

PHOTOCATALYTIC DESTRUCTION OF ATRAZINE

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ABSTRACT

Atrazine undergo effective photodegradation in presence of the characteristic polyoxometallate catalyst $\text{SiW}_{12}\text{O}_{40}^{4-}$ upon photolysis with UV-VIS. From previous results concerning organochlorine insecticides and other toxic compounds, it is known that the final photoproducts will be CO_2 and Cl^- . In the case of atrazine, the photocatalytic destruction results in the formation of cyanuric acid, a non toxic compound that resists further degradation. The main oxidant appears to be OH radicals formed by the reaction of the excited polyoxometallate with H_2O . Deisopropyl-atrazine (DIA), desethyl-atrazine (DEA), 2Cl-4,6 diamino-atrazine and 2-hydroxy-atrazine (HA), among others, were identified as the main intermediates.