

萃取色层法测定UF₆中裂变产物总β和总γ放射性

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摘要 文章研究了在含F⁻和NO₃⁻的溶液中,⁹⁵Zr,⁹⁵Nb,¹⁰⁶Ru,¹⁴⁴Ce,²³⁴Th和U在CL-TBP柱上的淋洗行为。选择了⁹⁵Zr,⁹⁵Nb,¹⁰⁶Ru及¹⁴⁴Ce等主要裂变产物与²³⁴Th及U分离的条件。建立了对UF₆样品中裂变产物的总β和总γ放射性的测定方法。对于总β放射性为天然铀β放射性7.8%的样品,标准偏差为±3.5%;对总γ放射性为天然铀γ放射性17%的样品,标准偏差为±3.1%。

关键词 [萃取色层](#) [TBP](#) [UF₆](#) [裂变产物](#)

分类号

DETERMINATION OF GROSS β-AND GROSS γ-RADIOACTIVITY OF THE FISSION PRODUCTS IN UF₆ BY EXTRACTION CHROMATOGRAPHY

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Abstract The elution behaviors of ⁹⁵Zr, ⁹⁵Nb, ¹⁰⁶Ru, ¹⁴⁴Ce, ²³⁴Th and U in solutions containing F⁻ and NO₃⁻ on the CL-TBP column were investigated. Procedures were developed for the separation of ⁹⁵Zr, ⁹⁵Nb, ¹⁰⁶Ru and ¹⁴⁴Ce from ²³⁴Th and U. A method was established for the determination of gross β- and gross γ- radioactivity of fission products in UF₆. The standard deviation is ±3.5% for the samples with a gross β-activity amounting to 7.8% of that of natural uranium, while the standard deviation is ±3.1% for the samples whose gross γ- activity amounts to 17% of that of natural uranium.

Key words [Extraction chromatography](#) [TBP](#) [UF₆](#) [Fission products](#)

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