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黄铁矿风化过程中元素的活性及对环境的影响 [点此下载全文](#)

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摘要:

在对安徽铜陵鸡冠山硫铁矿尾矿中黄铁矿风化产物组构特征研究的基础上,划分出代表不同风化程度的4种矿石组构型,并进而对不同组构型中硫和金属元素的含量、富集系数、流失系数变化进行了研究。研究表明在风化过程中,As、Sb、Cu、Zn明显富集,其中As、Cu、Zn对环境的潜在危害较Sb大;Co、Ni、Bi明显流失或严重流失,对环境已经形成污染,其中Bi的污染程度较高。

关键词: [元素活性](#) [环境意义](#) [风化过程](#) [黄铁矿](#) [尾矿](#) [安徽铜陵](#)

Activity of Elements during the Weathering of Pyrite and Its Environmental Effects [Download Fulltext](#)

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Fund Project:

Abstract:

Pyrite and its weathered products, sampled from the tailings of the Jiguanshan pyrite mine in Tongling, Anhui, have been studied for their mineral composition, texture characters and element distribution. During the weathering of pyrite were formed four fabric types: transitional zone, reticulated ferric oxide, nubby ferric oxide and cellular ferric oxide, which represent the sequence of weathering. The pH value of the pore water plays an important role on the geochemical behaviours of heavy metals, especially Pb and Mn. S was weathered to form sulphuric acid and sulphate, which infiltrated into the pore water. With the progress of weathering, the acidity of the pore water and its solubility of heavy metals gradually increased. The seepage of the fluids exerts a substantial threat on the ecological environment. The changes in element content, enrichment coefficient and leaching coefficient during the weathering suggest that As, Sb, Cu and Zn are obviously concentrated in an oxidative phase, that Co, Ni and Bi have migrated into water and soils, and that Fe is relatively stable. We thereby conclude: (1) As, Sb, Cu and Zn have formed a potential threat on the environment, in which the harm of As, Cu and Zn is greater than Sb; (2) Co, Ni and Bi have resulted in environmental contamination, in which Bi is more serious than Co, Ni.

Keywords: [element activity](#) [environmental effects](#) [weathering](#) [pyrite](#) [tailings](#) [Tongling](#) [Anhui province](#)

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