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Actinides and the environment: The challenge for interdisciplinary research

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Actinides and the Environment: The Challenge for Interdisciplinary Research. H. NITSCHKE, Univ. of California at Berkeley and Lawrence Berkeley National Laboratory, The Glenn T. Seaborg Center

Actinides can migrate in the environment mostly via aqueous media such as groundwater and surface, river, lake and sea water. Models predicting the hydrological transport through the environment require as input an actinide concentration, the true amount that is actually available for transport. Three major processes define the actinide source term: (1) solubility, (2) organic interaction, and (3) sorption. They are dependent on each other and each individual process is the result of several sub-processes. Also, colloid formation plays a major role in the actinide source term, and it is common to each of the three main processes. The current state of knowledge of several of these processes will be discussed and areas will be outlined where integrated interdisciplinary research is needed.

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