Claims

1. Lipid layer forming composition comprising volatile silicone oil, polar lipid, optionally C_2 – C_4 aliphatic alcohol, optionally water in an amount of 5 % by weight or less, optionally a pharmacologically or cosmetically active agent or a protective agent, wherein the silicone oil has a boiling point above 180 °C, in particular above 200 °C.
2. The composition of claim 1, wherein the silicone oil has a heat of vaporization (kJ/kg) at 25 °C of from about 100 kJ/kg to about 300 kJ/kg, in particular of from 120 kJ/kg to 200 kJ/kg, most particularly of from 140 kJ/kg to 180 kJ/kg.
3. The composition of claim 1 or 2, substantially consisting of volatile silicone oil, polar lipid, C_2 – C_4 aliphatic alcohol, optionally comprising water in an amount of 5 % by weight or less.
4. The composition of any of claims 1 to 3, wherein the volatile silicone oil comprises one of dekamethylcyclopentasiloxane and dodekamethylcyclohexasiloxane.
5. The composition of claims 1 to 3, wherein the volatile silicone oil comprises one of heptasiloxane and octasiloxane.
6. The composition of any of claims 1 to 5, wherein the polar lipid comprises a membrane lipid selected from phospholipid, glycolipid, sphingolipid, and their mixtures.
7. The composition of claims 1 to 6, wherein the C_2 – C_4 aliphatic alcohol is ethanol, 2-propanol, 1,2-propanediol, glycerol, and their mixtures.
8. The composition of any of claims 1 to 7, optionally comprising less than 1 % by weight of water.
9. The composition of any of claims 3 to 6, comprising from about 30 % by weight to about 90 % by weight of silicone oil, from about 5 % by weight to about 45 % by weight of polar lipid, and from about 5 % by weight to about 45 % by weight of ethanol, wherein the composition is a carrier composition not comprising a pharmacologically or cosmetically active agent or a protective agent.
10. The composition of any of claims 1 to 8, wherein the agent is a pharmacologically active agent selected from the group consisting of: antimicrobial agent, antibiotic; antimycotic agent; antibacterial agent; antifungal

agent; antiviral agent; antiseptic; anti-phlogistic; anti-pruritic agent; anti-psoriatic agent; antitussive agent; anti-alopecia agent; anti-acne agent; anti-inflammatory agent; anti-ulcer agent; local anaesthetic.

11. The composition of any of claims 1 to 8, wherein the agent is a cosmetically active agent selected from the group consisting of: antiperspirant; antisudoral agent; antidandruff agent; glidant; moisturizing agent.

12. The composition of any of claims 1 to 8, wherein the agent is a protective agent selected from the group consisting of: UV-absorbing agent, insect repellent, antibacterial agent, antifungal agent; antiviral agent, anti-nematode agent.

13. The composition of any of claims 1 to 12, substantially consisting of polar lipid, volatile silicone oil and alcohol in per cent by weight proportions comprised by area F in the phase diagram of Fig. 3, optionally comprising pharmacologically or cosmetically active agent or protective agent and/or 5 % by weight or less of water.

14. A method of forming a stable polar lipid layer on a biological surface comprising:

providing the composition of any of claims 1 to 13;

applying a desired amount of the composition to the surface so as to form a polar lipid layer containing silicone oil and, optionally, C_2 – C_4 aliphatic alcohol; allowing the silicone oil and, if present, the C_2 – C_4 aliphatic alcohol to evaporate at the temperature of the surface to form a stable polar lipid layer.

15. The method of claim 14, wherein application is by spraying, dipping or brushing.

16. The method of claim 15 or 16, wherein the temperature is from about 20 °C to about 45 °C.

17. The method of any of claims 14 to 16, wherein the applied amount of composition is selected so as to obtain a stable polar lipid layer of from 1 μm to 500 μm thickness.

18. Use of the composition of any of claims 1 to 13 for covering a surface of a biological item of vegetable origin by a stable polar lipid layer.

19. The use of claim 18, wherein the item is one of seed, seedling, bedding plant, fruit.

20. A biological item of vegetable origin comprising a surface covered by a stable polar lipid layer formed from the composition of any of claims 1 to 13.

21. The item of claim 20 in form of a seed, a seedling, a bedding plant or a fruit.

22. Use of the composition of any of claims 1 to 13 for controlling transepidermal water loss.

The claims defining the invention are as follows:

1. A method of forming a topical stable polar lipid layer on a surface of a biological material, comprising providing a layer of a clear, liquid, polar lipid composition comprising a volatile silicone oil having a boiling point above 180 °C, a polar lipid, 16% to 48.5% by weight of one or more C_2-C_4 aliphatic alcohol, from 0 % to 5 % by weight of water, and a member selected from the group consisting of protective agent and pharmacologically or cosmetically active agent, on a biological surface; and evaporating the silicone oil and C_2 - C_4 aliphatic alcohol, to form a stable polar lipid layer.

2. The method of claim 1, wherein the volatile silicone oil has a boiling point above 200°C and a heat of vaporization (kJ/kg) at 25°C of from about 100 kJ/kg to about 300 kJ/kg.

3. The method of claim 1, wherein the volatile silicone oil has a heat of vaporization at 25°C of from 120 kJ/kg to 200 kJ/kg.

4. The method of claim 1, wherein the volatile silicone oil has a heat of vaporization at 25°C of from 140 kJ/kg to 180 kJ/kg.

5. The method of any one of claims 1 to 4, wherein the volatile silicone oil is at least one member selected from the group consisting of dekamethylcyclopentasiloxane, dodekamethylcyclohexasiloxane, heptasiloxane and octasiloxane, and the polar lipid comprises a membrane lipid selected from the group consisting of phospholipid, glycolipid, sphingolipid, and a mixture of two or more members of said group.

6. The method of any one of claims 1 to 5, wherein the C_2 - C_4 aliphatic alcohol is selected from the group consisting of ethanol, 2-propanol, 1,2-propanediol, glycerol, and a mixture of two or more members of said group.

7. The method of any one of claims 1 to 6, comprising a positive amount of water which is less than 1 % by weight.

8. The method of any one of claims 1 to 7, comprising from about 30 % by weight to about 90 % by weight of said silicone oil, and from about 5 % by weight to about 45 % by weight of polar lipid.

9. The method of claim 1, wherein the polar lipid, volatile silicone oil and alcohol are in the percent by weight proportions of area F in the phase diagram of Fig. 3, and further comprises more than 0 % by weight of water.

10. The method of any one of claims 1 to 9, wherein the evaporation is effected at from about 20°C to about 45°C.

11. The method of any one of claims 1 to 10, wherein the amount of composition provided on the surface is an amount which realizes a stable polar lipid layer having a thickness from 1 μm to 500 μm after evaporation.

12. The method of any one of claims 1 to 11, wherein the protective agent is selected from the group consisting of UV-absorbing agent, insect repellent, antibacterial agent, antifungal agent, antiviral agent, and anti-nematode agent.