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(54) Title: ZINC OXIDE PARTICLES, PHOTOSTABLE UV FILTERS, AND METHODS OF USE THEREOF

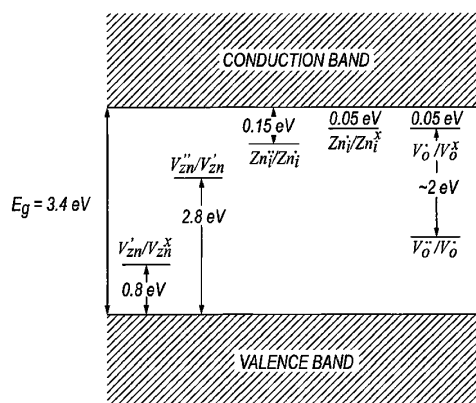


FIG. 1

(57) Abstract: Zinc oxide particles are prepared as a dry powder through a vapor phase formed by a plasma process, or by introducing defects into stoichiometric zinc oxide particles in a liquid carrier through mechanical stress. The zinc oxide has an O:Zn ratio of at least 0.99, an average particle size of 10 to 300 nm, and 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. The particles contain no aggregates and have no detectable particles 500 nm or larger, on a number-weighted basis.

[Continued on next page]

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