

## Instructions for: *WS Residual Chlorine (cat # PT-CL-WS)*

### **STANDARD DESCRIPTION**

- The WS Residual Chlorine standard is provided in a flame sealed ampule that contains approximately 5.0 mL of concentrate.
- The WS Residual Chlorine standard is unpreserved.
- Store the standard in the unopened ampule refrigerated (at ~4°C).

### **ADDITIONAL INFORMATION**

- The standard has been provided as a concentrate that must be diluted prior to analysis.
- Residual chlorine reacts immediately with organic compounds. Care should be exercised to ensure that all glassware used in the dilution of the standard is free of organic residue.
- Due to the nature of residual chlorine, the sample must be analyzed as soon as possible after dilution.

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

1. For best results, the PT standard should be stored refrigerated and then brought to room temperature (near 20°C) when used.
2. Add approximately 990 mL of ASTM Type 1 water to a 1000 mL class A volumetric flask.
3. Carefully open the ampule by snapping off the top at the narrow part of the neck.
4. Transfer exactly 1.00 mL of the PT standard concentrate to the flask using a class A volumetric pipette or calibrated syringe.
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 your routine method(s).
8. The sample should be analyzed as soon as possible after dilution,
9. Report all results in mg/L per the reporting instructions contained in this booklet.
10. Store the diluted standard and any remaining concentrate refrigerated (at ~4°C).

### **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
Residual Free Chlorine	mg/L	0.500 – 3.00	0.37
Total Residual Chlorine	mg/L	0.500 – 3.00	0.4