

Accepted Manuscript

Title: Promising application of SiC without co-catalyst in photocatalysis and ozone integrated process for aqueous organics degradation

Authors: Yongbing Xie, Jin Yang, Yue Chen, Xuelian Liu, He Zhao, Yujie Yao, Hongbin Cao



PII: S0920-5861(18)30013-0
DOI: <https://doi.org/10.1016/j.cattod.2018.01.013>
Reference: CATTOD 11203

To appear in: *Catalysis Today*

Received date: 30-10-2017
Revised date: 22-12-2017
Accepted date: 8-1-2018

Please cite this article as: Yongbing Xie, Jin Yang, Yue Chen, Xuelian Liu, He Zhao, Yujie Yao, Hongbin Cao, Promising application of SiC without co-catalyst in photocatalysis and ozone integrated process for aqueous organics degradation, *Catalysis Today* <https://doi.org/10.1016/j.cattod.2018.01.013>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Promising application of SiC without co-catalyst in photocatalysis and ozone integrated process for aqueous organics degradation

Yongbing Xie^a, Jin Yang^{a,b}, Yue Chen^a, Xuelian Liu^{a,b}, He Zhao^a, Yujie Yao^a and Hongbin Cao^{a,b*}

^a Beijing Engineering Research Center of Process Pollution Control, Division of Environment Technology and Engineering, Institute of Process Engineering, Chinese Academy of Science, Beijing 100190, China

^b School of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China

*Corresponding author:

Tel: +86-01082544845, E-mail: hbcao@ipe.ac.cn

Highlights

- A commercial SiC is very active in photocatalytic ozonation of aqueous organics
- UV is more powerful than visible light in the SiC catalyzed combining process
- Photo generated electron reduction of oxygen and ozone are the key steps
- The high conducting band position of SiC benefit to the electron reduction
- The activity of the commercial SiC is comparable to P25 TiO₂

Abstract

SiC is a newly developed photocatalyst, but it is often used together with a co-catalyst rather than solely for its relatively low activity. Here we reported the high activity of a commercial SiC in a photocatalysis and ozone combined process

Download English Version:

<https://daneshyari.com/en/article/6504063>

Download Persian Version:

<https://daneshyari.com/article/6504063>

[Daneshyari.com](https://daneshyari.com)