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Characterization of a TBP Resin and development of methods for the separation of actinides and the purification of Sn

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TBP is a widely used extractant in liquid–liquid extraction, especially in the extraction of actinides, one of its most prominent examples being the Purex process.
A TBP based extraction chromatographic resin has been characterized with respect to its U capacity and the weight distribution ratios (DW) of U, Th, Pu, Np and numerous other cations in different concentrations of HNO3 and HCl.
Based on obtained data methods for the separation of Pu from Th and U, and for the purification of Sn, with special focus on decommissioning and radionuclide production, have been developed.

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