Speciation of Selenium in Aqueous Systems. (A05-li094901-Poster)

Authors:

- J.Li* - *Dept. Renewable Resources, University of Wyoming*
- K.J.Reddy - *Dept. Renewable Resources, University of Wyoming*

Abstract:

Selenium speciation in aqueous system is required to understand its biogeochemical processes. Studies have shown that copper oxide (CuO) particles can selectively adsorb selenium species (selenate and selenite) from natural waters. However, the effect of dissolved sulfate in this phenomena is not clearly understood. Different concentrations of copper oxide particles (varying from 0.2, 0.5, 1, 2, 5 to 10 g/L) were reacted with selenate (2mg/L) and selenite (2mg/L) to determine the optimum amount of CuO. Experiments also conducted with different concentrations of dissolved sulfate (selenium/sulfate= 1 to 10000) to study the competition effects. IC (Ion Chromatograph) and HGAAS (Hydride generation atomic adsorption spectrophotometry) methods were used to analyze selenium species. In this presentation the efficacy of CuO in removal of selenite and selenate from natural waters in the presence of sulfate will be discussed.

Corresponding Author Information:

Junran Li
University of Wyoming
P.O. Box 3354, Dept. Renewable Resources
Laramie, WY 82071

phone: 307-766-6658
fax: 307-766-6403
e-mail: junranlee@yahoo.com

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