

CLAIMS

What is claimed:

1. A method for dispersing nanoparticles, said method comprising adding a biosurfactant to a composition comprising the nanoparticles.
2. The method of claim 1, wherein the biosurfactant is a sophorolipid (SLP).
3. The method of claim 1, wherein the composition is a paint primer that comprises one or more components selected from a binder, a solvent, a pigment or dye, a buffer, a resin, a stabilizer, and a pH modifier.
4. The method of claim 3, wherein the performance of the paint primer is enhanced by one or a combination of the following:
 - a) increasing adhesion to a surface and/or object;
 - b) increasing concealment of topographic variations of surfaces and/or objects;
 - c) improving sealing of porous surfaces and/or objects;
 - d) preventing color bleeding through the primer;
 - e) preventing odor dissemination;
 - f) establishing a tie-coat layer; and
 - g) preventing stain bleeding through the primer.
5. The method of claim 1, wherein the composition is an injection fluid for enhancing oil and gas recovery from a hydrocarbon-bearing formation.
6. The method of claim 1, wherein the composition is an agricultural nanofertilizer.
7. The method of claim 1, wherein the composition is a pharmaceutical or over-the-counter compound.
8. The method of claim 1, further comprising measuring the degree of dispersion of the nanoparticles in the composition.

9. A method for improving the performance, appearance and/or longevity of a surface and/or object, the method comprising: applying a paint primer comprising a SLP, and/or a yeast culture that produces a SLP, to the surface and/or object.
10. The method of claim 9, wherein the yeast culture is a *Starmerella* sp. and/or a *Candida* sp. yeast.
11. The method of claim 9, wherein the paint primer comprises one or more components selected from a binder, a solvent, a pigment or dye, a buffer, a resin, and a pH modifier.
12. The method of claim 9, wherein the performance, appearance and/or longevity of the surface and/or object is improved by one or a combination of the following:
- a) increasing adhesion to the surface and/or object;
 - b) increasing concealment of topographic variations of the surface and/or object;
 - c) improving sealing if the surface and/or objects is porous;
 - d) preventing color bleeding through the primer;
 - e) preventing odor dissemination;
 - f) establishing a tie-coat layer;
 - g) preventing stain bleeding through the primer; and
 - h) preventing fouling by biological and non-biological contaminants.
13. A composition comprising a biosurfactant and one or more nanoparticle ingredients.
14. The composition of claim 13, wherein the yeast culture is a *Starmerella* sp. and/or a *Candida* sp. yeast.
15. The composition of claim 13, wherein the biosurfactant is a sophorolipid.

16. The composition of claim 13, wherein the composition is a primer and comprises one or a combination of the following:

- a) a solvent;
- b) a pigment/dye;
- c) a resin;
- d) a buffer; and
- e) a pH modifier.

17. The composition according to claim 13, which is an agricultural composition comprising nutrients, minerals and/or fertilizers in nanoparticle form.

18. The composition, according to claim 17, wherein the nutrients, minerals and/or fertilizers comprise one or more of carbon (C), hydrogen (H), oxygen (O), nitrogen (N), phosphorus (P), potassium (K), sulfur (S), calcium (Ca), magnesium (Mg), boron (B), chlorine (Cl), copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo), nickel (Ni), and zinc (Zn).

19. The composition, according to claim 13, which is a healthcare composition comprising a health-promoting ingredient present in nanoparticle form.

20. The composition, according to claim 19, comprising a health-promoting ingredient selected from pharmaceuticals, over-the-counter compounds, vitamins, minerals, supplements, nutraceuticals and functionalized nanoparticles.

21. The composition, according to claim 19, wherein the health-promoting ingredient crosses the blood brain barrier.