



NIST CRM and IUPAC Standards List

v. 1
January 2024

ORDERING GUIDE

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Item Number 1479010



Item Number 256949

NIST Traceable standard, single analyte:

Analyte	Part Number	Concentration
Aluminum	1417442	100 mg/L as Al
Barium	1461142	1000 mg/L as Ba
Boron	191442	1000 mg/L as B
Cadmium	1402442	100 mg/L as Cd
Calcium	2305442 4457649 2240349	10 +/- 0.14 mg/L as Ca ²⁺ 100 +/- 1 mg as Ca ²⁺ 1000 mg +/- 8 mg/L as Ca ²⁺
Hexavalent Chromium	81042H 1425610 1415142	50 mg/L as Cr ⁶⁺ 12.5 m/L as Cr ⁶⁺ (PK 16- 10 mL ampules) 50 mg/L as Cr ³⁺
Cobalt	2150342	1000 mg/L as Co
Copper	12932 12842 259342	10 mg/L as Cu 100 mg/L as Cu 1000 mg/L as Cu
Fluoride	40502 40505 40508 29149 40512 40515 40520 2797149 35949 23249	0.2 mg/L as F ⁻ 0.5 mg/L as F ⁻ 0.8 mg/L as F ⁻ 1.00 +/- 0.02 mg/L as F ⁻ 1.2 mg/L as F ⁻ 1.5 mg/L as F ⁻ 2.00 mg/L +/- 0.04 mg/L F ⁻ 5.0 mg F/L 10.0 +/- 0.2 mg/L F ⁻ 100 +/- 2 mg/L F ⁻
Hardness (calcium)	218710	10,000 mg/L as CaCO ₃ (PK 16- 10 mL ampules)
Iron	13949 14049 1425310 1417542 227142	1 mg/L as Fe 10 mg/L as Fe 25 mg/L as Fe (PK 16 – 10 mL Ampules) 100 mg/L as Fe 1000 mg/L as Fe

Analyte	Part Number	Concentration
Lead	2374820 1261742 1279642	10 mg/L as Pb 100 mg/L as Pb 1000 mg/L as Pb
Magnesium	1479442	1000 mg/L as Mg
Manganese	2605820 2112820 1279142	10 mg/L as Mn (PK 20- 2 mL ampules) 25 mg/L as Mn (PK 20- 2 mL ampules) 1000 mg/L as Mn
Molybdenum	1418742 1418642	10 mg/L as Mo 100 mg/L as Mo
Nickel	1417642	1000 mg/L as Ni
Nitrate	204649 30749 2415132 194749 1426010 1279249	1.0 10.0 +/- 0.1 mg/L as NO ₃ -N 15 mg/L as NO ₃ -N 100 mg +/- 1 mg/L as NO ₃ -N 500 mg/L as NO ₃ -N 1000 +/- 10 mg/L as NO ₃ -N
Phosphate	256949 1424342 1436716 17110 1436832 1424210	1 mg/L as PO ₄ 15 mg/L as PO ₄ 30 mg/L as PO ₄ 50 mg/L as PO ₄ (PK 16- 10 mL Ampules) 100 mg/L as PO ₄ 500 mg/L as PO ₄ (PK 16- 10 mL Ampules)
Phosphorous (See also LCA720 and LCA721)	2321142	1000 mg/L as P
Potassium	2351749 1479010	100 mg/L as K ⁺ 250 mg/L as K ⁺ (PK 16- 10 mL Ampules)

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NIST Traceable standard, single analyte:

Analyte	Part Number	Concentration
Silica	110649	1 mg/L as SiO ₂
	140349	10 mg/L as SiO ₂
	111729	50 mg/L as SiO ₂
	19449	1000 mg/L as SiO ₂
Sodium	1474949	1000 mg/L as Na
Sulfate	257849	50 mg/L as SO ₄ ²⁺
	89149	100 mg/L as SO ₄ ²⁺
	2175749	1000 mg/L as SO ₄ ²⁺
	1425249	2500 mg/L as SO ₄ ²⁺
Zinc	1424610	25 mg/L as Zn (PK 16- 10 mL Ampules)
	237842	100 mg/L as Zn
	1417742	1000 mg/L as Zn

Mixed Standards:

Part Number	Analytes and Concentrations	Applicable for TNTplus vial tests
LCA720	COD – 500 mg/L PO ₄ -P – 10.0 mg/L NH ₃ -N – 25.0 mg/L* NO ₃ -N – 25.0 mg/L TN – 50.0 mg/L	- TNT822 COD, 20-1500 mg/L O ₂ - TNT825 Hg-free COD, 25-1000 mg/L O ₂ - TNT845 Phosphate, 2-20 mg/L PO ₄ -P - TNT832 Ammonia, 2-47 mg/L NH ₃ -N - TNT836 Nitrate, 5-35 mg/L NO ₃ -N - TNT828 Total Nitrogen, 20-100 mg/L TN
LCA721	COD – 50 mg/L PO ₄ -P – 1.0 mg/L NH ₃ -N – 1.0 mg/L* NO ₃ -N – 6.0 mg/L TN – 7.0 mg/L	- TNT821 COD, 3-150 mg/L O ₂ - TNT843 Phosphate, 0.05-1.5 mg/L PO ₄ -P - TNT830 Ammonia, 0.015-2.0 mg/L NH ₃ -N - TNT835 Nitrate, 0.2-13.5 mg/L NO ₃ -N - TNT826 Total Nitrogen, 1-16 mg/L TN

*Ammonia is not NIST traceable.



Item Number
LCA720

Item Number
LCA721

Certified Reference Materials CRM according to ISO 17034:2017

pH Buffers IUPAC Standard Solution according DIN EN ISO 17034:2017 (D-RM-15184-01-00) with Certificate of Analysis* reporting exact pH buffer value.

Part Number	pH (500 mL)
S11M009	pH
S11M009	1.09 ±0.02 at 25°C
S11M001	1.679 ±0.010 pH at 25°C
S11M002	4.005 ±0.010 pH at 25°C
S11M010	4.65 ±0.02 pH at 25°C
S11M003	6.865 ±0.010 pH at 25°C
S11M004	7.000 ±0.010 pH at 25°C
S11M005	7.413 ±0.010 pH at 25°C
S11M006	9.180 ±0.010 pH at 25°C
S11M011	9.23 ±0.02 pH at 25°C
S11M007	10.012 ±0.010 pH at 25°C
S11M008	12.45 ±0.05 pH at 25°C

Certified Reference Material
Certificate of Analysis

Accreditation: Hach Lange GmbH is accredited by the German accreditation authority DAkkS as registered reference material producer D-RM-15184-01-00 according to DIN EN ISO 17034:2017 and registered calibration laboratory DA-K-15184-01-00 according to DIN EN ISO/IEC 17025:2018

Manufacturer: HACH LANGE GmbH
Königsberg 13
D-14163 Berlin
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Object: Certified secondary Conductivity Standard
Type: KCL 0.1D 12.85 mS/cm ± 0.35 % (25°C)
Intended use: Standard conductivity solution for calibration of measuring set ups for conductivity.

Order number: S11M002
Serial number: C03023
Certified value: κ₂₅ (12.857 ± 0.039) mS/cm (25°C)
Number of pages: 2
Date of release: December 13, 2022
Shelf life unopened bag: December 13, 2024
Shelf life open bag: 3 month

Recommended use: First use: write the opening date on the bottle using an indelible pen. Cap bottle as soon as aliquot is taken for calibration. Tick a box on the bottle after each opening. Never pour the used aliquot back into the bottle. Always follow Good Laboratory Practice and the recommendations regarding shelf life printed on the bottle.

Method of Analysis: The calibration of the conductivity solutions is done by using a test assembly containing a platinum Ag/silver measuring cell and a LCR meter. The measurement is traceable to primary standard.

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Signature: Bernd Bald

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Storage: store in unopened aluminum bag. After opening: store in capped bottle (normal atmospheric conditions) at a temperature between 0 and 30°C. Do not expose to light.

Potassium chloride, reagent grade, was dissolved in low conductivity demineralized water. Until bottling, the solution was protected from evaporation and aeration. For protection against evaporation and microbial growth, the bottles are placed in airtight aluminum bags.

The expanded uncertainty assigned to the measurement results is obtained by multiplying the standard uncertainty by the coverage factor k = 2. This has been determined in accordance with EA-402M:2013. The value of the measurement lies within the assigned range of values with a probability of 95%.

3 bottles were selected for analytical control. Results from different bottles showed no statistically significant differences, not was there any correlation between values obtained and the bottling sequence.

When stored in an unopened aluminum bag, the certified value is guaranteed for 2 years from the date of issue of the certificate.

Part Number	Conductivity
S51M002	Conductivity Value
S51M002	12.85 mS/cm ±0.5% (k=2) at 25°C
S51M013	25.0 μS/cm ±5.0 % at 25°C
S51M001	111.3 mS/cm ±0.5% (k=2) at 25°C
S51M004	1015 μS/cm ±0.5 % at 25°C
S51M003	1408 μS/cm ±0.5 % at 25°C



Item Number S11M011



Item Number S51M001

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