of claim 45, wherein the storage stable topical composition demonstrates less than 3 mol % degradation of the ascorbic acid after storage for 4 weeks at $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ in the container.
47. The preparation of claim 45, wherein the storage stable topical composition demonstrates less than 3 mol % degradation of the ascorbic acid after storage for 8 months at $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ in the container.
48. The preparation of claim 45, wherein the storage stable topical composition demonstrates less than 5 mol % degradation of the ascorbic acid after storage for 16 months at $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ in the container.
49. The preparation of any one of claims 45-48, wherein the storage stable topical composition is sealed from the atmosphere in the container.
50. The preparation of any one of claims 45-49, wherein the container is placed in packaging.