

## Instructions for: *DMRQA Trace Metals (cat # PT-TM-DMRQA)*

### **STANDARD DESCRIPTION**

- The DMRQA Trace Metals standard is provided in a vial that contains approximately 21 mL of concentrate.
- The DMRQA Trace Metals vial is preserved with nitric acid.
- Store the standard in the unopened vial at room temperature (~ 20 - 25°C).

### **ADDITIONAL INFORMATION**

- The standard has been provided as a concentrate that must be diluted prior to analysis.
- After diluting the standard per the instructions below, the standard will contain approximately 1.0% nitric acid. You may add a different amount of acid during the dilution of the concentrate than the suggested 10 mL to matrix match the sample to your calibration standards.
- Although it is not necessary to digest the diluted sample prior to analysis, if your normal procedure calls for digesting samples we recommend that you follow your normal procedure.

### **STANDARD PREPARATION, ANALYSIS and STORAGE**

1. For best results, the PT standards should be stored at room temperature (~ 20 - 25°C).
2. Add approximately 900 mL of ASTM Type 1 water to a 1000 mL class A volumetric flask.
3. Carefully add 10.0 mL of nitric acid to the flask as a preservative.
4. Transfer exactly 10.0 mL of the PT standard concentrate to the flask using a class A volumetric pipette.
5. Bring the flask to volume with ASTM Type 1 water.
6. Mix the solution by inverting the volumetric flask a minimum of three times.
7. The standard is now ready for preparation and analysis per the selected method(s).
8. The sample should be analyzed as soon as possible after dilution,
9. Report all results in µg/L per the reporting instructions contained in this booklet.
10. Store the diluted standard and any remaining concentrate at room temperature (~ 20 - 25°C).



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## Instructions for: *DMRQA Trace Metals (cat # PT-TM-DMRQA) - Continued*

### **CONCENTRATION RANGE and PTRL**

- After preparation per these instructions, the standard will contain the analytes in the following table at a certified Concentration within the ranges shown.
- The NELAC Proficiency Testing Reporting Limit (PTRL) is provided as guidance when analyzing NELAC PT standards. At a minimum, the laboratory should use a method that is sensitive enough to generate quantitative results at the PTRL shown.

Analyte	Units	Concentration Range	PTRL
Aluminum	µg/L	200 - 4000	130
Antimony	µg/L	95.0 - 900	55.0
Arsenic	µg/L	70.0 - 900	54.0
Barium	µg/L	100 - 2500	86.0
Beryllium	µg/L	8.00 - 900	5.30
Cadmium	µg/L	8.00 - 750	5.90
Chromium	µg/L	17.0 - 1000	12.0
Cobalt	µg/L	28.0 - 1000	22.0
Copper	µg/L	40.0 - 900	32.0
Iron	µg/L	200 - 4000	170
Lead	µg/L	70.0 - 3000	54.0
Manganese	µg/L	70.0 - 4000	60.0
Molybdenum	µg/L	60.0 - 600	45.0
Nickel	µg/L	80.0 - 3000	65.0
Selenium	µg/L	90.0 - 2000	67.0
Silver	µg/L	26.0 - 600	21.0
Thallium	µg/L	60.0 - 900	21.0
Vanadium	µg/L	55.0 - 2000	47.0
Zinc	µg/L	100 - 2000	83.0