环境工程学报
Chinese Journal of Environmental Engineering

微波辅助双氧水氧化降解水中磺胺二甲嘧啶

Microwave assisted oxidative degradation of sulfamethazine in water with hydrogen peroxide

投稿时间： 2011-11-18 最后修改时间： 2012-04-05

DOI：

中文关键词： 微波 双氧水 氧化降解 SM_2

英文关键词：microwave H_2O_2 oxidative degradation SM_2

基金项目：河南省自然科学基金资助项目(0611033400)

作者	单位
赵方	郑州大学化工与能源学院,郑州 450001
张从良	郑州大学化工与能源学院,郑州 450001
王岩	郑州大学化工与能源学院,郑州 450001

中文摘要：

采用微波辐照技术辅助双氧水氧化降解水中磺胺二甲嘧啶(SM_2),研究了微波辅助双氧水氧化降解水中SM_2的影响因素。结果表明,单纯使用微波辐照并不能显著降解SM_2,而微波辐照可显著促进双氧水对SM_2的氧化作用,提高SM_2的降解率。在初始浓度为50 mg/L,微波功率为 900 W,加入0.25 mL质量分数为30%的双氧水,pH值为4的条件下辐照6 min,SM_2的降解率可达96.5%,COD去除率为72%。

英文摘要：

Using microwave assisted oxidative to degrade sulfamethazine (SM_2) with hydrogen peroxide in the water, the impact factors of which were also studied. Experimental results show that the degradation effects of SM_2 were not significant when only microwave irradiation was used. However, as hydrogen peroxide added, microwave irradiation can significantly promote the oxidation of SM_2 using hydrogen peroxide, as well as improve the degradation efficiency. The rate of degradation and COD removal rate of 50 mg/L SM_2 solution were 96.5% and 72%, respectively, under the conditions including microwave power of 900 W for 6 min, 0.25 mL of H_2O_2 (concentration was 30%), pH of 4.

查看全文 查看/发表评论 下载PDF阅读器

关闭