

## **Instructions for: WP Nutrients #1 (cat # PT-NUT1-WP)**

### **STANDARD DESCRIPTION**

- The WP Nutrients standard is provided in a vial that contains approximately 21 mL of concentrate.
- The WP Nutrients vial is unpreserved.
- Store the standard in the unopened vial refrigerated (at ~4°C).

### **ADDITIONAL INFORMATION**

- The standard has been provided as a concentrate that must be diluted prior to analysis.
- The WP Nutrients #1 standard (catalog # PT-NUT1-WP) is part of Wibby Environmental's WP Nutrients standard set (catalog # PT-NUT-WP). The set also includes WP Nutrients #2 (TKN and Total P, catalog # PT-NUT2-WP) and WP Nutrients #3 (Nitrite only, catalog # PT-NUT3-WP).
- Be sure to report your results for ammonia as N (not as NH<sub>3</sub>), nitrate as N (not as NO<sub>3</sub>), nitrate + nitrite as N (not as NO<sub>3</sub> + NO<sub>2</sub>), and ortho-phosphate as P (not as PO<sub>4</sub>).

### **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 900 mL of ASTM Type 1 water to a 1000 mL class A volumetric flask.
3. Transfer exactly 10.0 mL of the PT standard concentrate to the flask using a class A volumetric pipette.
4. Bring the flask to volume with ASTM Type 1 water.
5. Mix the solution by inverting the volumetric flask a minimum of three times.
6. The standard is now ready for preparation and analysis per your routine method(s).
7. The sample should be analyzed as soon as possible after dilution,
8. Report all results in mg/L per the reporting instructions contained in this booklet.
9. Store the diluted standard and any remaining concentrate refrigerated (at ~4°C).



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## Instructions for: *WP Nutrients #1 (cat # PT-NUT1-WP) - 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
Ammonia as N	mg/L	0.650 – 19.0	0.350
NO <sub>3</sub> as N	mg/L	0.250 – 40.0	0.190
NO <sub>3</sub> + NO <sub>2</sub> as N	mg/L	0.250 – 40.0	0.200
o-PO <sub>4</sub> as P	mg/L	0.500 – 5.50	0.340
<b>Additional State Specific Analytes</b>			
Total Dissolved Phosphorus	mg/L	0.500 – 5.50	0.340
Dissolved Nitrogen	mg/L	0.250 – 60.0	NA
Total Nitrogen	mg/L	0.250 – 60.0	NA

**Instructions for:  
WP Nutrients #2 (cat # PT-NUT2-WP)**

**STANDARD DESCRIPTION**

- The WP Nutrients standard is provided in a vial that contains approximately 21 mL of concentrate.
- The WP Nutrients vial is preserved with H<sub>2</sub>SO<sub>4</sub> to pH <2.
- Store the standard in the unopened vial refrigerated (at ~4°C).

**ADDITIONAL INFORMATION**

- The standard has been provided as a concentrate that must be diluted prior to analysis.
- The WP Nutrients #2 standard (catalog # PT-NUT2-WP) is part of Wibby Environmental's WP Nutrients standard set (catalog # PT-NUT-WP). The set also includes WP Nutrients #1 (NH<sub>3</sub>, NO<sub>3</sub>, NO<sub>3</sub> + NO<sub>2</sub>, o-PO<sub>4</sub>, catalog # PT-NUT1-WP) and WP Nutrients #3 (Nitrite only, catalog # PT-NUT3-WP).

**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 900 mL of ASTM Type 1 water to a 1000 mL class A volumetric flask.
3. Transfer exactly 10.0 mL of the PT standard concentrate to the flask using a class A volumetric pipette.
4. Bring the flask to volume with ASTM Type 1 water.
5. Mix the solution by inverting the volumetric flask a minimum of three times.
6. The standard is now ready for preparation and analysis per your routine method(s).
7. The sample should be analyzed as soon as possible after dilution,
8. Report all results in mg/L per the reporting instructions contained in this booklet.
9. 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
Total Kjeldahl Nitrogen (TKN)	mg/L	1.50 – 35.0	1.10
Total Phosphorus	mg/L	0.500 – 10.0	0.340

**Instructions for:  
WP Nutrients #3 (cat # PT-NUT3-WP)**

**STANDARD DESCRIPTION**

- The WP Nutrients #3 standard is provided in a flame sealed ampule that contains approximately 2.1 mL of concentrate.
- The WP Nutrients #3 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.
- The WP Nutrients #3 standard (catalog # PT-NUT3-WP) is part of Wibby Environmental's WP Nutrients standard set (catalog # PT-NUT-WP). The set also includes WP Nutrients #1 (NH<sub>3</sub>, NO<sub>3</sub>, NO<sub>3</sub> + NO<sub>2</sub>, o-PO<sub>4</sub>, catalog # PT-NUT1-WP) and WP Nutrients #2 (TKN and Total P, catalog # PT-NUT2-WP).
- Be sure to report your results for nitrite as N (not as NO<sub>2</sub>).

**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
NO <sub>2</sub> as N	mg/L	0.400 – 4.00	0.280