

OPTIMIZATION STUDY OF THE AZAMETHIPHOS DEGRADATION USING CHLORINE DIOXIDE

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ABSTRACT

In the present study, the degradation of azamethiphos using chlorine dioxide was studied. The optimization of the azamethiphos degradation in terms of chlorine dioxide dosage, different time of degradation and at different pH values, was performed in system with deionized water. The degradation was monitored using high performance liquid chromatography (HPLC-DAD) analysis. It was found that complete degradation was achieved with optimal concentration of 5 mg/dm³ chlorine dioxide at concentration of azamethiphos solution of 10 mg/dm³ under light after 1 h treatment and also at pH 9.00 after 30 min treatment at the same concentration of chlorine dioxide. Gas chromatography coupled with triple quadrupole mass detector (GC-QQQ) was also used to identify degradation products of azamethiphos.