

Photocatalytic activity, influence of the structure of TiO₂ and its surface properties

Wiam EL-ALAMI^{1*}, José Rodríguez², Mohammed EL-AZZOUZI¹

1: Head of Laboratory Materiaux, Nanomateriaux and Environment. Departement of Chemistry. Faculty of Sciences BP 1014, Rabat / Morocco.

2: Laboratory of Environment. Departement of Chemistry. Faculty of Sciences Spain

**wiamelalami@hotmail.fr*

Abstract

The photocatalytic activity of titanium dioxide was tested in the degradation of organic substrates, mainly formic acid, phenol and aniline, in comparison to different types of titanium dioxide. The photodegradation and mineralization rate of formic acid, aniline and phenol dissolved in water were evaluated. The results have shown that the maximum value of the intermediates depends instead on the percentage of a substance already degraded, and then this value decreases (1). On the contrary, it was seen that mineralization of aniline is very low compared to the first substance (2).

The photodegradation and mineralization of formic acid show that there is no corporation with the last properties studied but it appeared an important type of degradation which can be explained. So, we added FTIR studies to complete the study about photodegradation in different types of TiO₂.

Keywords : TiO₂ ; photocatalytiques ; phenol ; aniline ; formic acid.

References

[1] Canle L., Santaballa, & Vulliet, **2005**.

[2] Sánchez, Peral, & Domènech, **1997**.