

Chemistry of Selenium in Mine Drainage and During Treatment.

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Abstract: New, stringent requirements for control of selenium in coal mine discharge water will stress existing treatment technologies. Selenium chemistry, whether inorganic, organic or biotic, dictates the treatment approaches and the stability of the removed selenium. Existing treatment methods may not be adequate. Selenium has a number of chemical properties that differ from sulfur, a familiar Group 6a relative, many of which improve its removal chemistry versus sulfur. Unfortunately, selenium has a far more substantial biochemistry than traditional mine drainage contaminants, which facilitates the recycling of selenium back into solution. Aspects of the unique chemistry of selenium, its influence on the release of selenium as a contaminant and on its removal and stability once removed, will be discussed.