

### The treatment of real textile wastewater using hybrid system (II)

임광희\*, 이은주<sup>1</sup>, 윤혜민, 전위숙, 송혜진, 노태훈, 최주호  
대구대학교 화학공학과; <sup>1</sup>경북대학교 화학공학과  
(khlm@daegu.ac.kr\*)

In this study, two integrated system, composed of UV-photocatalytic reactor loaded with different photocatalyst-coated media and fluidized biofilter in series, were constructed to compare their efficiencies for the treatment of real textile wastewater. The real textile wastewater was fed to a fluidized biofilter, after which the fluidized biofilter-treated wastewater entered into UV/photocatalytic process. The return-sludge obtained from a textile wastewater treatment facility located in Daegu, was immobilized at the fluidized media in the biofilter and the photocatalytic reactor was filled with TiO<sub>2</sub> coated-1) porous silica media or 2) glass bead media. The COD removal efficiency of the integrated system with TiO<sub>2</sub> coated-porous silica bead media and TiO<sub>2</sub> coated-glass bead media was maintained at 83-89% and 79-86%, respectively. Moreover, the color removal efficiency of the integrated system with TiO<sub>2</sub> coated-porous silica bead media was maintained at 58-82% while the color removal efficiency of the integrated system with TiO<sub>2</sub> coated-glass bead media was maintained at 58%. It is suggested that the type of TiO<sub>2</sub> coated-media is important to determine the capability to the whole integrated system.