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**Kinetic and mechanistic investigations of the degradation of  
sulfachloropyridazine in heat-activated persulfate oxidation process**

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**ABSTRACT**

Sulfachloropyridazine (SCP) has significant threat to natural environment and human health worldwide. Efforts have been made to remove SCP using traditional water treatment technologies but the outputs achieved are limited. In this study, we focused on heat-activated persulfate oxidation of SCP. Various factors have been investigated, such as PS concentration, initial pH, temperature and natural water constituent effects. The results showed that the SCP removal rate constants ( $k_{\text{obs}}$ ) followed a quadratic relationship with initial persulfate concentrations ( $k_{\text{obs}} = -1.526 \times 10^{-6} [\text{PS}]_0^2 + 5.621 \times 10^{-4} [\text{PS}]_0 + 0.01158$ ,  $R^2 = 0.923$ ,  $[\text{PS}]_0 = 17.5 \sim 280 \mu\text{M}$ ) and excellent fitting with the

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