

## The Determination of Curium in Fecal and Chelated Urine Samples

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A procedure has been developed at Lawrence Livermore National Laboratory to quantify the amount of curium in fecal and chelated urine samples. This procedure was used in response to an inhalation incident and was successfully used to analyze over 20 fecal and urine samples.

The procedure utilizes an EIChrom TRU resin column and electrodeposition for sample preparation. Processed samples include single voiding fecal samples with weights from 65 to 270 grams and 24 hour urine samples with volumes up to 2075 milliliters.

Urine samples are dried, wet ashed, coprecipitated and centrifuged prior to the TRU column. The fecal sample process also includes a filtration step. The samples are then loaded in a 10 to 15 ml feed solution on to a single column and eluted and electroplated for counting. The samples are analyzed by alpha spectroscopy.

This presentation will discuss the development of the procedure, test sample results, tracers used and the results of using the procedure in production.