

EXTRACTION TECHNOLOGY OF RECOVERED URANIUM PURIFICATION FROM TECHNETIUM.

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Using mathematical modeling of heptavalent technetium extraction behavior the distribution of technetium in technological flow sheet of uranium affinage with tributylphosphate in inert diluent as extractant were studied. The technology of recovered uranium purification from heptavalent technetium were suggested.

Technetium extraction behavior in recovered uranium solutions were studied in presence of hydrazine and tetravalent uranium during exposure at different temperatures. The conditions of deep purification of uranium from technetium were defined during uranium extraction with 30% TBP in hydrocarbon diluent from 0,5-1,0 mole/l nitric acid solutions.

The dependence of technetium extraction behavior were investigated according to solution temperatures, concentration of hydrazine, nitric acid and tetravalent uranium.

The various versions of technological flow sheet of recovered uranium purification from technetium were tested in laboratory scale.

The technology of recovered uranium extraction purification from technetium were suggested in conformity with column version of hardware implementation. The process of uranium affinage with 30% TBP in hydrocarbon diluent provides decreasing of technetium content from 10 ppm to 0,001 ppm accounting to uranium.