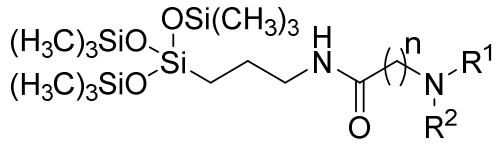
CLAIMS

1. A solid healthcare formulation, comprising:

at least one surfactant of Formula I,



Formula I

wherein R^1 and R^2 may be the same or different, and comprise at least one group selected from the group consisting of C_1-C_6 alkyl, optionally the C_1-C_6 alkyl may include one or more of oxygen, nitrogen, or sulfur atoms or groups that include at least one of these atoms, and the alkyl chain may be optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

n is an integer from 1 to 12;

the terminal nitrogen is optionally further substituted with R^3, wherein R^3 is selected from the group consisting of hydrogen, oxygen, hydroxyl, and C_1-C_6 alkyl;

an optional counterion associated with the compound which, if present, is selected from the group consisting of chloride, bromide, and iodide; and

at least one Active ingredient.

2. The formulation according to claim 1, wherein the at least one Active is selected from the group consisting of: a drug, a protein, a cell, a tissue, a vitamin, a supplement, and a mineral.

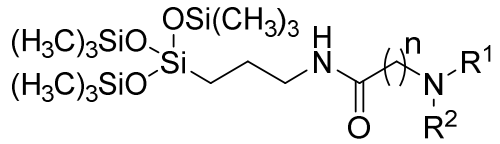
3. The formulations according to claim 1, further including at one or more excipients.

4. The formulations according to claim 3, wherein the one or more excipients are selected from the group consisting of: binders, fillers, disintegrants, salts, colorants, sweeteners, and flavorants.

5. The formulations according to Claim 1, wherein the formulation is configured as a powder, a tablet, or a capsule.

6. A liquid healthcare formulation, comprising:

at least one surfactant of Formula I,



Formula I

wherein R^1 and R^2 may be the same or different, and comprise at least one group selected from the group consisting of C_1-C_6 alkyl, optionally the C_1-C_6 alkyl may include one or more of oxygen, nitrogen, or sulfur atoms or groups that include at least one of these atoms, and the alkyl chain may be optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

n is an integer from 1 to 12;

the terminal nitrogen is optionally further substituted with R^3, wherein R^3 is selected from the group consisting of hydrogen, oxygen, hydroxyl, and C_1-C_6 alkyl;

an optional counterion associated with the compound which, if present, is selected from the group consisting of chloride, bromide, and iodide;

at least one Active ingredient; and

an aqueous component.

7. The formulation according to claim 6, further including a buffer.

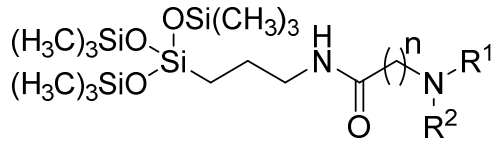
8. The formulation according to claim 6, further including one or more of the following: a sweetener, a flavorant, a colorant, and/or a preservative.

9. The formulation according to claim 6, further including a thickener.

10. The formulation according to claim 9, wherein the formulation is one of the following: a drop, a paste, a salve, a lotion, or an ointment.

11. A healthcare emulsion, comprising:

at least one surfactant of Formula I,



Formula I

wherein R^1 and R^2 may be the same or different, and comprise at least one group selected from the group consisting of C_1-C_6 alkyl, optionally the C_1-C_6 alkyl may include one or more of oxygen, nitrogen, or sulfur atoms or groups that include at least one of these atoms, and the alkyl chain may be optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

n is an integer from 1 to 12;

the terminal nitrogen is optionally further substituted with R^3, wherein R^3 is selected from the group consisting of hydrogen, oxygen, hydroxyl, and C_1-C_6 alkyl;

an optional counterion associated with the compound which, if present, is selected from the group consisting of chloride, bromide, and iodide; and

at least one Active ingredient;

an aqueous phase; and

a non-aqueous phase.

12. The emulsion of claim 11, further including:

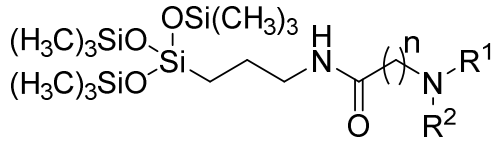
a) a buffer; or

b) one or more of the following: a sweetener, a flavorant, a colorant, and/or a preservative.

13. The solid healthcare formulation according to any one of claims 1 to 5, the liquid healthcare formulation according to any one of claims 6 to 10, or the healthcare emulsion according to any one of claims 11 to 12, wherein n is 5.

14. A solid healthcare formulation according to any one of claims 1 to 5 or 13, a liquid healthcare formulation according to any one of claims 6 to 10 or 13, or a healthcare emulsion according to any one of claims 11 to 13, for use as a medicament, wherein the at least one Active ingredient is selected from the group consisting of: a pharmaceutical, an antibody, a graft material, a transplant material, a nutraceutical, a vitamin, and a mineral.

15. Use as a surfactant of a compound of Formula I,



Formula I

wherein R^1 and R^2 may be the same or different, and comprise at least one group selected from the group consisting of C_1-C_6 alkyl, optionally the C_1-C_6 alkyl may include one or more of oxygen, nitrogen, or sulfur atoms or groups that include at least one of these atoms, and the alkyl chain may be optionally substituted with one or more substituents selected from the group consisting of hydroxyl, amino, amido, sulfonyl, sulfonate, carbonyl, carboxyl, and carboxylate;

n is an integer from 1 to 12;

the terminal nitrogen is optionally further substituted with R^3, wherein R^3 is selected from the group consisting of hydrogen, oxygen, hydroxyl, and C_1-C_6 alkyl;

an optional counterion associated with the compound which, if present, is selected from the group consisting of chloride, bromide, and iodide; in a solid healthcare formulation, a liquid healthcare formulation, or a healthcare emulsion, according to any one of claims 1 to 13.