



Instructions for Catalog # 608  
Soil Radionuclides  
Revision 100411

Description:

- This standard is packaged in a 16-oz. polyethylene jar containing at least 500-cc of soil.
- This standard is not preserved.
- The standard should be stored at room temperature.
- This product is intended to be used as a quality control check for the entire analytical process for the analytes/matrix included in the standard.
- ERA suggests that when subsampling this product prior to analysis you use a minimum sample size of at least 5 grams. Using a smaller sample size may invalidate the assigned value and/or uncertainty shown on the certificate of analysis.
- The standard contains some or all of the following analytes in the activity ranges shown:

Actinium-228 .....	500 – 5,000 pCi/kg	Plutonium-238 .....	50 – 2,000 pCi/kg
Americium-241 .....	50 – 2,000 pCi/kg	Plutonium-239 .....	50 – 2,000 pCi/kg
Bismuth-212 .....	500 – 5,000 pCi/kg	Potassium-40 .....	5,000 – 50,000 pCi/kg
Bismuth-214 .....	500 – 5,000 pCi/kg	Strontium-90 .....	500 – 10,000 pCi/kg
Cesium-134 .....	1,000 – 10,000 pCi/kg	Thorium-234 .....	500 – 5,000 pCi/kg
Cesium-137 .....	1,000 – 10,000 pCi/kg	Uranium-234 .....	500 – 5,000 pCi/kg
Cobalt-60 .....	1,000 – 10,000 pCi/kg	Uranium-238 .....	500 – 5,000 pCi/kg
Lead-212 .....	500 – 5,000 pCi/kg	Uranium (Nat) .....	1,000 – 10,000 pCi/kg
Lead-214 .....	500 – 5,000 pCi/kg	Uranium (Nat) mass .....	1,500 – 15,000 µg/kg
Manganese-54 .....	1,000 – 10,000 pCi/kg	Zinc-65 .....	1,000 – 10,000 pCi/kg

Helpful Hints:

- Although all ERA soil standards have been thoroughly blended prior to shipping, the standards should be homogenized prior to taking an aliquot for analysis due to settling which may occur during shipping.
- The percent moisture of this standard should be determined and your analytical results adjusted accordingly and reported on a dry weight basis.
- This standard contains gamma emitting lead and bismuth progeny of radium-226 and radium-228. If analyzing for these isotopes, it is recommended that the standard remain sealed for 20 days immediately prior to gamma counting to ensure equilibrium with parent isotopes. This condition is met upon shipment from ERA but, if aliquots are removed or the standard is transferred to another counting geometry, equilibrium must be reestablished.

Standard Preparation Instructions:

1. Open the Soil Radionuclides standard in a fume hood to avoid inhalation of dust.
2. Ensure standard homogeneity prior to removing aliquots for analysis.
3. Determine the percent moisture of an aliquot of the Soil Radionuclides standard.
4. Prepare and analyze the standard using your normal procedures.
5. Decay correct analytical results to the reference date shown on the standard container.

Safety:

- ERA radiochemistry standards present radiological hazards that vary depending on the particular isotope(s) present. Knowledge of hazards associated with isotopic composition is necessary to prevent laboratory contamination and limit personnel exposure.
- ERA products may be hazardous and are intended for use by professional laboratory personnel trained in the competent handling of such materials. Responsibility for the safe use of these products rests entirely with the buyer and/or user. If you require a Material Safety Data Sheet for any ERA product, please call toll free at 1-800-372-0122.