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Determination of Trace Cadmium in Rock and Soil Samples by Graphite Furnace Atomic Absorption Spectrometry

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英文关键词: [graphite furnace atomic absorption spectrometry\(GFAAS\)](#) [cadmium](#) [rock](#) [soil](#)

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中文摘要:

试样用王水、高氯酸分解. 在高氯酸介质中, 不经分离富集, 无需添加任何基体改进剂, 用石墨炉原子吸收光谱法直接测定岩石和土壤样品中的痕量镉. 对试样分解、灰化和原子化温度进行了选择, 优化了仪器工作条件. 方法检出限为 $0.0066 \mu\text{g/g}$, 精密度(RSD, $n=12$)低于8.0%. 方法简单、快速、准确, 适用于大批量岩石和土壤样品中痕量镉的分析.

英文摘要:

A method for the determination of trace cadmium in rock and soil samples by graphite furnace atomic absorption spectrometry (GFAAS) was developed. The samples were decomposed by aqua regia perchloric acid, and trace cadmium in perchloric acid medium was then directly determined by GFAAS without any separation, pre-concentration and without any matrix modifier. The conditions for sample decomposition, temperature of ashing and atomization in GFAAS determination were optimized. The detection limit of the method for cadmium is $0.0066 \mu\text{g/g}$ with precision of less than 8.0%RSD ($n=12$). The method provides the advantages of simple operation, high efficiency, accuracy, and suitable for the determination of trace cadmium in bulk rock and soil samples.

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