



Experiment and Modelling of the Competitive Sorption and Transport of Chlorinated Ethenes in Porous Media

By Manuel Alejandro Salaices Avila

Cuvillier Verlag Okt 2005, 2005. Taschenbuch. Book Condition: Neu. 208x147x17 mm. Neuware - The transport of multiple solutes in natural aquifers may be influenced by the hydrologic, geologic and environmental conditions. A competitive sorption may take place, increasing the complexity of the mechanisms that could define the transport and fate of the substances. An understanding of the competitive sorption and the multiple factors that could influence it were investigated. Column experiments were conducted to investigate the transport and the competitive sorption of trichloroethene (TCE) and 1,2-cis-dichloroethene (cis-DCE) in porous media. These compounds were selected as model contaminants, due to their widespread study, and because they are found in many aquifer sites like in Lauf a.d. Pegnitz (Germany). The column experiments were designed to simulate real conditions as in the aquifer. The liquid samples from the effluent of the column were analysed with a method developed in this work for the analysis of water samples containing chlorinated ethenes based on the Headspace-Solid-Phase Micro Extraction, HS-SPME, technique followed by Gas Chromatography, GC-FID. The optimal conditions for the sampling and analysis were established. The analytical method proved to be fast (within minutes) and it permitted to acquire reliable and highly reproducible breakthrough data...



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