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Strontium desorption from bentonite surface by complex forming agents

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A basic problem of environmental protection is the safety storage of radioactive waste all over the world. To handle this problem it is important to know the interaction between geological formation and radioactive metal ions.

Strontium-90 is one of the most dangerous isotope which is found in radioactive waste of nuclear power plants. It has relatively long half time and β -radiation.

In the last years the adsorption of strontium was examined on various natural bentonite samples. The distribution coefficients and rate coefficients were determined. The next step is the examination of strontium desorption from bentonite surface.

The strontium desorption was examined with radioactive tracer method. Strontium-90 bentonite was made from natural calcium bentonite with ion exchange method. This bentonite was used in desorption experints. Desorption was carried out with some complex agents in different concentration and various pH.

The results were evaluated by our model which was made for the description of interaction between metal ion and bentonite surface. (J. Kónya, N. M. Nagy: Colloids and Surfaces 136. 297. 1998)