

Methylarsenate sorption to aluminum oxide

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Inorganic arsenic has been extensively studied during past decades, yet only a limited amount of research has been done on organoarsenical species, especially monomethylarsenate (MMA) and dimethylarsenate (DMA). Methylarsenates are as toxic as inorganic arsenic and have been extensively used as herbicides for a long time. There is not much information available about methylarsenate behavior in soil, especially in regards to bioavailability or reactivity. Like inorganic arsenate, methylarsenates seem to interact with metal oxide mineral particles due to their negative charges at an environmentally relevant pH. To enhance the knowledge of methylarsenate species in the environment, MMA and DMA sorption behaviors to aluminum oxide are being investigated. For molecular scale sorption mechanism studies, FTIR and X-ray adsorption spectroscopy are used to examine sorption complex formation between methylarsenate and aluminum oxide.

[Biogeochemical Redox Processes in Soils and Sediments](#)

6:00 PM-8:00 PM, Tuesday, August 19, 2008 Pennsylvania Convention Center -- Hall C, Poster

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8:00 PM-10:00 PM, Monday, August 18, 2008 Pennsylvania Convention Center -- Hall C, Sci-Mix

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