

Al-W-Ti-Si 함유 나노 포러스 광촉매의 특성

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The Ti-loaded meso porous support in photocatalysis offered: 1) formation of ultra fine titania particles during sol-gel deposition; 2) increased adsorption especially for non-polar compounds; 3) higher acidity which enhances electron abstraction; and 4) less UV-light scattering, since silica is the main component of zeolite. The combination of the effect of zeolites and TiO₂ in photocatalytic destruction of aromatic compound in aqueous system was studied. However, the advantage of using regular structure like zeolite in the gaseous system was not clearly identified. In addition, as a loading method for Ti on support, the impregnation was almost used in other studies and the loading amounts were also very small. In this study, 10 mol% Al-W-incorporated mesoporous titano (15 mol %) silicates was prepared. Its adsorption ability and photocatalytic decomposition for macromolecules was expected to be similar to that of toluene. Acknowledgement: This work was supported by Yeungnam University (No.206-A-054-027). The authors are very grateful to it.