

Method for Sulfate separation

Disclosure Number

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Technology Summary

This invention enables selective sulfate separation from highly competitive aqueous alkaline solutions, as found in nuclear wastes. Although examples of sulfate separation have been previously reported, none of them has been demonstrated to work under the extremely demanding conditions found in nuclear wastes (high ionic strength, pH 14). The method developed here provides a simple and efficient way to separate sulfate under realistic nuclear waste conditions. Sulfate removal from radioactive wastes is of interest to the U.S. DOE, as sulfate interferes with the vitrification process selected for waste disposal, increases the volume of waste forms that must be produced and stored, and reduces their geologic performance.

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