

## Potential geochemical effects of high alkaline groundwater from a cementitious repository for radioactive waste

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<http://133.28.50.192/sato/index.html>

Extensive use of cementitious materials is envisaged in the radioactive waste repositories for structural, encapsulation, and backfilling purposes. Saturation of the materials with groundwater may a high alkaline pore fluid with a pH in the range 10-13.5. The pore fluid has the potential to migrate from the repositories and react chemically with other buffer materials and the host rock. For the safety of the repository, the effects of these chemical reactions on the behavior of the buffer materials and repository rock as a barrier to waste migration need to be investigated and understood. This report summarize key processes affecting radionuclide migration and geochemical problematics under high alkaline condition and show the geochemical processes in natural high alkaline conditions.