

高酸Purex流程镎走向控制及其回收纯化工艺研究

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收稿日期 1990-12-29 修回日期 网络版发布日期:

摘要 文章介绍用逆流萃取串级实验方法研究高酸Purex萃取流程IA萃取器镎走向控制(与铀、钚共萃取)及自1AP中定量反萃镎、分离铀、钚工艺条件的实验结果。

关键词 [高酸Purex流程](#) [镎](#) [走向](#) [回收-纯化](#)

分类号

STUDIES ON THE TREND AND RECOVERY-PURIFICATION OF Np IN HIGH-ACID PUREX PROCESS

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Abstract Coextraction of Np with Pu and U in 1A extraction contactor and the stripping of Np from 1AP organic phase in 1N contactor in high-acid purex process by using cascade counter-current extraction method are investigated. In the extraction conditions of 1A contactor, the valence of U, Np in 1AF is adjusted with NH_4VO_3 . The recovery of Np, Pu and U is 99.5% ~ 99.9%, 99.96% and 99.998%, respectively. The influence of the flow rate of 1AX and concentration of HNO_3 on the recovery of Np is studied. In 1N contactor, the experimental results show that, by using NaNO_2 as stripping agent, the stripping yield of Np is 99.6% and the separation factor ($\text{SF}_{(\text{Pu/Np})}$) is $1.27 \times 10^{-3} \sim 1.37 \times 10^{-3}$, while by using $\text{NH}_2\text{OH} \cdot \text{HNO}_3$ and $\text{N}_2\text{H}_5\text{NO}_3$ as stripping agent, the stripping yield of Np is 99.2% and 93% and $\text{SF}_{(\text{Pu/Np})}$ is 4.3×10^{-2} and 26. However, all the $\text{SF}_{(\text{Pu/Np})}$ are the same, i. e., 5×10^{-3} for the three different stripping agents mentioned above.

Key words [High-acid Purex process](#) [Neptunium](#) [Trend](#) [Recovery-purification](#).

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