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

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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.

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