



Instructions for Catalog # 802
Soil Radionuclides
Revision 060107

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.
- The standard contains some or all of the following analytes in the activity ranges shown:

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

Before you begin:

- 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.
- Report your results in pCi/kg on a dry weight basis for all analytes except for mass determinations of uranium, which should be reported as µg/kg.

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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.