

Synthesis and Characterization of Microstructured TiO₂

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Titania sol solutions were prepared from titanium isopropoxide as a starting material by hydrolysis / polycondensation, aging, peptization and thermal treatment at 500°C. In especial, the effect of aging times and temperature on physical and chemical properties of TiO₂ particles was systematically investigated. The prepared samples were characterized by XRD, BET, Solid state NMR, EXAFS, SEM. It was found that the crystallinity and particle size of TiO₂ can be successfully controlled by the adjustment of aging time and temperature.