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## **Sequential separation and determination of Pu, Sr-90 and Am-241 in soil and sediment samples using DGA Resin for the preconcentration of the actinides.**

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A method for the sequential, and quantitative, separation of Pu, Sr-90 and Am-241 radionuclides in environmental soil and sediment samples is presented (order: has been developed). After wet- and dry-ashing of the samples, Pu and Am-241 were preconcentrated from the leaching solution on DGA resin, whereas Sr-90 was not retained and collected in the eluate. Pu was then separated from Am-241 using an anion exchange resin (BioRad AG 1-X2) and was further purified by UTEVA and DGA resins in series. Am-241 was separated from the lanthanides using a TEVA column. In parallel, Sr-90 was purified by a Ca-oxalate precipitation followed by separation on Sr resin. The measurements of Pu and Am-241 were performed by  $\alpha$ -spectrometry. Sr-90 was measured by low-level liquid scintillation counting. The developed method was validated by analyzing IAEA reference materials and environmental soil samples.

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