



Instructions for Catalog # 615
Water Gross Alpha/Beta
Revision 100411

Description:

- This standard is packaged in a screw-top glass vial containing at least 10 mL of standard concentrate.
- The concentrate is preserved with nitric acid to $\text{pH} < 2$.
- Total dissolved solids of the following cations in their nitrate form are added: magnesium, calcium, sodium, manganese and iron. Nitrate residues of the diluted standard after evaporation should range between 5 and 70 mg per 100 mL aliquot.
- The standard should be stored at room temperature.
- This product is intended to be used as a quality control check of the entire analytical process for the analytes/matrix included in the standard.
- The dilution instructions below represent the minimum suggested sample size for this product. Using a smaller sample size may invalidate the assigned value and/or uncertainty shown on the certificate of analysis.
- The diluted standard will contain the following analytes in the activity ranges shown:

Gross Alpha (as Thorium-230) 10 – 200 pCi/L
Gross Beta (as Cesium-137) 10 – 200 pCi/L

Helpful Hints:

- This standard is supplied as a concentrate and must be diluted prior to analysis.
- When diluting the concentrate, it is recommended that the diluting solution have an acidic composition comparable to that of the concentrate to ensure analyte stability.
- The standard should be analyzed as soon as possible after the concentrate is diluted.
- Report your results in pCi/L for all analytes.
- If flaming is utilized to stabilize the weight of residues, it should be performed with the lowest heat possible and for the shortest period possible to avoid volatilization losses of Cesium-137.

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.

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.