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**MYRON L
COMPANY**
Water Quality Instrumentation
Accuracy • Reliability • Simplicity

CERTIFICATE OF NIST TRACEABILITY

Certificate No. SC 23666

This Conductivity Standard Solution from Batch Number(s)

042330


has been produced using only standards traceable to Standard Reference Materials from the U.S. Government agency The National Institute of Standards and Technology.

This solution has a specific conductance of **3900** microsiemens/cm accurate to within $\pm 1\%$ at 25°C.

Valid one year from 29APR13

Reference Myron L Company Standard Solutions Instructions

The production of this Standard Solution was performed using an electronic balance manufactured by AND; Model #ER-182A, ID# 20.


Frank Rodriguez
Quality Assurance

MYRON L COMPANY

STANDARD SOLUTIONS INSTRUCTIONS

CONDUCTIVITY & TDS STANDARD SOLUTIONS pH BUFFER SOLUTIONS pH SENSOR STORAGE SOLUTION

CONDUCTIVITY/TDS

NIST TRACEABLE STANDARD SOLUTIONS

Myron L Company Standard Solutions are intended for the calibration of conductivity/total dissolved solids (TDS) instruments, and cells and sensors. These solutions have an accuracy of $\pm 1\%$ based on values published in the International Critical Tables and traceable to the National Institute of Standards and Technology.

TYPES and USES of STANDARD SOLUTIONS

442™ - Combination of reagent grade salts: 40% Sodium Bicarbonate, 40% Sodium Sulfate, 20% Sodium Chloride. This Natural Water Standard™ solution was developed in 1964 by the Myron L Company to more closely approximate the TDS levels of fresh waters. It is recognized as a standard worldwide.

NaCl - Reagent grade Sodium Chloride solution. This solution is excellent for sea water and dialysis applications.

KCl - Reagent grade Potassium Chloride solution. A highly stable solution used for definitive conductivity calibrations

NIST TRACEABLE pH BUFFERS

Myron L Company pH Buffer Solutions are intended for the calibration of pH instruments and sensors. These Buffer Solutions have an accuracy of ± 0.01 pH unit and are traceable to the National Institute of Standards and Technology. All pH Buffer Solutions are color coded, buffered and mold inhibited.

TYPES and USES of BUFFER SOLUTIONS

pH 4 Buffer is acidic, and is used to adjust the GAIN (slope) of the instrument.

pH 7 Buffer is neutral and is used to ZERO the instrument.

pH 10 Buffer is alkaline, and is used to adjust the GAIN (slope) of the instrument.

pH SENSOR STORAGE SOLUTION

pH Sensor Storage Solution is used to prolong the life of a pH/ORP sensor and to enable a faster response to sample measurements. It consists of a pH 4 Buffer and Potassium Chloride mixture. It also contains an anti-microbial compound to inhibit the growth of microbial organisms.

DIRECTIONS FOR USE

Instrument Precalibration Steps

- Clean electrodes if any contamination is present.
- Always clean and rinse cell prior to calibration.
- Calibration is most accurately performed at or near 25°C/77°F.

Calibration Steps

- Do not introduce contamination into the Standard Solution.
- Invert bottle with cap in place to ensure contents are uniform.
- Rinse Myron L cell cup three times with fresh solution or buffer and discard. For other instruments, follow your manufacturer's directions.
- Pour fresh solution or buffer into cell cup of Myron L instrument or use a beaker for instruments with dip cells/sensors (beaker also should be rinsed with solution or buffer three times).
- Adjust instrument to match Standard Solution or Buffer value.
- Never return used solution to original container.

Note: Testing water samples that vary widely in their values may require calibration in the particular ranges you use. This is due to magnification of error (i.e., 1 μ S error at 10 μ S could translate to 1000 μ S at 10,000 μ S).

Continued

METHODOLOGY

Myron L Company Standard Solutions and pH Buffers are NIST referenced through an independent calibration laboratory utilizing NIST Standard Reference Materials when calibrating our instrumentation. Periodic checks are also made using primary standards to ensure calibration reliability and monitor accuracy.

STORAGE

Store below 30°C/86°F to prevent evaporation and/or microbial growth, which could lead to inaccurate calibration. Keep from freezing - if frozen, thaw and shake well before opening. Once opened, numerous factors can contaminate standard solutions. Any obvious change in color, turbidity or visible microbial growth is cause to immediately discard product.

SAFETY

Standard Solutions are made of deionized water and inorganic salts. Under normal circumstances, these solutions are believed to have a very low toxicity. They are non-flammable and nonreactive. These solutions are not medically sterile and are not intended for human consumption.

WARRANTY

All Myron L Standard Solutions have a shelf life of one year if stored unopened and according to instructions (see expiration date on bottle label).

AVAILABLE CONDUCTIVITY & TDS STANDARD SOLUTIONS*

Type	ppm 442™	ppm NaCl	Microsiemens/cm Micromhos/cm
442-15	15	11.1	23.8
442-30	30	21.8	46.7
442-150	150	108.7	229
442-300	300	214.3	445
442-500	500	355.8	731
442-1000	1000	703.6	1417
442-1500	1500	1036	2060
442-3000	3000	2027	3900
442-15,000	15,000	9452	16,630 (16.63 mS)
442-30,000	30,000	18,235	30,100 (30.10 mS)
KCl-70	45	32.6	70
KCl-700	478	340.2	700
KCl-7000	5687	3740	7000
KCl-70,000	84,983	47,999	70,000 (70.00 mS)
KCl-18**	11.4	8.4	18
KCl-180	116.5	85.2	180
KCl-1800	1294	901.6	1800
KCl-18,000	16,462	10,289	18,000 (18.00 mS)
NaCl-12.5	10,870	6955.7	12,500 (12.50 mS)
NaCl-13.4	11,767	7501.1	13,400 (13.40 mS)
NaCl-14.0	12,370	7864.7	14,000 (14.00 mS)
NaCl-7500	11,767	7501.1	13,400 (13.40 mS)

Notes:

1. 442™ Standard Solution is the trademark of the Myron L Company Natural Water Standard™.
2. All values cross-referenced at 25°C.
- *3. Custom valued Conductivity/TDS Standard Solutions may be special ordered.
- **4. Because of environmental factors, accuracy of this solution cannot be guaranteed to destination.
5. Solutions will freeze at 0°C/32°F.

AVAILABLE pH BUFFERS AND STORAGE SOLUTIONS

pH 4 Buffer	Acidic	Pink
pH 7 Buffer	Neutral	Yellow
pH 10 Buffer	Alkaline	Blue
Storage Solution	Acidic	Clear

ALSO AVAILABLE ...

Reagents, buffers and calibration solutions for alkalinity and hardness titrations, as well as ORP sensor conditioner solution.

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