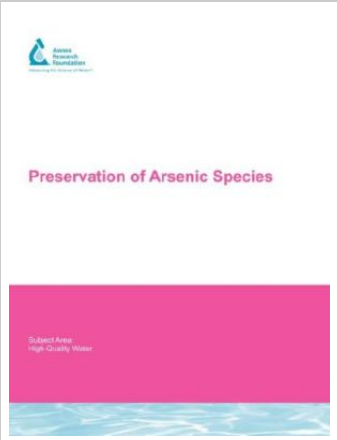

Preservation of Arsenic Species (Paperback)

By Dennis A. Clifford, Gautam Samanta

Iwa Publishing, United Kingdom, 2007. Paperback. Condition: New. Language: English. Brand new Book. In order to establish effective treatment removal strategies for arsenic, it is important to know the actual concentrations of As(III) and As(V) in drinking waters. Due to its anionic character, As(V) can be removed more easily than As(III). The distribution of As(III) and As(V) species depends greatly on the abundance of redox-active solids, especially organic carbon, the activity of microorganisms, and the extent of diffusion of O2 from the atmosphere. In strongly reducing aquifers, As(III) is the dominant species based on the thermodynamic considerations, whereas As(V) is the more stable oxidation state under oxic conditions or in oxygenated waters. Based on extensive experimental results in Fe(II)-contaminated challenge water, it was found that EDTA-HAc could be used to preserve the arsenic species for at least 28 days in opaque plastic bottles. Although the alternative preservatives, H2SO4 and H3PO4, successfully preserved the original As(III)/(V) speciation under some conditions, these preservatives were generally unsuccessful for the desired 28-day period under reducing and oxidizing conditions in the sample pH range of 6.5? V8.4 and in the presence of 3 mg/L Fe(II). A comprehensive, systematic study was conducted to determine the effect of...

Reviews

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