



STUDY CONCERNING THE INFLUENCE OF OXIDIZING AGENTS ON HETEROGENEOUS PHOTOCATALYTIC DEGRADATION OF PERSISTENT ORGANIC POLLUTANTS

**Anca Florentina Căliman^{1*}, Camelia Bețianu¹, Brîndușa Mihaela Robu¹,
Maria Gavrilescu¹, Ioannis Poulios²**

¹“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering, Department of Environmental Engineering and Management, 71 Mangeron Blvd., 700050 - Iasi, Romania

²Aristotle University of Thessaloniki, Department of Chemistry, Laboratory of Physical Chemistry, 54006 Thessaloniki, Greece

Abstract

In this paper, the application of the heterogeneous photocatalysis in degradation of a cationic copper phtalocyanine dye, used as model of persistent organic compound is investigated by assessing the efficiency of the process. The influence of hydrogen peroxide on the photocatalytic process is studied using two types of commercial catalysts, such as TiO₂ Degussa (88% anatase, 20% rutile) and TiONa Millennium (100% anatase). Another electron acceptor, FeCl₃ is also used for investigation of adsorption and photocatalytic degradation efficiencies of the dye on TiO₂ Degussa photocatalyst. The results have shown that Millennium photocatalyst and the iron(III) salt exhibit a negative influence upon the studied process.

Key words: Keywords: heterogeneous photocatalysis, oxidizing agents, persistent organic pollutants

* Author to whom all correspondence should be addressed: e-mail: anca_chem@yahoo.com