

### Characterization of TiO<sub>2</sub> Particles by Aging in TiO<sub>2</sub> Sol Preparation

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TiO<sub>2</sub> particles were synthesized through hydrolysis, aging, peptization, heat treatment from titanium tetraisopropoxide(TTIP). As results of study, the characteristics of TiO<sub>2</sub> particles such as crystallinity, sol particle size, microstructure and surface characterization, could effectively be controlled by the aging in the synthetic stages of TiO<sub>2</sub> sol. The TiO<sub>2</sub> sol characteristics controlled by the aging had similar influence to even the post-calcination. In our study, the characteristics of TiO<sub>2</sub> particles were analyzed by XRD, FT-IR, Turbidity, HR-TEM, XPS, and BET. Therefore, the characteristics of TiO<sub>2</sub> sol and calcined particles were effectively able to control by the aging in the TiO<sub>2</sub> sol preparation.