



Instructions for Catalog # 617QR

Water Radionuclides

Revision 060107

Description:

- This standard is packaged in a screw-top glass vial containing at least 10 mL of standard concentrate.
- This concentrate is preserved with nitric acid to $\text{pH} < 2$.
- The concentrate should be stored at room temperature.
- This standard may not contain all of the analytes listed on the Data Reporting Forms.
- The diluted standard will contain some or all of the following analytes in the activity ranges shown:

Americium-241	10 – 200 pCi/L
Cesium-134	100 – 3,000 pCi/L
Cesium-137	100 – 3,000 pCi/L
Cobalt-60	100 – 3,000 pCi/L
Iron-55	100 – 3,000 pCi/L
Manganese-54.....	100 – 3,000 pCi/L
Plutonium-238	10 – 200 pCi/L
Plutonium-239	10 – 200 pCi/L
Strontium-90.....	50 – 1,000 pCi/L
Uranium-234	10 – 200 pCi/L
Uranium-238	10 – 200 pCi/L
Uranium (Nat)	20 – 400 pCi/L
Uranium (Nat) mass	30 – 600 $\mu\text{g/L}$
Zinc-65.....	100 – 3,000 pCi/L

Before you begin:

- This standard is supplied as a concentrate and must be diluted prior to analysis.
- The standard should be analyzed as soon as possible after the concentrate is diluted.
- Report your results in pCi/L for all analytes except for mass determinations of uranium, which should be reported as $\mu\text{g/L}$.

Standard Preparation Instructions:

1. Shake the vial well prior to opening.
2. Using clean, dry, class A volumetric glassware, transfer 5.0 mL of the concentrate and dilute to a final volume of 1.0 L with 0.1M nitric acid solution.
3. If necessary, prepare a second 1 L portion by following steps 1 and 2 above.
4. Mix or shake the diluted sample well prior to analysis.
5. Use your regular preparation and analytical procedures.
6. Decay correct analytical results to the reference date shown on the standard vial.

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Safety:

- This standard is preserved in a dilute nitric acid solution. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin.
- 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.