

GEOC

071. A COMPARISON OF DESORPTION KINETICS OF Hg(II) FROM SOIL USING BATCH AND STIRRED-FLOW METHODS. Yujun Yin, Herbert E. Allen, and Donald L. Sparks, Departments of Civil and Environmental Engineering and Plant and Soil Sciences, University of Delaware, Newark, DE 19716.

This investigation compared the kinetics of Hg(II) desorption using batch and stirred-flow methods. Nine agricultural soils with texture ranging from sand to silty loam were used in the experiments. Adsorbed Hg(II) was not readily released from the soils. The higher the soil organic matter content, the greater the fraction of Hg(II) that was resistant to desorption. Fractional Hg(II) release from soils using the stirred-flow method was much greater than that using the batch desorption method. After 96 h of desorption using the batch method, 2-21% of the adsorbed Hg(II) was released from the soils, whereas after 8 h of desorption using the stirred-flow method, 42-79% of the retained Hg(II) was released. The smaller fractional Hg(II) release in the batch desorption experiments was attributed to readsorption of desorbed Hg(II) in the batch experiments. To better assess the mobility and transport of contaminants in soils, flow techniques are recommended.