

# Recycling and Reuse Technology Transfer Center

## Recycling and Reuse Technology Transfer Center



<http://www.rrttc.uni.edu>

**Ultrasound-Modified Cupric Ion Adsorption on Iron (III) Floccs**  
**HSRC/WERC Joint Conference on the Environment. Albuquerque,**  
**NM**

Publication: 1996 - 080

Patrick Wheat, Industrial Technology, University of Northern Iowa

Student author: H. Campos, Environmental Technology and Industrial Technology,  
University of Northern Iowa

May 1996

**Ultrasound-Modified Cupric Ion Adsorption on Iron (III) Floccs.**

H. Campos<sup>1</sup> and P.E. Wheat<sup>2</sup>, <sup>1</sup>Environmental Technology Program, University of Northern Iowa, Cedar Falls, IA 50614-0421, and <sup>2</sup>Department of Industrial Technology, University of Northern Iowa, Cedar Falls, 50614-0178.

A model system to investigate the ability of intense ultrasound to enhance the removal of potentially hazardous metallic ions from aqueous solution via modified iron hydroxide adsorption/coprecipitation has been conducted. The experimental data indicates that ultrasonic disruption of pre-formed ferric hydroxide floccs can modify the removal efficiency of metallic ions from aqueous solution. The methodology is effective over copper to iron molar concentration ratios ranging from 10-30% and pHs of 7.5-9.5.

Presented at the HSRC/WERC Joint Conference on the Environment, Albuquerque, NM May 1996.

**Ultrasound-Modified Cupric Ion Adsorption on Iron (III) Floccs.**

H. Campos<sup>1</sup> and P.E. Wheat<sup>2</sup>, <sup>1</sup>Environmental Technology Program, University of Northern Iowa, Cedar Falls, IA 50614-0421, and <sup>2</sup>Department of Industrial Technology, University of Northern Iowa, Cedar Falls, 50614-0178.

A model system to investigate the ability of intense ultrasound to enhance the removal of potentially hazardous metallic ions from aqueous solution via modified iron hydroxide adsorption/coprecipitation has been conducted. The experimental data indicates that ultrasonic disruption of pre-formed ferric hydroxide floccs can modify the removal efficiency of metallic ions from aqueous solution. The methodology is effective over copper to iron molar concentration ratios ranging from 10-30% and pHs of 7.5-9.5.

Presented at the HSRC/WERC Joint Conference on the Environment, Albuquerque, NM May 1996.