

# Particle size control of novel zinc phosphate white pigments

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Zinc oxide that has the photocatalytic activity is used as white pigment for cosmetics. A certain degree of sebum on the skin is decomposed by the ultraviolet irradiation in sunlight. Recently, as a white pigment, zinc phosphates were prepared from zinc nitrate and phosphoric acid. These zinc phosphates indicated large particles in size for cosmetics. Generally, the kinds of raw materials in preparation process have influence on the chemical composition and powder properties of materials. Therefore in this work, zinc phosphates were prepared from sodium di-hydrogen phosphate and zinc nitrate, and from sodium triphosphate and zinc nitrate. Further, the obtained phosphates were treated with ball-mill to obtain small particles. These zinc phosphates had less photocatalytic activity, therefore, these materials are expected not to decompose the sebum on the skin. Samples treated with ball-mill had smaller particles than un-milled sample.