

Synthesis of transparent TiO<sub>2</sub> composite film for glass applications

최태석, 김정현<sup>†</sup>

서울시립대학교

(jtkimad@uos.ac.kr<sup>†</sup>)

Metal oxide semiconductor photocatalyst has been applied to a variety of environmental problems such as water purification, air cleaning, and antibacterial properties. Titanium dioxide(TiO<sub>2</sub>) is popular material because it has long term stability against other chemicals and cost effectiveness. When prepared into thin film, the material utilization efficiency and applicability of material can be significantly improved comparing with powder form. Glass is common material applying in many buildings. TiO<sub>2</sub> coated glass has the self purification ability so it can be used in glass which is hard to clean such as skyscrapers and domed stadium. Two phase method can easily make the organic capped TiO<sub>2</sub> for coating the glass substrate. Photocatalytic reaction of the films are measured by methylene blue degradation. Films are characterized by TEM, SEM, AFM, XRD and XPS.