

Instructions for: **WS Minerals (Cat # PT-MIN-WS)**

STANDARD DESCRIPTION

- The WS Minerals standard is provided in two bottles. One 500 mL ready-to-use sample is labeled WS Minerals and includes the following analytes: Alkalinity as CaCO₃, Calcium, Calcium Hardness as CaCO₃, Total Hardness as CaCO₃, Magnesium, Potassium, Sodium, Total Filterable Residue and Corrosivity (Langelier Index). A second 100 ml ready- to-use sample, labeled WS Conductivity, has been provided for the determination of specific conductance.
- The WS Minerals and WS Conductivity samples are both unpreserved.
- Store the standards in the unopened bottles at room temperature (~20 - 25°C).

ADDITIONAL INFORMATION

- **Corrosivity (Langelier Index)** is determined using the WS Minerals standard. Determine all Corrosivity analytes (alkalinity, calcium hardness as CaCO₃, and total dissolved solids) in the WS Minerals standard. Do not use any other WS sample when determining Corrosivity. Calculate and report Corrosivity (Langelier Index) using a pH of 7.89 at 25°C using the following formula.

$$\text{Corrosivity (Langelier Index)} = \text{pH} - \text{pHs}$$

$$\text{pHs} = (9.3 + A + B) - (C + D)$$

Where:

$$A = (\text{Log}_{10} [\text{TDS}] - 1) / 10$$

$$B = -13.12 \times \text{Log}_{10} (^\circ\text{C} + 273) + 34.55 = 2.09 \text{ at } 25^\circ\text{C}$$

$$C = \text{Log}_{10} [\text{Hardness, Calcium as CaCO}_3] - 0.4$$

$$D = \text{Log}_{10} [\text{Alkalinity, Total as CaCO}_3]$$

- If you do not determine Total Alkalinity when the standard is first opened, be sure to cap the standard tightly to prevent adsorption of carbon dioxide from the atmosphere.

STANDARD PREPARATION, ANALYSIS and STORAGE

1. For best results, the standards should be stored near room temperature (~ 20 - 25°C).
2. The standards are ready for preparation and analysis per your routine method(s) as received. No dilutions are necessary.
3. Store any remaining standard at ~ 20 - 25°C.

REPORTING RESULTS

1. Report your results on line at www.wibby.com. Click on the "Online Data Entry" link or the "PT Manage" link.
2. You may also report your results using the Data Reporting Sheets enclosed with your standards. FAX your results to Wibby Environmental at 1-866-283-0269 or mail the results to Wibby Environmental, 6390 Joyce Drive, #100, Golden, CO, 80403.
3. Wibby Environmental must receive all results prior to the study closing date shown on the Data Reporting Sheets.

QUESTIONS?

If you have any questions regarding these standards or reporting requirements, please call Wibby Environmental at 1-866-WibbyPT (866-942-2978).

Instructions for: **WS Specific Conductance (Cat # PT-COND-WS)**

STANDARD DESCRIPTION

- The WS Specific Conductance standard is provided as a 100 mL ready-to-use sample.
- The WS Specific Conductance standard is unpreserved.
- Store the standard in the unopened bottle at room temperature (~20 - 25°C).

ADDITIONAL INFORMATION

- Store the standard tightly capped to prevent adsorption of carbon dioxide from the atmosphere.
- Report results corrected to 25°C.

STANDARD PREPARATION, ANALYSIS, and STORAGE

1. The standard is ready for preparation and analysis per your routine method(s) as received. No dilutions are necessary.
2. Report all results in $\mu\text{mhos/cm}$ per the reporting instructions contained in this booklet.
3. Store any remaining standard at room temperature (~ 20 - 25°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.

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Water Supply Proficiency Testing Concentration Ranges and PTRLs

Definitions:

PTRL

NELAC Proficiency Testing Reporting Limits (PTRLs) are provided as guidance to laboratories analyzing NELAC PT samples. At a minimum, the laboratory should use a method that is sensitive enough to generate quantitative results at the PTRLs shown. (REF: NELAC PT FOT Tables)

NA

Not Applicable (NA) has been applied to analytes where a PTRL is not applicable and to state specific analytes that have not had a PTRL determined by the applicable accrediting agency.

Minerals (PT-MIN-WS)

NELAC Code	Analyte	Units	Concentration Range	PTRL
1505	Alkalinity as CaCO ₃	mg/L	25.0 - 200	22.0
1035	Calcium	mg/L	30.0 - 90.0	26.0
1620	Corrosivity (Langelier Index)	SI units	-4.00 - 4.00	NA
1550	Calcium Hardness as CaCO ₃	mg/L	75.0 - 225	64.0
1755	Total Hardness as CaCO ₃	mg/L	83.0 - 307	71.0
1085	Magnesium	mg/L	2.00 - 20.0	1.70
1125	Potassium	mg/L	10.0 - 40.0	8.50
1155	Sodium	mg/L	12.0 - 50.0	11.0
1955	Total Filterable Residue	mg/L	100 - 1000	80.0

Specific Conductance (PT-COND-WS)

NELAC Code	Analyte	Units	Concentration Range	PTRL
1610	Specific Conductance	µmhos/cm	130 - 1300	117