



národní
úložiště
šedé
literatury

Efficient Degradation of 4-Chlorophenol with Phthalocyanine Complexes under Sunlight Conditions - Comparison with Laboratory Data

Hejda, S.
2014

Dostupný z <http://www.nusl.cz/ntk/nusl-175713>

Dílo je chráněno podle autorského zákona č. 121/2000 Sb.

Tento dokument byl stažen z Národního úložiště šedé literatury (NUŠL).

Datum stažení: 29.09.2024

Další dokumenty můžete najít prostřednictvím vyhledávacího rozhraní nusl.cz .

Efficient degradation of 4-chlorophenol with phthalocyanine complexes under sunlight conditions - comparison with laboratory data

Stanislav Hejda*, Robert Szucs^b, Misi Gyemant^b, Pavel Krystynik^c, Petr Kluson^a

^a *Faculty of Environment, Jan Evangelista Purkyně University, Králova Výchina 3132, Ústí nad Labem, CZ 400 96, Czech Republic*

^b *University of Szeged, Dóm tér 8, H 6720, Szeged, Hungary*

^c *Institute of Chemical Process Fundamental, Academy of Sciences of the Czech Republic, Rozvojová 135, CZ 165 02 Prague, Czech Republic*

* corresponding author: stanislav.hejda@ujep.cz

Abstract

The photochemical degradation of 4-chlorophenol was studied in the interaction with sunlight energy and phthalocyanine. Three different phthalocyanine was used – sulphonated zinc phthalocyanin, sulphonated aluminium phthalocyanine and citrate of sulphonated zinc phthalocyanine. The influence of different parameters e.g. concentrations of 4-chlorophenol, polychromatic and monochromatic light was studied. The obtained data was compared with laboratory data. The parameter of quantum yield was determined and used for mutual comparison of individual experiments. The photodegradation of 4-chlorophenol under the presented conditions appeared as an efficient degradation process. The presented process could be also used as a model process for the degradation of other organic pollutants.

Acknowledgement

Financial support from the OPVK (Grant No. CZ.1.07/2.2.00/28.0205) and is gratefully acknowledged. Additional financial support was obtained from the Internal Grant Agency of the University of Jan Evangelista Purkyně in Ústí nad Labem.