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Uranium desorption from microplastic surfaces

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ABSTRACT

The desorption of uranium from microplastic surfaces has been investigated as a function of pH in aqueous solutions under ambient conditions. In addition, the effect of complexing ligands (e.g. EDTA, NTA, Citrate) on the desorption from plastic surfaces (including the plastic containment surface) has been studied. The evaluation of the experimental data indicate that the solution pH and the presence of complexing ligand in solution strongly affect the desorption process. These findings suggest that microplastics could act as radionuclide/uranium carriers into environment and living organisms.

Key words: uranium; microplastics; desorption; pH effect; complexing ligands

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