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PII: S0045-6535(17)31953-7

DOI: 10.1016/j.chemosphere.2017.11.175

Reference: CHEM 20372

To appear in: *ECSN*

Received Date: 22 June 2017

Revised Date: 26 November 2017

Accepted Date: 29 November 2017

Please cite this article as: Shen, G., Zhang, Y., Hu, S., Zhang, H., Yuan, Z., Zhang, W., Adsorption and degradation of sulfadiazine and sulfamethoxazole in an agricultural soil system under an anaerobic condition: Kinetics and environmental risks, *Chemosphere* (2017), doi: 10.1016/j.chemosphere.2017.11.175.

# Adsorption and degradation of sulfadiazine and sulfamethoxazole in an agricultural soil system under an anaerobic condition: Kinetics and environmental risks

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## A B S T R A C T

Sulfonamides, one of the commonest antibiotics, were widely used on humans and livestock to control pathema and bacterial infections resulting in further environmental risks. The present study evaluated the adsorption and degradation of sulfadiazine (SDZ) and sulfamethoxazole (SMX) in an agricultural soil system under an anaerobic condition. Low sorption coefficients ($K_d$, 1.22 $L \cdot kg^{-1}$ for SDZ and 1.23 $L \cdot kg^{-1}$ for SMX) obtained from Freundlich isotherms experiment indicated that poor sorption of both antibiotics may pose a high risk to environment due to their high mobility and possibility of entering surface and

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