Photocatalytic Degradation Characterization of Acetaldehyde on Porous Red Clay Tile

유승준*, 이세일, 이민재, 김광길
서남대학교
(sjyoo@seonam.ac.kr*)

The research has been manufactured red clay tile coated titania sol with photo-degradation ability. The red clay tile using as a supporter has the characterization which a stain adhered on the surface of red clay tile surface easily by the porous structure and high adsorption ability. Accordingly, TiO2 sol with photo-degradation ability was coated on the surface of the red clay tile in order to prevent being polluted the surface of the red clay tile. Especially, the red clay tile was put by glaze with low firing temperature in order to coat nanosized photocatalytic sol on the surface of the tile with micrometer sized. The nanosized photocatalytic sol was synthesized from TIP as a starting material by hydrolysis and poly/condensation reaction. The synthesized TiO2 sol was coated on the glazed layer on the red clay tile, dried, and calcined at 500℃. As a result of analysis of the photocatalytic characterization on the manufactured TiO2 layer, acetaldehyde was photodegraded about 77% by gas bag method after photoluminescence of 14hrs.