

## DEGRADATION OF GASEOUS TRICHLOROETHYLENE OVER THIN-FILM TiO<sub>2</sub> PHOTOCATALYST

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The photocatalytic degradation (PCD) of gaseous trichloroethylene (TCE) over thin-film TiO<sub>2</sub> was examined in a continuous flow system as a function of mixing condition by baffle, inlet concentration of TCE, and face velocity of gas flow. For the influence of mixing by baffle on the PCD rate of TCE, the rate increased with installing baffle under the conditions of simultaneous low inlet concentration and high face velocity. It was found that the effect of mixing could be improved by installation of baffle, based on the tanks-in-series and dispersion models using RTD data in the existence of baffle. The baffles acted as CSTR behavior in the reactor. In case of the effect of TCE inlet concentration, the PCD rate has continued to increase linearly with TCE inlet concentration. That is, it does not show the tendency of Langmuir-Hinshelwood (L-H) kinetics. For the effect of face velocity, the PCD rate increased with increasing the face velocity. Therefore, it could be found that the PCD rate of TCE was controlled by mass transfer.