What is claimed is:

1. Zinc oxide particles, wherein the particles have:

an O:Zn ratio of at least 0.99,

an average particle size of 10 to 300 nm,

a sufficient concentration of oxygen vacancies and zinc vacancies to give a dispersion of the particles in C12-C15 alkyl benzoate an orange to tan color corresponding to a ΔE value of at least 15 in a Dispersion Color Test;

wherein the ΔE in the Dispersion Color Test is calculated as:

$$\Delta E = \sqrt{(L_2^* - L_1^*)^2 + (a_2^* - a_1^*)^2 + (b_2^* - b_1^*)^2},$$

wherein L_2^*, α_2^*, and b_2^* are the color coordinates of a zinc oxide particle test sample and wherein $L_1^*=99.47$, $\alpha_1^{r*}=-0.16$, and $b_1^*=-0.17$ correspond to color coordinates of a white reference tile; and

wherein the particles contain no aggregates and have no detectable particles 500 nm or larger, on a number-weighted basis.

2. The zinc oxide particles of claim 1, wherein the particles are photocatalytically stable.

3. The zinc oxide particles of claim 1, wherein the particles have an average particle size of 15 to 200 nm.

4. The zinc oxide particles of claim 1, wherein the particles have a ΔE value of 1 to 10 in a diphenylpicrylhydrazyl (DPPH) Photocatalytic Stability Test;

wherein the ΔE value in the DPPH Photocatalytic Stability Test is calculated as:

$$\Delta E = \sqrt{(L_2^* - L_1^*)^2 + (a_2^* - a_1^*)^2 + (b_2^* - b_1^*)^2},$$

wherein L_2^*, α_2^*, and b_2^* are the color coordinates of a zinc oxide particle test mixture post irradiation and where L_1^*, α_1^*, and b_1^* are the initial color coordinates of the zinc oxide particle test mixture prior to irradiation.

5. The zinc oxide of claim 1, wherein the particles have a ΔE value of 15 to 26 in the Dispersion Color Test.

6. Zinc oxide particles having average particle size of 10 to 300 nm, wherein:

the particles are stoichiometric zinc oxide,

the particles have a ΔE value of at most 10 in a DPPH Photocatalytic Stability Test, and

the particles have a ΔE value of at least 15 in a Dispersion Color Test;

wherein the ΔE value in the DPPH Photocatalytic Stability Test is calculated as:

$$\Delta E = \sqrt{(L_2^* - L_1^*)^2 + (a_2^* - a_1^*)^2 + (b_2^* - b_1^*)^2},$$

wherein L_2^*, α_2^*, and b_2^* are the color coordinates of a zinc oxide particle test mixture post irradiation and where L_1^*, α_1^*, and b_1^* are the initial color coordinates of the zinc oxide particle test mixture prior to irradiation; and

wherein the ΔE in the Dispersion Color Test is calculated as:

$$\Delta E = \sqrt{(L_2^* - L_1^*)^2 + (a_2^* - a_1^*)^2 + (b_2^* - b_1^*)^2},$$

wherein L_2^*, α_2^*, and b_2^* are the color coordinates of a zinc oxide particle test sample and wherein L_1^*=99.47, α_1^*=–0.16, and b_1^*=–0.17 correspond to color coordinates of a white reference tile.

7. Coated particles, comprising:

(a) zinc oxide particles, having:

(i) an O:Zn ratio of at least 0.99, and

(ii) a sufficient concentration of oxygen vacancies and zinc vacancies to give a dispersion of the particles in C12-C15 alkyl benzoate an orange to tan color corresponding to a ΔE value of at least 15 in a Dispersion Color Test, and

(b) a silica coating, on the zinc oxide particles;

wherein the coated particles have an average particle size of 10 to 300 nm;

wherein the ΔE in the Dispersion Color Test is calculated as:

$$\Delta E = \sqrt{(L_2^* - L_1^*)^2 + (a_2^* - a_1^*)^2 + (b_2^* - b_1^*)^2},$$

wherein L_2^*, α_2^*, and b_2^* are the color coordinates of a zinc oxide particle test sample and wherein L_1^*=99.47, α_1^*=–0.16, and b_1^*=–0.17 correspond to color coordinates of a white reference tile; and

wherein the coated particles contain no aggregates and have no detectable particles 500 nm or larger, on a number-weighted basis.

8. The coated particles of claim ~~11~~7, wherein the silica coating is present in an amount of 0.5 to 40% by weight of the coated particles.

9. Multilayer coated particles, comprising:

(I) the coated particles of claim ~~11~~7, and

( ) an organic moiety-containing coating, on the coated particles.

10. The multilayer coated particles of claim ~~13~~9, wherein the organic moiety-containing coating is prepared by reacting the particles with at least member selected from the group consisting of a phosphatide, lecithin, a fatty alcohol and a glycerol ester.

11. Coated particles, comprising:

(a) zinc oxide particles, having:

(i) an O:Zn ratio of at least 0.99, and

(ii) a sufficient concentration of oxygen vacancies and zinc vacancies to give a dispersion of the particles in C12-C15 alkyl benzoate an orange to tan color corresponding to a ΔE value of at least 15 in a Dispersion Color Test, and

(b) an organic moiety-containing coating, on the zinc oxide particles,

wherein the ΔE in the Dispersion Color Test is calculated as:

$$\Delta E = \sqrt{(L_2^* - L_1^*)^2 + (a_2^* - a_1^*)^2 + (b_2^* - b_1^*)^2},$$

wherein $L_{2'}$, $\alpha_{2'}$, and $b_{2'}$ are the color coordinates of a zinc oxide particle test sample and wherein $L_{1'}$=99.47, $\alpha_{1'}$=–0.16, and $b_{1'}$=–0.17 correspond to color coordinates of a white reference tile;

wherein the coated particles have an average particle size of 10 to 300 nm, and wherein the coated particles contain no aggregates and have no detectable particles 500 nm or larger, on a number-weighted basis.

12. The coated particles of claim ~~15~~11, wherein the organic moiety-containing coating is prepared by reacting the particles with lecithin.

13. A dispersion, comprising:

(1) the zinc oxide particles of claim 1,

(2) a liquid carrier, and

(3) optionally an antioxidant.

14. A dispersion, comprising:

(1) the coated particles of claim ~~11~~7,

(2) a liquid carrier, and

(3) optionally an antioxidant.

15. A dispersion, comprising:

(1) the multilayer coated particles of claim ~~13~~9,

(2) a liquid carrier, and

(3) optionally an antioxidant.

16. The dispersion of claim ~~17~~13, comprising the antioxidant, wherein the antioxidant is selected form the group consisting of vitamins, antioxidant minerals, antioxidant proteins, antioxidant enzymes, antioxidant coenzymes, phytonutrients and antioxidant hormones.

17. The dispersion of claim ~~18~~14, wherein (1) the liquid carrier is a cosmetically acceptable liquid carrier, (2) the liquid carrier comprises a member selected from the

group consisting of alkyl benzoates, fatty acid esters, natural product oils, silicone oils and mixtures thereof; and/or (3) the liquid carrier comprises a member selected from the group consisting of ethyl benzoates, linear alkyl benzoate, capric/caprylic triglyceride and mixtures thereof.

18. A method of protecting skin from light, comprising coating skin with the zinc oxide particles of claim 1.

19. A method of protecting keratinous material comprising coating the keratinous material with the zinc oxide particles of claim 1.

20. A method of protecting human skin comprising coating skin with the zinc oxide particles of claim 1.

21. A method of suppressing lipid peroxidation comprising applying to the skin the zinc oxide particles of claim 1.

22. A method of reducing lines and wrinkles on the skin comprising applying to the skin the zinc oxide particles of claim 1.

23. A method of inhibiting loss of elasticity of the skin comprising applying to the skin the zinc oxide particles of claim 1.

24. A method of inhibiting thinning of the skin comprising applying to the skin the zinc oxide particles of claim 1.

25. A method of protecting antioxidants, comprising mixing an antioxidant with the zinc oxide particles of claim 1.

26. A dispersion, comprising:

(1) the zinc oxide particles of claim ~~7~~6,

(2) a liquid carrier, and

(3) optionally an antioxidant.

27. The dispersion of claim ~~18~~14, comprising the antioxidant, wherein the antioxidant is selected form the group consisting of vitamins, antioxidant minerals, antioxidant proteins, antioxidant enzymes, antioxidant coenzymes, phytonutrients and antioxidant hormones.

28. The dispersion of claim ~~19~~15, comprising the antioxidant, wherein the antioxidant is selected form the group consisting of vitamins, antioxidant minerals, antioxidant proteins, antioxidant enzymes, antioxidant coenzymes, phytonutrients and antioxidant hormones.

29. The dispersion of claim ~~41~~26, comprising the antioxidant, wherein the antioxidant is selected form the group consisting of vitamins, antioxidant minerals, antioxidant proteins, antioxidant enzymes, antioxidant coenzymes, phytonutrients and antioxidant hormones.

30. The dispersion of claim ~~17~~13, wherein (1) the liquid carrier is a cosmetically acceptable liquid carrier, (2) the liquid carrier comprises a member selected from the group consisting of alkyl benzoates, fatty acid esters, natural product oils, silicone oils and mixtures thereof; and/or (3) the liquid carrier comprises a member selected from the group consisting of ethyl benzoates, linear alkyl benzoate, capric/caprylic triglyceride and mixtures thereof.

31. The dispersion of claim ~~19~~15, wherein (1) the liquid carrier is a cosmetically acceptable liquid carrier, (2) the liquid carrier comprises a member selected from the group consisting of alkyl benzoates, fatty acid esters, natural product oils, silicone oils and mixtures thereof; and/or (3) the liquid carrier comprises a member selected from the group consisting of ethyl benzoates, linear alkyl benzoate, capric/caprylic triglyceride and mixtures thereof.

32. The dispersion of claim ~~41~~26, wherein (1) the liquid carrier is a cosmetically acceptable liquid carrier, (2) the liquid carrier comprises a member selected from the group consisting of alkyl benzoates, fatty acid esters, natural product oils, silicone oils and mixtures thereof; and/or (3) the liquid carrier comprises a member selected from the group consisting of ethyl benzoates, linear alkyl benzoate, capric/caprylic triglyceride and mixtures thereof.

33. The dispersion of claim ~~42~~27, wherein (1) the liquid carrier is a cosmetically acceptable liquid carrier, (2) the liquid carrier comprises a member selected from the group consisting of alkyl benzoates, fatty acid esters, natural product oils, silicone oils and mixtures thereof; and/or (3) the liquid carrier comprises a member selected from the group consisting of ethyl benzoates, linear alkyl benzoate, capric/caprylic triglyceride and mixtures thereof.

34. The dispersion of claim ~~43~~28, wherein (1) the liquid carrier is a cosmetically acceptable liquid carrier, (2) the liquid carrier comprises a member selected from the group consisting of alkyl benzoates, fatty acid esters, natural product oils, silicone oils and mixtures thereof; and/or (3) the liquid carrier comprises a member selected from the group consisting of ethyl benzoates, linear alkyl benzoate, capric/caprylic triglyceride and mixtures thereof.

35. The dispersion of claim ~~44~~29, wherein (1) the liquid carrier is a cosmetically acceptable liquid carrier, (2) the liquid carrier comprises a member selected from the group consisting of alkyl benzoates, fatty acid esters, natural product oils, silicone oils and mixtures thereof; and/or (3) the liquid carrier comprises a member selected from the group consisting of ethyl benzoates, linear alkyl benzoate, capric/caprylic triglyceride and mixtures thereof.