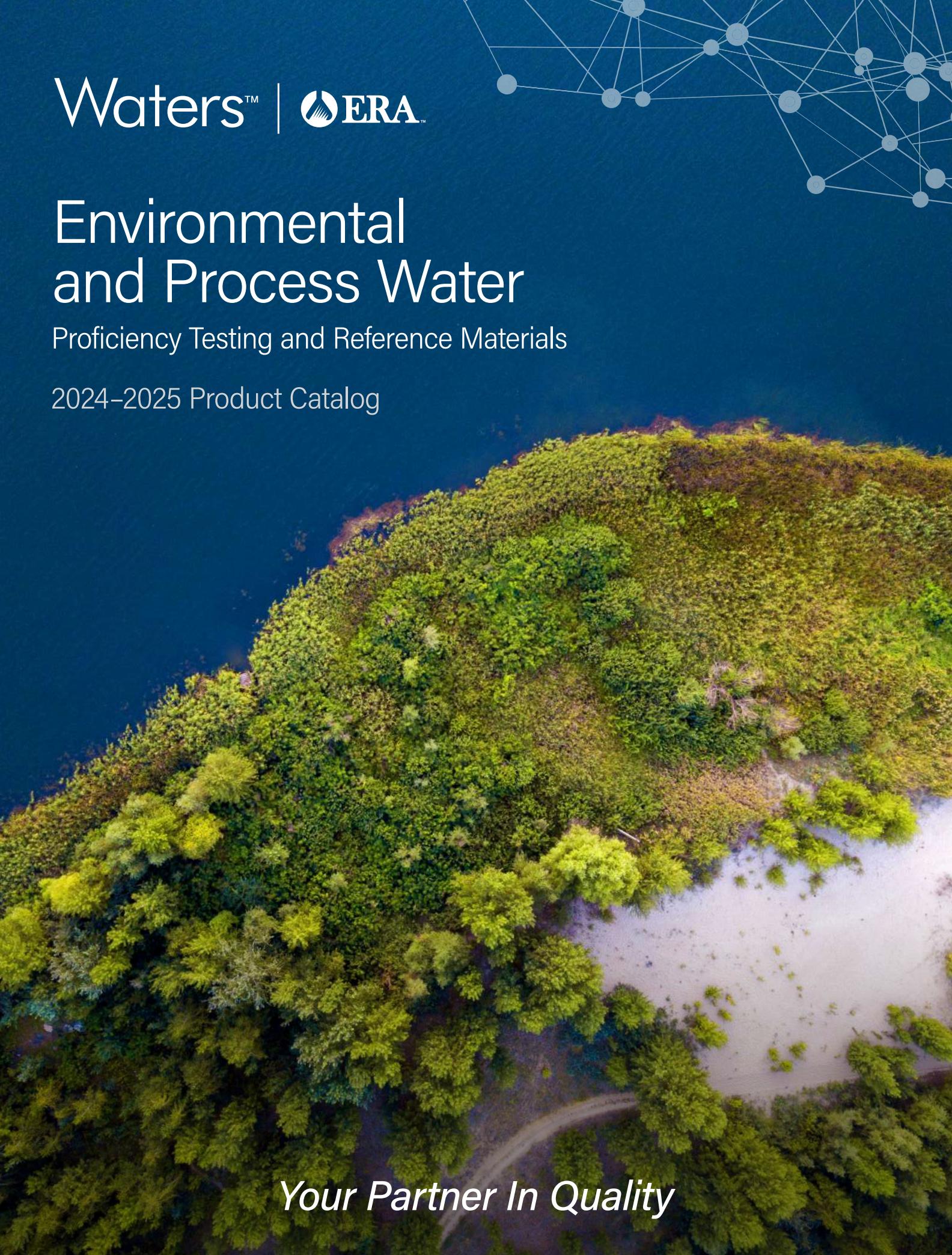




Environmental and Process Water

Proficiency Testing and Reference Materials

2024-2025 Product Catalog

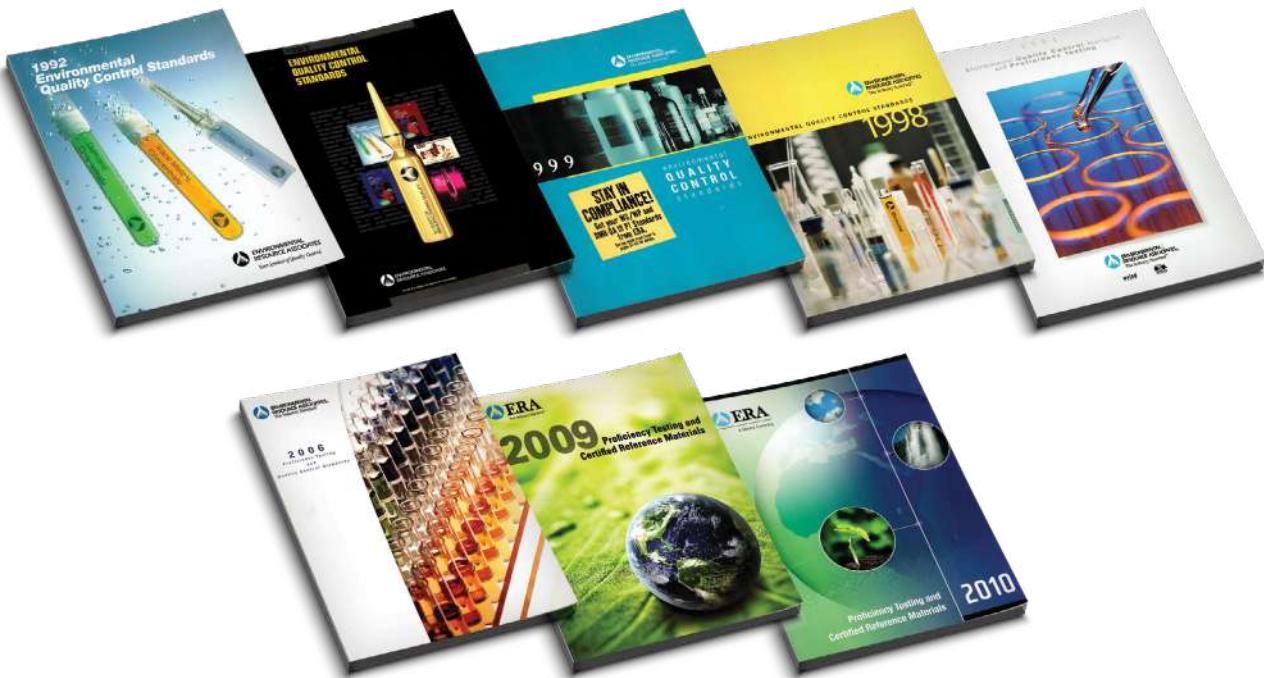
A high-angle, aerial photograph of a coastal wetland. The image shows a dense, green, scrub-covered hillside that meets a body of water on the left. In the lower right, there is a sandy, light-colored area that appears to be a beach or a tidal flat. The overall scene is lush and green, suggesting a healthy, natural environment.

Your Partner In Quality

COMMITMENT TO QUALITY

For more than 40 years, ERA™ has been providing analytical laboratories and organizations with the products and services required to eliminate inaccurate results. Laboratories globally rely on ERA's products to be integrated into their quality programs to ensure total confidence in their data analysis.

Our comprehensive range of Proficiency Testing (PT) programs and Certified Reference Materials (CRMs) are designed to provide you with confidence that your data is valid and defensible. Whether complying with regulatory requirements or internal quality programs, you can depend on ERA to support your efforts in providing sound, well documented data so you can have confidence in your decisions.



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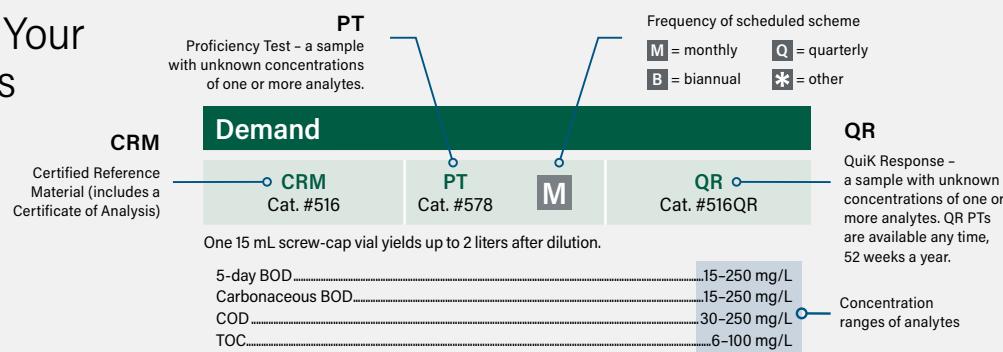
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DELIVERING CONTINUOUS SUPPORT

Environmental Resource Associates (ERA) is founded in Chicago, Illinois by Mark Carter and Terry Epstein as a reference materials provider for environmental laboratories

1977



ERA receives ISO 9001 certification

1993



Process standards product line is launched including reference materials for total organic carbon and conductivity

2000



ERA is acquired by Waters™ Corp, the worldwide leader in liquid chromatography, mass spectrometry and thermal analysis

2006



Waters ERA Analytical Group, Inc.

2006



Analytical Products Group, Inc. (APG) is founded in Marietta, Ohio as a proficiency testing provider

1982



ERA achieves PT provider accreditation by NIST/NVLAP for EPA approved studies

1999



ERA opens international office in Manchester, UK offering reference materials to laboratories throughout Europe

2006



Waters ERA p to the Inte Space S

A acquires
Products
c. (APG)

08

Waters ERA introduces
Stationary Source Audit
Sample (SSAS)

2013

eDATA 2.0
launched

2015

New website
launched

2022

Today

After more than 40 years
in business, Waters ERA
products are in use in
over 80 countries by
nearly 13,000 labs

08

products go
International
Station

2014
Waters ERA innovates
2-day turn around for final
study reports

2019
Major upgrades to
business systems
that deliver superior
customer experience

Waters™ | ERA™

2024 Proficiency Testing Scheme Schedule



Air & Emissions

	Scheme #	Opens	Closes
Q	AE 067	Jan 29	Mar 14
Q	AE 068	Apr 29	Jun 13
Q	AE 069	Jul 29	Sep 12
Q	AE 070	Oct 25	Dec 9



MRAD

	Scheme #	Opens	Closes
	MRAD 40	Mar 18	May 17
	MRAD 41	Sep 16	Nov 15

2 schemes per year - Open for 60 days



Radiochemistry

	Scheme #	Opens	Closes
Q	RAD 136	Jan 8	Feb 22
Q	RAD 137	Apr 8	May 23
Q	RAD 138	Jul 8	Aug 22
Q	RAD 139	Oct 4	Nov 18



Soil (including UST in Soil)

	Scheme #	Opens	Closes
Q	SOIL 125	Jan 22	Mar 7
Q	SOIL 126	Apr 22	Jun 6
Q	SOIL 127	Jul 22	Sep 5
Q	SOIL 128	Oct 18	Dec 2



Water Supply

	Scheme #	Opens	Closes
Q	WS 330	Jan 8	Feb 22
	WS 331	Feb 5	Mar 21
	WS 332	Mar 4	Apr 18
Q	WS 333	Apr 8	May 23
	WS 334	May 6	Jun 20
	WS 335	Jun 3	Jul 18
Q	WS 336	Jul 8	Aug 22
	WS 337	Aug 5	Sep 19
	WS 338	Sep 3	Oct 18
Q	WS 339	Oct 4	Nov 18
	WS 340	Nov 4	Dec 19
	WS 341	Dec 2	Jan 16, 2025



Water Pollution (including UST in Water)

	Scheme #	Opens	Closes
Q	WP 348	Jan 16	Mar 1
	WP 349	Feb 12	Mar 28
	WP 350	Mar 11	Apr 25
Q	WP 351	Apr 15	May 30
	WP 352	May 13	Jun 27
	WP 353	Jun 10	Jul 25
Q	WP 354	Jul 15	Aug 29
	WP 355	Aug 12	Sep 26
	WP 356	Sep 9	Oct 24
Q	WP 357	Oct 11	Nov 25
	WP 358	Nov 11	Dec 26
	WP 359	Dec 9	Jan 23, 2025

DMR-QA 44

	Scheme #	Opens	Closes
	DMR-QA 44	Est. April TBD, 2024	Est. July TBD, 2024

DMR-QA Study Open and Close dates determined by EPA



QuiK Response PT

Need PT results fast? QuiK Response™ PTs are available on demand, 52 weeks a year. Plus, when you report in eDATA, you receive your final QuiK Response PT results instantly. Contact your Customer Service Representative or an authorized Waters ERA sales partner to place your QuiK Response order.



The Industry Standard
for over 40 years

Schedule subject to change – see Waters ERA's website at eraqc.com.

Q Quarterly Study

For the latest products and information,
please visit us online at eraqc.com

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2025 Proficiency Testing Scheme Schedule



Air & Emissions

	Scheme #	Opens	Closes
Q	AE 071	Jan 31	Mar 17
Q	AE 072	Apr 28	Jun 12
Q	AE 073	Jul 28	Sep 11
Q	AE 074	Oct 24	Dec 8



MRAD

Scheme #	Opens	Closes
MRAD 42	Mar 17	May 16
MRAD 43	Sep 22	Nov 21

2 schemes per year - Open for 60 days



Radiochemistry

	Scheme #	Opens	Closes
Q	RAD 140	Jan 13	Feb 27
Q	RAD 141	Apr 7	May 22
Q	RAD 142	Jul 7	Aug 21
Q	RAD 143	Oct 3	Nov 17



Soil (including UST in Soil)

	Scheme #	Opens	Closes
Q	SOIL 129	Jan 27	Mar 13
Q	SOIL 130	Apr 21	Jun 5
Q	SOIL 131	Jul 21	Sep 4
Q	SOIL 132	Oct 17	Dec 1



Water Supply

	Scheme #	Opens	Closes
Q	WS 342	Jan 13	Feb 27
	WS 343	Feb 10	Mar 27
	WS 344	Mar 3	Apr 17
Q	WS 345	Apr 7	May 22
	WS 346	May 5	Jun 19
	WS 347	Jun 9	Jul 24
Q	WS 348	Jul 7	Aug 21
	WS 349	Aug 4	Sep 18
	WS 350	Sep 8	Oct 23
Q	WS 351	Oct 3	Nov 17
	WS 352	Oct 31	Dec 15
	WS 353	Dec 1	Jan 15, 2026



Water Pollution (including UST in Water)

	Scheme #	Opens	Closes
Q	WP 360	Jan 21	Mar 7
	WP 361	Feb 17	Apr 3
	WP 362	Mar 10	Apr 24
Q	WP 363	Apr 14	May 29
	WP 364	May 12	Jun 26
	WP 365	Jun 16	Jul 31
Q	WP 366	Jul 14	Aug 28
	WP 367	Aug 11	Sep 25
	WP 368	Sep 15	Oct 30
Q	WP 369	Oct 10	Nov 24
	WP 370	Nov 3	Dec 18
	WP 371	Dec 8	Jan 22, 2026

DMR-QA 45

Scheme #	Opens	Closes
DMR-QA 45	Est. April TBD, 2025	Est. July TBD, 2025

DMR-QA Study Open and Close dates determined by EPA



QuiK Response PT

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The Industry Standard
for over 40 years

Schedule subject to change – see Waters ERA's website at eraqc.com.

Q Quarterly Study

For the latest products and information,
please visit us online at eraqc.com

Waters™ | ERA



WATER POLLUTION

Matrices with high concentrations of analytes for testing water pollution or waste water.
Standards may be used to satisfy PT requirements worldwide.

Water Pollution (including UST in Water) PT Schedule 2024 2025

Water Pollution (including UST in Water)

	Scheme #	Opens	Closes
Q	WP 348	Jan 16	Mar 1
	WP 349	Feb 12	Mar 28
	WP 350	Mar 11	Apr 25
Q	WP 351	Apr 15	May 30
	WP 352	May 13	Jun 27
	WP 353	Jun 10	Jul 25
Q	WP 354	Jul 15	Aug 29
	WP 355	Aug 12	Sep 26
	WP 356	Sep 9	Oct 24
Q	WP 357	Oct 11	Nov 25
	WP 358	Nov 11	Dec 26
	WP 359	Dec 9	Jan 23, 2025

Water Pollution (including UST in Water)

	Scheme #	Opens	Closes
Q	WP 360	Jan 21	Mar 7
	WP 361	Feb 17	Apr 3
	WP 362	Mar 10	Apr 24
Q	WP 363	Apr 14	May 29
	WP 364	May 12	Jun 26
	WP 365	Jun 16	Jul 31
Q	WP 366	Jul 14	Aug 28
	WP 367	Aug 11	Sep 25
	WP 368	Sep 15	Oct 30
Q	WP 369	Oct 10	Nov 24
	WP 370	Nov 3	Dec 18
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Schedule subject to change – see Waters ERA's website at eraqc.com

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CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

RM – Reference Material

All Waters ERA WP PTs open monthly () or quarterly () or biannually () unless otherwise noted.  WP Lithium PTs open in February and August. Quarterly months are January, April, July, and October. Biannual months are January and July.

Minerals/Solids

Minerals

CRM Cat. #506	PT Cat. #581	M	QR Cat. #506QR
------------------	-----------------	---	-------------------

One 500 mL whole-volume bottle is ready to analyze.

Total alkalinity as CaCO_3	25–400 mg/L
Chloride.....	35–275 mg/L
Fluoride.....	0.4–4 mg/L
Potassium.....	4–40 mg/L
Sodium.....	10–100 mg/L
Specific conductance at 25 °C.....	200–1200 $\mu\text{mhos}/\text{cm}$
Sulfate.....	5–125 mg/L
Total dissolved solids at 180 °C.....	140–800 mg/L
Total solids at 105 °C.....	140–800 mg/L

Hardness

CRM Cat. #507	PT Cat. #580	M	QR Cat. #507QR
------------------	-----------------	---	-------------------

One 500 mL whole-volume bottle is ready to analyze.

Calcium.....	10–100 mg/L
Calcium hardness as CaCO_3	25–250 mg/L
Total hardness as CaCO_3	40–415 mg/L
Magnesium.....	4–40 mg/L
Total suspended solids (TSS).....	20–100 mg/L

Settleable Solids

CRM Cat. #911	PT Cat. #883	M	QR Cat. #911QR
------------------	-----------------	---	-------------------

One 60 mL poly bottle with a solid yields 1 liter after dilution. Use with EPA Method 160.5, Standard Methods 2540F, or other applicable method.

Settleable solids.....	5–50 mL/L
------------------------	-----------

CRM: A reference material characterized by a metrologically valid procedure for one or more specified properties, accompanied by a reference material certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability.

A complete listing of ERA's CRMs can be found on our Scope of Accreditation for general requirements for competence of reference material producers available at www.eraqc.com/AboutERA/Accreditations.

PT: A Proficiency Test (PT) is an analysis of what is often referred to as a blind sample or a sample with unknown concentrations of analytes for the purpose of evaluating a laboratory's analytical performance.

QR: Similar to a Proficiency Test, a QuiK Response (QR) is a sample with unknown concentrations. However, unlike a scheduled PT, QR is on-demand and available at any time. Plus, your results are returned within two business days. QuiK Response can be used as a bilateral PT as referenced in the IUPAC/CITAC guide: Selection and use of PT schemes for a limited number of participants – chemical analytical labs.

RM: A material, sufficiently homogeneous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process.

Volatile Solids

CRM Cat. #913	PT Cat. #884	M	QR Cat. #913QR
------------------	-----------------	---	-------------------

One 12 mL screw-cap vial with a solid yields 1 liter after dilution. Use with EPA Method 160.4, Standard Methods 2540E, or other applicable method.

Total volatile solids.....	100–500 mg/L
----------------------------	--------------

Solids Concentrate

CRM Cat. #4032	PT Cat. #4030	M	QR Cat. #4032QR
-------------------	------------------	---	--------------------

One 24 mL screw-cap vial with a powder yields 1 liter of solution.

Total solids at 105 °C.....	140–800 mg/L
Total dissolved solids at 180 °C.....	140–800 mg/L
Total suspended solids (TSS).....	20–100 mg/L

Solids

CRM Cat. #499	PT Cat. #241	M	QR Cat. #499QR
------------------	-----------------	---	-------------------

One 500 mL whole-volume bottle is ready to analyze.

Total solids at 105 °C.....	140–800 mg/L
Total dissolved solids at 180 °C.....	140–800 mg/L
Total suspended solids (TSS).....	20–100 mg/L

Nutrients

Simple Nutrients

CRM Cat. #505	PT Cat. #584	M	QR Cat. #505QR
------------------	-----------------	---	-------------------

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Ammonia as N.....	1–20 mg/L
Nitrate as N.....	2–25 mg/L
Nitrate plus nitrite as N.....	2.5–25 mg/L
ortho-Phosphate as P.....	0.5–5.5 mg/L
Total nitrogen.....	3–45 mg/L

Complex Nutrients

CRM Cat. #525	PT Cat. #579	M	QR Cat. #525QR
------------------	-----------------	---	-------------------

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Total Kjeldahl nitrogen as N.....	3–35 mg/L
Total phosphorus as P.....	0.5–10 mg/L

Nitrite

CRM Cat. #770	PT Cat. #888	M	QR Cat. #770QR
------------------	-----------------	---	-------------------

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Nitrite as N.....	0.4–4 mg/L
-------------------	------------

Oil & Grease/Total Petroleum Hydrocarbons

►► When ordering Oil & Grease or Total Petroleum Hydrocarbons (TPH) PTs, please specify if you need a sample compatible with SPE.

Oil & Grease

CRM
Cat. #504

One 250 mL whole-volume bottle is ready to analyze. For gravimetric and IR analyses.

Hexane Extractable Materials (O&G).....20–200 mg/bottle

Oil & Grease Concentrate

CRM
Cat. #4122

PT
Cat. #4120



QR
Cat. #4122QR

One 24 mL screw-cap vial yields up to 2 liters after dilution. Use with EPA Method 1664, or other applicable method. Gravimetric analysis only.

Hexane Extractable Materials (O&G).....20–200 mg/L

1 Liter Oil & Grease

CRM
Cat. #518

PT
Cat. #582



QR
Cat. #518QR

One liter whole-volume glass bottle with a 33–430 thread is ready to analyze. For gravimetric and IR analyses.

Hexane Extractable Materials (O&G).....20–200 mg/L

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

All Waters ERA WP PTs open monthly (M) or quarterly (Q) unless otherwise noted.

Quarterly months are January, April, July, and October.

HEM/SGT-HEM

CRM
Cat. #519

PT
Cat. #489



QR
Cat. #519QR

One 5 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Method 1664, or other applicable method to measure hexane extractable material (HEM) and silica gel treated-HEM. Contains both hexadecane and stearic acid.

Note: If a NELAC compliant PT is required, use Cat. #582 or Cat. #4120.

Hexane extractable material.....5–100 mg/L
Silica gel treated-HEM.....5–100 mg/L

Total Petroleum Hydrocarbons (TPH) in Water #1

CRM
Cat. #600

PT
Cat. #642



QR
Cat. #602QR

One liter whole-volume bottle is ready to analyze for TPH without interfering fatty acids. Use with EPA Methods 1664, 5520, or other applicable method.

Total petroleum hydrocarbons.....20–200 mg/L

Total Petroleum Hydrocarbons (TPH) in Water #2

CRM
Cat. #601

PT
Cat. #642



QR
Cat. #602QR

One liter whole-volume bottle is ready to analyze for TPH in the presence of interfering fatty acids. Use with EPA Methods 1664, 5520, or other applicable method.

Total petroleum hydrocarbons.....20–200 mg/L



Learn more about WP products

Demand

Demand			
CRM Cat. #516	PT Cat. #578	M	QR Cat. #516QR

One 15 mL screw-cap vial yields up to 2 liters after dilution.

5-day BOD.....	18-230 mg/L
Carbonaceous BOD.....	18-230 mg/L
COD.....	30-250 mg/L
TOC.....	6-100 mg/L

Metals

Trace Metals			
CRM Cat. #500	PT Cat. #586	M	QR Cat. #500QR

One 30 mL amber HDPE bottle yields up to 1 liter after dilution. Use with AA, ICP-OES or ICP-MS and select colorimetric methods.

Aluminum.....	200-4000 µg/L
Antimony.....	90-900 µg/L
Arsenic.....	90-900 µg/L
Barium.....	100-2500 µg/L
Beryllium.....	50-500 µg/L
Boron.....	800-2000 µg/L
Cadmium.....	100-1000 µg/L
Chromium.....	100-1000 µg/L
Cobalt.....	100-1000 µg/L
Copper.....	100-1000 µg/L
Iron.....	200-4000 µg/L
Lead.....	100-1500 µg/L
Manganese.....	200-2000 µg/L
Molybdenum.....	60-600 µg/L
Nickel.....	200-2000 µg/L
Selenium.....	100-1000 µg/L
Silver.....	100-1000 µg/L
Strontium.....	50-500 µg/L
Thallium.....	80-800 µg/L
Vanadium.....	50-2000 µg/L
Zinc.....	300-2000 µg/L

Mercury			
CRM Cat. #514	PT Cat. #574	M	QR Cat. #514QR

One 15 mL screw-cap vial yields up to 1 liter after dilution. Analyze for total mercury.

Total mercury.....	3-30 µg/L
--------------------	-----------

Low-Level Mercury			
CRM Cat. #931	PT Cat. #896	Q	QR Cat. #931QR

One 5 mL flame-sealed ampule yields up to 4 liters after dilution. Use with EPA1631, or other sensitive mercury analysis methods.

Total mercury.....	20-100 ng/L
--------------------	-------------

Waters ERA Low-Level Mercury is also available during February and March WP PT schemes.

Metals (continued)

Hexavalent Chromium			
CRM Cat. #984	PT Cat. #898	M	QR Cat. #984QR

One 15 mL screw-cap vial yields up to 2 liters after dilution. Use with IC or colorimetric methods.

Hexavalent chromium.....	90-900 µg/L
--------------------------	-------------



Tin and Titanium

CRM Cat. #517	PT Cat. #573	M	QR Cat. #517QR
------------------	-----------------	---	-------------------

One 15 mL screw-cap vial yields up to 1 liter after dilution. Use with AA, ICP-OES or ICP-MS methods.

Tin.....	200-2000 µg/L
Titanium.....	60-300 µg/L

Uranium			
CRM Cat. #4402	PT Cat. #4400	Q	QR Cat. #4402QR

One 15 mL screw-cap vial yields up to 1 liter after dilution.

Uranium.....	25-200 µg/L
--------------	-------------

Lithium			
CRM Cat. #4992	PT Cat. #4990	*	QR Cat. #4992QR

One 15 mL screw-cap vial yields up to 1 liter after dilution. Designed for the Ohio VAP program.

Lithium.....	50-500 µg/L
--------------	-------------

* Waters ERA WP Lithium PTs open in February and August.

Physical Property

Color

CRM Cat. #1070C	PT Cat. #882C	Q	QR Cat. #1070CQR
--------------------	------------------	---	---------------------

One 30 mL screw-cap bottle yields up to 200 mL after dilution. Use with EPA Methods 110.1, 110.2, and 110.3, Standard Methods 2120B, 2120C, 2120E, or other applicable method.

Color 10–75 PC units

Turbidity

CRM Cat. #777	PT Cat. #893	M	QR Cat. #777QR
------------------	-----------------	---	-------------------

One 24 mL amber glass vial yields up to 1 liter after dilution. Use with nephelometric methods.

Turbidity 2–30 NTU

Miscellaneous Chemistry

Cyanide

CRM Cat. #502	PT Cat. #588	M	QR Cat. #502QR
------------------	-----------------	---	-------------------

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Total cyanide 0.1–1 mg/L
Amenable cyanide 0.1–1 mg/L
Available cyanide 0.1–1 mg/L

Dissolved Oxygen

CRM Cat. #213	PT Cat. #212	Q	QR Cat. #213QR
------------------	-----------------	---	-------------------

One 500 mL whole-volume bottle is ready to analyze.

Dissolved oxygen 1–20 mg/L

Total Organic Halides (TOX)

CRM Cat. #670	PT Cat. #895	Q	QR Cat. #670QR
------------------	-----------------	---	-------------------

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Analyze for total organic halides with adsorption pyrolysis titrimetric methods.

TOX 300–1500 µg/L

Total Phenolics (4-AAP)

CRM Cat. #515	PT Cat. #589	M	QR Cat. #515QR
------------------	-----------------	---	-------------------

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Analyze for total phenolic compounds by 4-AAP methods.

Total phenolics by 4-AAP 0.5–5 mg/L

Perchlorate

CRM Cat. #1501	PT Cat. #1500	Q	QR Cat. #1501QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution. Use with EPA methods 314.0, 314.2, 331.0, 332.0, or other applicable methods. LCMS and IC compatible.

Perchlorate 10–200 µg/L

Silica

CRM Cat. #775	PT Cat. #890	Q	QR Cat. #775QR
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One 60 mL poly bottle yields up to 1 liter after dilution. Analyze for silica as SiO₂ with colorimetric or ICP methods.

Silica as SiO₂ 50–250 mg/L

Sulfide

CRM Cat. #071	PT Cat. #891	M	QR Cat. #071QR
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One 10 mL flame-sealed ampule yields up to 1 liter after dilution. Preserved sample is guaranteed stable. Analyze for sulfide by titrimetric or colorimetric methods or ISE.

Sulfide 2–10 mg/L

Sulfite

CRM Cat. #534	PT Cat. #244	B	QR Cat. #534QR
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One 10 mL concentrate yields up to 2 liters after dilution.

Sulfite 10–250 mg/L

B Waters ERA WP Sulfite PTs open in January and July.

Surfactants-MBAS

CRM Cat. #776	PT Cat. #892	Q	QR Cat. #776QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution. Analyze for surfactants-MBAS with EPA Method 425.1, or other applicable method.

Surfactants-MBAS 0.2–1 mg/L

Acidity

CRM Cat. #915	PT Cat. #885	Q	QR Cat. #915QR
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One 250 mL whole-volume bottle is ready to analyze. Designed for use with titrimetric methods to a pH endpoint of 8.3 S.U.

Acidity as CaCO₃ 650–1800 mg/L

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

All Waters ERA WP PTs open monthly (M), quarterly (Q), or biannually (B) unless otherwise noted.  WP Lithium PTs open in February and August. Quarterly months are January, April, July, and October. Biannual months are January and July.

Miscellaneous Chemistry (continued)

pH

CRM Cat. #977	PT Cat. #577	M	QR Cat. #977QR
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One 250 mL whole-volume bottle is ready to analyze.

pH 5-10 units

Boron

CRM Cat. #919	PT Cat. #886	Q	QR Cat. #919QR
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One unpreserved 60 mL poly bottle yields in excess of 2 liters after dilution. Designed for colorimetric methods.

Boron 800-2000 µg/L

Bromide

CRM Cat. #769	PT Cat. #887	Q	QR Cat. #769QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution. Use with ion chromatography or colorimetric methods.

Bromide 1-10 mg/L

Total Residual Chlorine (TRC)

CRM Cat. #501	PT Cat. #587	M	QR Cat. #501QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with titrimetric or colorimetric methods.

Total residual chlorine 0.5-3 mg/L

Free residual chlorine 0.5-3 mg/L

Low-Level Total Residual Chlorine (TRC)

CRM Cat. #917	PT Cat. #881	M	QR Cat. #917QR
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Designed for testing at low µg/L levels. One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with sensitive titrimetric or colorimetric methods.

Total residual chlorine 50-250 µg/L

Volatiles

Volatile Aromatics

CRM Cat. #4452	PT Cat. #4450	Q	QR Cat. #4452QR
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One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Methods 602, 8021, or other applicable method. Each standard contains all listed analytes at 10-300 µg/L after dilution.

Benzene	Ethylbenzene	1,3,5-Trimethylbenzene
Chlorobenzene	Naphthalene	m&p Xylene
1,2-Dichlorobenzene	Toluene	o-Xylene
1,3-Dichlorobenzene	1,2,4-Trichlorobenzene	Xylenes, total
1,4-Dichlorobenzene	1,2,4-Trimethylbenzene	

Volatiles (continued)

Volatiles

CRM Cat. #710	PT Cat. #830	M	QR Cat. #710QR
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One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Methods 601, 602, 8021, 624, 8260, or other applicable method. Contains a subset of the analytes listed below at 5-300 µg/L.

Acetone	1,2-Dibromo-3-chloropropane	Methyl tert-butyl ether (MTBE)
Acetonitrile	(DBCP)	4-Methyl-2-pentanone (MIBK)
Acrolein	1,2-Dibromoethane (EDB)	Methylene chloride
Acrylonitrile	Dibromomethane	Naphthalene
Benzene	1,2-Dichlorobenzene	Nitrobenzene
Bromobenzene	1,3-Dichlorobenzene	n-Propylbenzene
Bromochloromethane	1,4-Dichlorobenzene	Styrene
Bromodichloromethane	Dichlorodifluoromethane	1,1,2-Tetrachloroethane
Bromoform	1,1-Dichloroethane	1,1,2,2-Tetrachloroethane
Bromomethane	1,2-Dichloroethane	Tetrachloroethene
2-Butanone (MEK)	cis-1,2-Dichloroethene	Toluene
n-Butylbenzene	1,1-Dichloroethene	1,2,3-Trichlorobenzene
sec-Butylbenzene	trans-1,2-Dichloroethene	1,2,4-Trichlorobenzene
tert-Butylbenzene	1,3-Dichloropropane	1,1,1-Trichloroethane
Carbon disulfide	1,2-Dichloropropane	1,1,2-Trichloroethane
Carbon tetrachloride	2,2-Dichloropropane	Trichloroethene
Chlorobenzene	cis-1,3-Dichloropropene	Trichlorofluoromethane
Chlorodibromomethane	1,1-Dichloropropene	1,2,3-Trichloropropane
Chloroethane	trans-1,3-Dichloropropene	1,2,4-Trimethylbenzene
2-Chloroethyl vinyl ether	Ethylbenzene	1,3,5-Trimethylbenzene
Chloroform	Hexachlorobutadiene	Vinyl acetate
Chloromethane	Hexachloroethane	Vinyl chloride
2-Chlorotoluene	2-Hexanone	m&p Xylene
4-Chlorotoluene	Isopropylbenzene	o-Xylene
	p-Isopropyltoluene	Xylenes, total

1,4-Dioxane

CRM Cat. #402	PT Cat. #597	B	QR Cat. #402QR
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One 2 mL flame-sealed ampule yields up to 1 liter after dilution. Use with modified versions of EPA methods 8260, 8270, 1624, or other applicable methods.

1,4-Dioxane 3-30 µg/L

BTEX & MTBE in Water

CRM Cat. #760	PT Cat. #643	Q	QR Cat. #760QR
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One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Methods 602, 8021, or other applicable method. Includes all BTEX compounds and MTBE at 10-300 µg/L after dilution.

Gasoline Range Organics (GRO) in Water

CRM Cat. #762	PT Cat. #640	Q	QR Cat. #762QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with both purge and trap and modified EPA 8015 GC/FID methods or other applicable methods to test for GRO at 400-4000 µg/L. Also use to test for BTEX in gasoline.

Note: This standard is not compliant with the NELAC concentration ranges for the BTEX analytes. If you require a NELAC-compliant sample for these analytes, use WP Volatiles catalog #830 or BTEX in Water catalog #643.

PCBs

PCBs in Water

CRM Cat. #734S	PT Cat. #832S	M	QR Cat. #734SQR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 608, 8082, or other applicable method. Contains a different aroclor randomly selected from the list below at 2-10 µg/L.

Aroclor 1016	Aroclor 1242	Aroclor 1254
Aroclor 1221	Aroclor 1248	Aroclor 1260
Aroclor 1232		

PCBs in Water Standards

PCBs in water standards are sold individually in 2 mL flame-sealed ampules that yield 1 liter after dilution. Use with EPA Methods 608, 8082, or other applicable methods. Each standard contains an Aroclor at 1-15 µg/L after dilution.

CRM Cat. #	Aroclor	Range
860	1016	1-15 µg/L
861	1221	1-15 µg/L
862	1232	1-15 µg/L
863	1242	1-15 µg/L
864	1248	1-15 µg/L
865	1254	1-15 µg/L
866	1260	1-15 µg/L

PCBs in Oil

CRM Cat. #729S	PT Cat. #835S	M	QR Cat. #729SQR
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One 10 mL flame-sealed ampule is ready to analyze. Use with EPA Method 8082, or other applicable method. Contains a different aroclor randomly selected from the list below at 10-50 mg/kg.

Aroclor 1016	Aroclor 1242	Aroclor 1254
Aroclor 1221	Aroclor 1248	Aroclor 1260
Aroclor 1232		

Herbicides

Chlorinated Acid Herbicides

CRM Cat. #718	PT Cat. #829	M	QR Cat. #718QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 615, 8151, or other applicable methods. Contains a subset of the analytes listed below at 2-10 µg/L (except MCPA and MCPP at 10-100 µg/L).

Note: 4-nitrophenol and pentachlorophenol are not within the EPA/NELAC range. Use the Acids standard (page 16) for these compounds in the EPA/NELAC range.

Acifluorfen	Dalapon	MCPP
Bentazon	Dicamba	4-Nitrophenol
Chloramben	3,5-Dichlorobenzoic acid	Pentachlorophenol
2,4-D	Dichlorprop	Picloram
2,4-DB	Dinoseb	2,4,5-T
Dacthal diacid (DCPA)	MCPA	2,4,5-TP (Silvex)

Per-and Polyfluoroalkyl Substances (PFAS)

PFAS in Wastewater

NEW PRODUCT

CRM Cat. #404	PT Cat. #599	M	QR Cat. #404QR
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The diluted standard will contain all of the analytes from the list below.

Perfluorobutanoic acid, PFBA	40-400 ng/L
Perfluoropentanoic acid , PFPeA	40-400 ng/L
Perfluorohexanoic acid, PFHxA	20-200 ng/L
Perfluoroheptanoic acid, PFHpA	20-200 ng/L
Perfluoroctanoic acid, PFOA	20-200 ng/L
Perfluorononanoic acid, PFNA	20-200 ng/L
Perfluorodecanoic acid, PFDA	20-200 ng/L
Perfluoroundecanoic acid, PFUdA	20-200 ng/L
Perfluorododecanoic acid, PFDoA	20-200 ng/L
Perfluorotridecanoic acid, PFTrDA	20-200 ng/L
Perfluorotetradecanoic acid, PFTeDA	20-200 ng/L
Perfluorobutanesulfonic acid, PFBS	20-200 ng/L
Perfluoropentanesulfonic acid, PFPeS	20-200 ng/L
Perfluorohexanesulfonic acid, PFHxS	20-200 ng/L
Perfluoroheptanesulfonic acid, PFHpS	20-200 ng/L
Perfluoroctanesulfonic acid, PFOS	20-200 ng/L
Perfluoronananesulfonic acid, PFNS	20-200 ng/L
Perfluorodecanesulfonic acid, PFDS	20-200 ng/L
Perfluorododecanesulfonic acid, PFDoS	20-200 ng/L
4:2 fluorotelomersulfonic acid, 4:2 FTS	40-400 ng/L
6:2 fluorotelomersulfonic acid, 6:2 FTS	40-400 ng/L
8:2 fluorotelomersulfonic acid, 8:2 FTS	40-400 ng/L
Perfluoroctanesulfonamide, PFOSA	20-200 ng/L
N-ethyl perfluoroctanesulfonamidoacetic acid, NEtFOSAA	20-200 ng/L
N-methyl perfluoroctanesulfonamidoacetic acid, NMMeFOSAA	20-200 ng/L
N-ethyl perfluoroctanesulfonamide, NEtFOSA	20-200 ng/L
N-methyl perfluoroctanesulfonamide, NMMeFOSA	20-200 ng/L
N-ethyl perfluoroctanesulfonamidoethanol, NEtFOSE	20-200 ng/L
N-methyl perfluoroctanesulfonamidoethanol, NMMeFOSE	20-200 ng/L
3-Perfluoropropyl propanoic acid, 3:3 FTCA	40-400 ng/L
2H,2H,3H,3H-Perfluoroctanoic acid, 5:3 FTCA	40-400 ng/L
3-Perfluoroheptyl propanoic acid, 7:3 FTCA	40-400 ng/L
Hexafluoropropylene oxide dimer acid , HFPO-DA	40-400 ng/L
4,8-dioxa-3H-perfluorononanoic acid, ADONA	40-400 ng/L
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid, 9Cl-PF3ONS	40-400 ng/L
11-chloroeicosfluoro-3-oxaundecane-1-sulfonic acid, 11Cl-PF3OUdS	40-400 ng/L
Perfluoro-4-methoxybutanoic acid, PFMBA	40-400 ng/L
Perfluoro-3-methoxypropanoic acid, PFMPA	40-400 ng/L
Perfluoro(2-ethoxyethane) sulfonic acid, PFEESA	40-400 ng/L
Nonafluoro-3,6-dioxaheptanoic acid, NFDHA	40-400 ng/L
Pentafluoropropanoic acid, PFPrA	40-400 ng/L
2H-perfluoro-2-octenoic acid, FHUEA	20-200 ng/L
2H-perfluoro-2-decanoic acid, FOUEA	20-200 ng/L
Bis(trifluoromethane)sulfonamide	20-200 ng/L

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

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Semivolatiles

Base/Neutrals

CRM Cat. #711	PT Cat. #833	M	QR Cat. #711QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 625, 8270, or other applicable method. Contains a subset of the analytes listed below at 10–225 µg/L (except Benzidine at 200–1000 µg/L).

Acenaphthene	bis(2-Chloroethyl)ether	Hexachlorobenzene
Acenaphthylene	1-Chloronaphthalene	Hexachlorobutadiene
Acetophenone	2-Chloronaphthalene	Hexachlorocyclopentadiene
2-Amino-1-methylbenzene (o-Toluidine)	4-Chlorophenyl phenyl ether	Hexachloroethane
Aniline	Chrysene	Indeno(1,2,3-cd)pyrene
Anthracene	n-Decane	Isophorone
Atrazine	Dibenz(a,h) anthracene	2-Methylnaphthalene
Azobenzene	Dibenzofuran	Naphthalene
Benzaldehyde	2,3-Dichloroaniline	2-Nitroaniline
Benzidine	1,2-Dichlorobenzene	3-Nitroaniline
Benzo(a)anthracene	1,3-Dichlorobenzene	4-Nitroaniline
Benzo(b)fluoranthene	1,4-Dichlorobenzene	Nitrobenzene
Benzo(k)fluoranthene	3,3-Dichlorobenzidine	N-Nitrosodiethylamine
Benzo(g,h,i)perylene	Diethyl phthalate	N-Nitrosodiethylamine
Benzo(a)pyrene	Dimethyl phthalate	N-Nitroso-di-n-propylamine
Benzyl alcohol	Di-n-butyl phthalate	N-Nitrosodiphenylamine
1,1-Biphenyl	1,3-Dinitrobenzene	n-Octadecane
4-Bromophenyl phenyl ether	2,4-Dinitrotoluene	2,2'-Oxybis(1-Chloropropane)
Butyl benzyl phthalate	2,6-Dinitrotoluene	Pentachlorobenzene
Caprolactam	1,2-Diphenylhydrazine	Phenanthrene
Carbazole	Di-n-octyl phthalate	Pyrene
4-Chloroaniline	bis(2-Ethylhexyl)phthalate	Pyridine
bis(2-Chloroethoxy)methane	Fluoranthene	1,2,4,5-Tetrachlorobenzene
	Fluorene	1,2,4-Trichlorobenzene

Acids

CRM Cat. #712	PT Cat. #834	M	QR Cat. #712QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 604, 625, 8041, 8270, or other applicable method. Contains a subset of the analytes listed below at 30–200 µg/L.

Benzoic acid	2,4-Dinitrophenol	Pentachlorophenol
4-Chloro-3-methylphenol	2-Methyl-4,6-dinitrophenol	Phenol
2-Chlorophenol	2-Methylphenol	2,3,4,6-Tetrachlorophenol
2,4-Dichlorophenol	3 & 4-Methylphenol	2,4,5-Trichlorophenol
2,6-Dichlorophenol	2-Nitrophenol	2,4,6-Trichlorophenol
2,4-Dimethylphenol	4-Nitrophenol	

Diesel Range Organics (DRO) in Water

CRM Cat. #764	PT Cat. #641	Q	QR Cat. #764QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with modified EPA 8015 GC/FID methods, or other applicable method. Includes #2 Diesel at 800–6000 µg/L.

EDB/DBCP/TCP

CRM Cat. #692	PT Cat. #562	Q	QR Cat. #692QR
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One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Method 8011, or other applicable method. Each lot contains all analytes at 0.2–2.0 µg/L.

1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (EDB)
1,2,3-Trichloropropane (TCP)

Glycols in Water

CRM Cat. #401	PT Cat. #271	Q	QR Cat. #401QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 8015B, 8430, 1671, or other applicable method. Each lot contains all analytes in the concentration range 75–200 µg/L.

Diethylene glycol	Propylene glycol	Triethylene glycol
Ethylene glycol	Tetraethylene glycol	

Low-Level Nitroaromatics & Nitramines

CRM Cat. #677	PT Cat. #932	Q	QR Cat. #677QR
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One 2 mL flame-sealed ampule yields up to 2 liters of sample after dilution. Use with EPA Methods 8330, 8091, or other applicable method for explosive and explosive residue analytes. Contains at least 80% of the analytes, randomly selected from the list below at 1–20 µg/L.

4-Amino-2,6-dinitrotoluene	HMX	RDX
2-Amino-4,6-dinitrotoluene	Nitrobenzene	Tetryl
1,3-Dinitrotoluene	2-Nitrotoluene	1,3,5-Trinitrotoluene
2,4-Dinitrotoluene	3-Nitrotoluene	2,4,6-Trinitrotoluene
2,6-Dinitrotoluene	4-Nitrotoluene	

Low-Level PAHs

CRM Cat. #715	PT Cat. #836	Q	QR Cat. #715QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA HPLC Methods 610, 8310, or other applicable method, and GC/MS Method 8270 SIM. Contains a subset of the analytes listed below at 0.5–20 µg/L.

Acenaphthene	Benz(g,h,i)perylene	Fluorene
Acenaphthylene	Benz(a)pyrene	Indeno(1,2,3-cd)pyrene
Anthracene	Chrysene	Naphthalene
Benz(a)anthracene	Dibenz(a,h)anthracene	Phenanthrene
Benz(b)fluoranthene	Fluoranthene	Pyrene
Benz(k)fluoranthene		

PAHs - GC/GC/MS

CRM Cat. #4882	PT Cat. #4880	Q	QR Cat. #4882QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 625, 8100, 8270, or other applicable method. Each standard contains a subset of the analytes listed below at 10–200 µg/L.

Acenaphthene	Benzo(k)fluoranthene	Indeno(1,2,3-cd)pyrene
Acenaphthylene	Benzo(g,h,i)perylene	1-Methylnaphthalene
Anthracene	Chrysene	2-Methylnaphthalene
Benz(a)anthracene	Dibenz(a,h)anthracene	Naphthalene
Benz(a)pyrene	Fluoranthene	Phenanthrene
Benzo(b)fluoranthene	Fluorene	Pyrene

Pesticides

Organochlorine Pesticides

CRM Cat. #713	PT Cat. #831	M	QR Cat. #713QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 608, 8081, or other applicable method. Contains a subset of the analytes listed below at 1-20 µg/L.

Aldrin	4,4'-DDD	Endrin
alpha-BHC	4,4'-DDE	Endrin aldehyde
beta-BHC	4,4'-DDT	Endrin ketone
delta-BHC	Dieldrin	Heptachlor
gamma-BHC (Lindane)	Endosulfan I	Heptachlor epoxide (beta)
alpha-Chlordane	Endosulfan II	Methoxychlor
gamma-Chlordane	Endosulfan sulfate	

Chlordane

CRM Cat. #716	PT Cat. #837	M	QR Cat. #716QR
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One 2 mL flame-sealed ampule yields up to 2 liters of sample after dilution. Use with EPA Methods 608, 8081, or other applicable method. Contains technical chlordane at 3-25 µg/L.

Toxaphene

CRM Cat. #717	PT Cat. #838	M	QR Cat. #717QR
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One 2 mL flame-sealed ampule yields up to 2 liters of sample after dilution. Use with EPA Methods 608, 8081, or other applicable method. Contains toxaphene at 20-100 µg/L.

Carbamate Pesticides

CRM Cat. #908	PT Cat. #899	Q	QR Cat. #908QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA method 632, or other applicable method. Contains a subset of the analytes listed below at 5-200 µg/L.

Aldicarb	Carbaryl	Methiocarb
Aldicarb sulfone	Carbofuran	Methomyl
Aldicarb sulfoxide	Diuron	Oxamyl
Baygon	3-Hydroxycarbofuran	Propham

Nitrogen Pesticides

CRM Cat. #674	PT Cat. #487	Q	QR Cat. #674QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 619, 633, 8141, 8270, or other applicable method. Contains a subset of the analytes listed below at 2-20 µg/L.

Alachlor	Deethyl atrazine	Prometon
Ametryn	Deisopropyl atrazine	Prometryn
Anilazine	Diaminoatrazine	Pronamide
Atraton	EPTC (eptam)	Propachlor
Atrazine	Hexazinone	Propazine
Bromacil	Metolachlor	Simazine
Butachlor	Metribuzin	Terbacil
Butylate	Napropamide	Trifluralin
Cyanazine		

Organophosphorus Pesticides (OPP)

CRM Cat. #665	PT Cat. #934	Q	QR Cat. #665QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA methods 614, 622, 8141, or other applicable method. Contains a subset of the analytes listed below at 2-20 µg/L.

Azinphos-methyl (guthion)	Dioxathion	Malathion
Carbophenothion	Disulfoton	Methyl parathion
Chlorpyrifos	Ethion	Phorate
Demeton	Ethoprop	Phosmet
Demeton O & S	Ethyl Parathion (parathion)	Ronnel
Diazinon	Famphur	Stirophos (tetrachlorovinphos)
Dichlorvos (DDVP)	Fonofos	Terbufos
Dimethoate		

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

All Waters ERA WP PTs open monthly (M) or quarterly (Q) unless otherwise noted. Quarterly months are January, April, July, and October.

Ready-to-Use CRMs

The following whole-volume standards are ready-to-use as provided and require no dilution before analysis.*

Minerals

CRM
Cat. #506

One 500 mL whole-volume bottle is ready to analyze.

Total alkalinity as CaCO ₃	25–400 mg/L
Chloride.....	35–275 mg/L
Fluoride.....	0.4–4 mg/L
Potassium.....	4–40 mg/L
Sodium.....	10–100 mg/L
Specific conductance at 25 °C.....	200–1200 μ hos/cm
Sulfate.....	5–125 mg/L
Total dissolved solids at 180 °C.....	140–800 mg/L
Total solids at 105 °C.....	140–800 mg/L

Trace Metals*

CRM
Cat. #740

One 500 mL whole-volume bottle is ready to analyze. Use with AA, ICP-OES, ICP-MS, and selected colorimetric methods.

Aluminum.....	200–4000 μ g/L
Antimony.....	90–900 μ g/L
Arsenic.....	90–900 μ g/L
Barium.....	100–2500 μ g/L
Beryllium.....	50–500 μ g/L
Boron.....	800–2000 μ g/L
Cadmium.....	100–1000 μ g/L
Chromium.....	100–1000 μ g/L
Cobalt.....	100–1000 μ g/L
Copper.....	100–1000 μ g/L
Iron.....	200–4000 μ g/L
Lead.....	100–1500 μ g/L
Manganese.....	200–2000 μ g/L
Molybdenum.....	60–600 μ g/L
Nickel.....	200–2000 μ g/L
Selenium.....	100–1000 μ g/L
Silver.....	100–1000 μ g/L
Strontium.....	50–500 μ g/L
Thallium.....	80–800 μ g/L
Vanadium.....	50–2000 μ g/L
Zinc.....	300–2000 μ g/L

Hardness

CRM
Cat. #507

One 500 mL whole-volume bottle is ready to analyze.

Calcium.....	10–100 mg/L
Calcium hardness as CaCO ₃	25–250 mg/L
Total hardness as CaCO ₃	40–415 mg/L
Magnesium.....	4–40 mg/L
Total suspended solids (TSS).....	20–100 mg/L

pH

CRM
Cat. #977

One 250 mL whole-volume bottle is ready to analyze.

pH.....	5–10 units
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Oil & Grease

CRM
Cat. #504

One 250 mL whole-volume bottle is ready to analyze. Use with EPA hexane extraction Method 1664, or other applicable method. Certified values are provided for IR and gravimetric methods. For additional Oil & Grease CRMs see page 11.

Oil and grease.....	20–200 mg/bottle
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Solids

CRM
Cat. #499

One 500 mL whole-volume bottle is ready to analyze.

Total solids at 105 °C.....	140–800 mg/L
Total dissolved solids at 180 °C.....	140–800 mg/L
Total suspended solids (TSS).....	20–100 mg/L

Demand*

CRM
Cat. #743

One 500 mL whole-volume bottle is ready to analyze.

5-day BOD.....	18–230 mg/L
Carbonaceous BOD.....	18–230 mg/L
COD.....	30–250 mg/L
TOC.....	6–100 mg/L

Simple Nutrients*

CRM
Cat. #739

One 500 mL whole-volume bottle is ready to analyze.

Ammonia as N.....	1–20 mg/L
Nitrate as N.....	2–25 mg/L
Nitrate plus nitrite as N.....	2.5–25 mg/L
ortho-Phosphate as P.....	0.5–5.5 mg/L

Complex Nutrients*

CRM
Cat. #741

One 500 mL whole-volume bottle is ready to analyze.

Total Kjeldahl nitrogen as N.....	3–35 mg/L
Total phosphorus as P.....	0.5–10 mg/L

*These standards are guaranteed stable for a minimum of one month after receipt at your facility.

QC Plus

The QC Plus Program includes environmental analytes at concentrations that reflect realistic levels of pollutants in industrial settings. Each sample level is designed for wastewater and industrial analysis. These Certified Reference Materials (CRMs) are an asset to any quality assurance program because they enable you to test your internal systems to ensure that your equipment, methods, and analysts are producing quality data.

QC Plus - Demand

CRM
Cat. #4013

One 24 mL screw-cap vial yields up to 1 liter after dilution.

5-day BOD	100–300 mg/L
Carbonaceous BOD	87.0–256 mg/L
COD	150–500 mg/L
TOC	50.0–200 mg/L

QC Plus - Nutrients

CRM
Cat. #4023

Two 15 mL screw-cap vials yield up to 2 liters each after dilution.

Ammonia nitrogen as N	0.250–10.0 mg/L
Nitrate nitrogen as N	0.250–10.0 mg/L
ortho-Phosphate as P	0.0500–10.0 mg/L
Total Kjeldahl nitrogen	0.250–10.0 mg/L
Total phosphorus as P	0.100–10.0 mg/L

QC Plus - Hexavalent Chromium

CRM
Cat. #4183

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Hexavalent chromium	100–1000 µg/L
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QC Plus - Minerals

CRM
Cat. #4053

Two 30 mL screw-cap vials to be diluted together to yield up to 2 liters of sample.

Alkalinity as CaCO ₃	10.0–300 mg/L
Calcium	5.00–150 mg/L
Calcium hardness as CaCO ₃	12.5–375 mg/L
Chloride	10.0–700 mg/L
Conductivity	100–4000 µmhos/cm
Magnesium	1.00–50.0 mg/L
Potassium	1.00–300 mg/L
Sodium	10.0–300 mg/L
Sulfate	10.0–300 mg/L
Total dissolved solids at 180 °C	20.0–2400 mg/L
Total hardness as CaCO ₃	15.0–600 mg/L

QC Plus - Oil & Grease

CRM
Cat. #4123

One 24 mL screw-cap vial yields up to 2 liters after dilution.

Oil and grease	10.0–100 mg/L
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QC Plus - pH

CRM
Cat. #4063

One 250 mL whole-volume bottle is ready to analyze.

pH	2.00–12.0 units
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QC Plus - Fluoride

CRM
Cat. #4423

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Fluoride	5–20 mg/L
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CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

RM – Reference Material

Quarterly months are January, April, July, and October. Biannual months are January and July.

QC Plus

QC Plus - Solids

CRM
Cat. #4033

One 24 mL screw-cap vial with a powder yields 1 liter after dilution.

Total dissolved solids at 180 °C.....500–2000 mg/L
Total solids at 105 °C.....600–2500 mg/L
Total suspended solids (TSS).....100–500 mg/L

QC Plus - Total Cyanide

CRM
Cat. #4093

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Total cyanide.....1.00–5.00 mg/L

QC Plus - Total Phenolics

CRM
Cat. #4083

One 15 mL screw-cap vial yields up to 2 liters after dilution.

Total phenolics by 4-AAP.....0.05–0.5 mg/L

QC Plus - Total Residual Chlorine

CRM
Cat. #4103

One 24 mL amber screw cap vial yields up to 2 liters of solution after dilution.

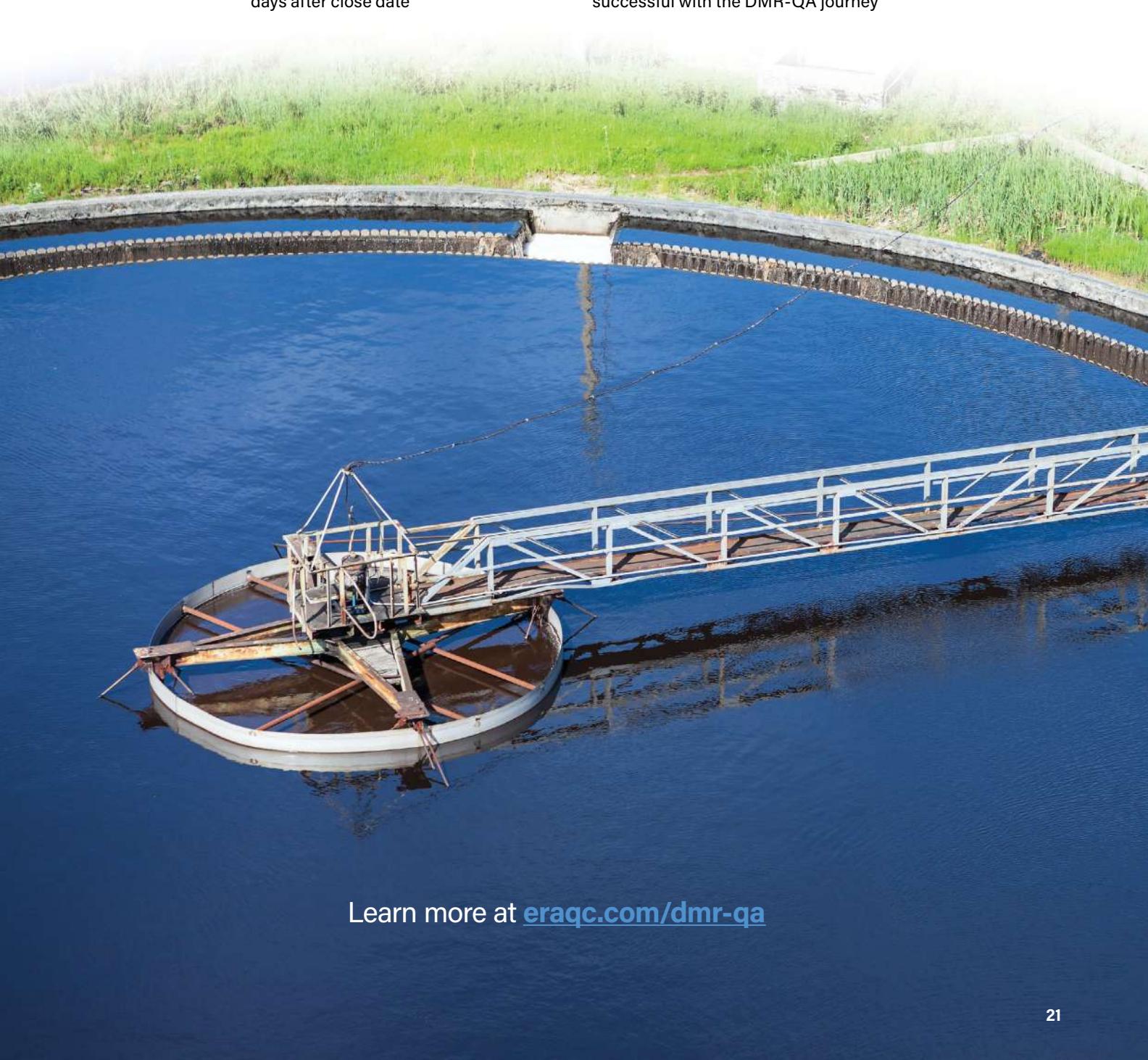
Total residual chlorine.....0.100–1.00 mg/L

Quarterly months are January, April, July, and October. Biannual months are January and July.

TRUST THE DMR-QA EXPERTS

Whether you are new to the U.S. EPA's Discharge Monitoring Report-Quality Assurance (DMR-QA) study, or are a seasoned participant, Waters ERA offers readily-accessible tools and a team of professionals to help you:

- Report data easily with access to eDATA tools
- Receive WP study reports two days after close date
- Access NPDES data from eDATA at the close of study
- Meet study requirements and be successful with the DMR-QA journey



Learn more at eraqc.com/dmr-qa



WATER SUPPLY

Matrices with low concentrations of analytes for testing water supply, drinking water, or ground water. Standards are based on requirements of the United States Environmental Protection Agency Safe Drinking Water Act and may be used to satisfy PT requirements worldwide.



Water Supply PT Schedule

2024

Water Supply			
	Scheme #	Opens	Closes
Q	WS 330	Jan 8	Feb 22
	WS 331	Feb 5	Mar 21
	WS 332	Mar 4	Apr 18
Q	WS 333	Apr 8	May 23
	WS 334	May 6	Jun 20
	WS 335	Jun 3	Jul 18
Q	WS 336	Jul 8	Aug 22
	WS 337	Aug 5	Sep 19
	WS 338	Sep 3	Oct 18
Q	WS 339	Oct 4	Nov 18
	WS 340	Nov 4	Dec 19
	WS 341	Dec 2	Jan 16, 2025

2025

Water Supply			
	Scheme #	Opens	Closes
Q	WS 342	Jan 13	Feb 27
	WS 343	Feb 10	Mar 27
	WS 344	Mar 3	Apr 17
Q	WS 345	Apr 7	May 22
	WS 346	May 5	Jun 19
	WS 347	Jun 9	Jul 24
Q	WS 348	Jul 7	Aug 21
	WS 349	Aug 4	Sep 18
	WS 350	Sep 8	Oct 23
Q	WS 351	Oct 3	Nov 17
	WS 352	Oct 31	Dec 15
	WS 353	Dec 1	Jan 15, 2026

Schedule subject to change – see Waters ERA's website at eraqc.com

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Ammonia as N	1359	1319 B	1359QR	25
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Chloral Hydrate	676	853 B	676QR	25
Chlordane	705	845 M	705QR	28
Chlorinated Acid Herbicides	704	851 M	704QR	30
Color	661C	859C Q	661CQR	26
Corrosivity	980	900 Q	980QR	26
Cyanide	983	556 M	983QR	25
Dioxin	663	857 Q	663QR	30
EDB/DBCP/TCP	706	847 M	706QR	30
Gasoline Additives	909	905 Q	909QR	27
Haloacetic Acids (HAA)	684	852 M	684QR	25
Halomethanes (THMs)	702	842 M	702QR	27
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Inorganic Disinfection #1	5272	5270 M	5272QR	25
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Inorganics	698	591 M	698QR	24
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CRM: A reference material characterized by a metrologically valid procedure for one or more specified properties, accompanied by a reference material certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability.

A complete listing of ERA's CRMs can be found on our Scope of Accreditation for general requirements for competence of reference material producers available at www.eraqc.com/AboutERA/Accreditations.

PT: A Proficiency Test (PT) is an analysis of what is often referred to as a blind sample or a sample with unknown concentrations of analytes for the purpose of evaluating a laboratory's analytical performance.

Description	CRM	PT	QR	Page
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Uranium	930	858 Q	930QR	24
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QR: Similar to a Proficiency Test, a QuiK Response (QR) is a sample with unknown concentrations. However, unlike a scheduled PT, QR is on-demand and available at any time. Plus, your results are returned within two business days. QuiK Response can be used as a bilateral PT as referenced in the IUPAC/CITAC guide: Selection and use of PT schemes for a limited number of participants – chemical analytical labs.

RM: A material, sufficiently homogeneous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process.

All Waters ERA WS PTs open monthly (**M**), quarterly (**Q**), or biannually (**B**) unless otherwise noted. Quarterly months are January, April, July, and October. Biannual months are January and July.

Minerals/Solids

Hardness

CRM Cat. #693	PT Cat. #555	M	QR Cat. #693QR
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One 250 mL whole-volume bottle is ready to analyze.

Calcium.....	30-90 mg/L
Calcium hardness as CaCO ₃	75-225 mg/L
Total hardness as CaCO ₃	83-307 mg/L
Magnesium.....	2-20 mg/L
Sodium.....	12-50 mg/L

Inorganics

CRM Cat. #698	PT Cat. #591	M	QR Cat. #698QR
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One 500 mL whole-volume bottle is ready to analyze. The CRM is also certified for sodium at 10-400 mg/L. For a sodium PT, order Hardness, Cat. #555.

Alkalinity as CaCO ₃	25-200 mg/L
Chloride.....	20-160 mg/L
Fluoride.....	1-8 mg/L
Nitrate as N.....	3-10 mg/L
Nitrate plus nitrite as N.....	3-10 mg/L
Potassium.....	10-40 mg/L
Specific conductance at 25 °C.....	130-1300 µmhos/cm
Sulfate.....	25-250 mg/L
Total dissolved solids (TDS) at 180 °C.....	100-1000 mg/L

Solids Concentrate

CRM Cat. #5152	PT Cat. #5150	M	QR Cat. #5152QR
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One 24 mL screw-cap vial with a powder yields 1 liter after dilution.

Total filterable residue (TDS) at 180 °C.....	100-1000 mg/L
Total solids (TS) at 105 °C.....	123-1100 mg/L
Total suspended solids (TSS).....	23-100 mg/L

The Industry Standard
for over 40 years



Trace Metals

Metals

CRM Cat. #697	PT Cat. #590	M	QR Cat. #697QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution. Use with ICP-OES, ICP-MS, and AA methods.

Aluminum.....	130-1000 µg/L
Antimony.....	6-50 µg/L
Arsenic.....	5-50 µg/L
Barium.....	500-3000 µg/L
Beryllium.....	2-20 µg/L
Boron.....	800-2000 µg/L
Cadmium.....	2-50 µg/L
Chromium.....	10-200 µg/L
Copper.....	50-2000 µg/L
Iron.....	100-1800 µg/L
Lead.....	5-100 µg/L
Manganese.....	40-900 µg/L
Molybdenum.....	15-130 µg/L
Nickel.....	10-500 µg/L
Selenium.....	10-100 µg/L
Silver.....	20-300 µg/L
Thallium.....	2-10 µg/L
Vanadium.....	50-1000 µg/L
Zinc.....	200-2000 µg/L

Mercury

CRM Cat. #666	PT Cat. #551	M	QR Cat. #666QR
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One 15 mL screw-cap vial yields up to 1 liter after dilution. Use with CVAA, ICP-MS, or CVAFS methods.

Total mercury.....	0.5-10 µg/L
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Hexavalent Chromium

CRM Cat. #658	PT Cat. #854	Q	QR Cat. #658QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution.

Hexavalent chromium.....	5-50 µg/L
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Uranium

CRM Cat. #930	PT Cat. #858	Q	QR Cat. #930QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution. Use with ICP-MS methods.

Uranium.....	3-104 µg/L
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Vanadium

CRM Cat. #660	PT Cat. #856	Q	QR Cat. #660QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution. Designed to meet California ELAP requirements.

Vanadium.....	5-50 µg/L
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Disinfection By-Products

Chloral Hydrate

CRM Cat. #676	PT Cat. #853	B	QR Cat. #676QR
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One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Method 551, or other applicable method. Includes chloral hydrate at 4–30 µg/L.

B Waters ERA WS Chloral Hydrate PTs open in January and July.

Haloacetic Acids (HAA)

CRM Cat. #684	PT Cat. #852	M	QR Cat. #684QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Method 552, or other applicable method. Includes all the analytes below at 5–50 µg/L.

Bromochloroacetic acid
Dibromoacetic acid
Dibromoacetic acid
Dichloroacetic acid
Monobromoacetic acid
Trichloroacetic acid

Inorganic Disinfection #1

CRM Cat. #5272	PT Cat. #5270	M	QR Cat. #5272QR
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One 24 mL screw-cap vial yields up to 4 liters after dilution.

Chlorate.....60–180 µg/L
Chlorite.....100–1000 µg/L

Inorganic Disinfection #2

CRM Cat. #5262	PT Cat. #5260	M	QR Cat. #5262QR
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One 24 mL screw-cap vial yields up to 4 liters after dilution.

Bromate.....7–50 µg/L
Bromide.....50–300 µg/L

Nutrients

Ammonia as N

CRM Cat. #1359	PT Cat. #1319	B	QR Cat. #1359QR
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One 15 mL screw-cap vial yields up to 1 liter after dilution.
Ammonia as N.....0.1–1 mg/L

B Waters ERA WS Ammonia as N PTs open in January and July.

Nitrite

CRM Cat. #695	PT Cat. #594	M	QR Cat. #695QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution.
Nitrite as N.....0.4–2 mg/L

o-Phosphate Nutrients

CRM Cat. #667	PT Cat. #558	M	QR Cat. #667QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution.
ortho-Phosphate as P.....0.5–5.5 mg/L

Miscellaneous Inorganic

Residual Chlorine

CRM Cat. #696	PT Cat. #593	M	QR Cat. #696QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution.
Total residual chlorine.....0.5–3 mg/L
Free residual chlorine.....0.5–3 mg/L

Cyanide

CRM Cat. #983	PT Cat. #556	M	QR Cat. #983QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution. Source material is free cyanide.

Free cyanide.....0.1–0.5 mg/L
Total cyanide.....0.1–0.5 mg/L
Cyanide.....0.1–0.5 mg/L

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

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Miscellaneous Inorganic (continued)

Physical Property

Organic Carbon

CRM Cat. #669	PT Cat. #557	M	QR Cat. #669QR
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One 15 mL screw-cap vial yields up to 1 liter after dilution.

Total organic carbon.....1.3–13 mg/L
Dissolved organic carbon.....1.3–13 mg/L

Perchlorate

CRM Cat. #910	PT Cat. #903	Q	QR Cat. #910QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution.

Perchlorate.....4–20 µg/L

pH

CRM Cat. #779	PT Cat. #552	M	QR Cat. #779QR
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One 250 mL whole-volume bottle is ready to analyze.

pH.....5–10 units

Silica

CRM Cat. #785	PT Cat. #902	Q	QR Cat. #785QR
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One 60 mL poly bottle yields 1 liter after dilution.

Silica as SiO₂.....5–75 mg/L

Surfactants-MBAS

CRM Cat. #784	PT Cat. #901	Q	QR Cat. #784QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution.

Surfactants-MBAS.....0.1–1 mg/L

Color

CRM Cat. #661C	PT Cat. #859C	Q	QR Cat. #661CQR
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One 30 mL screw-cap bottle yields up to 200 mL after dilution.

Color.....10–75 PC units

Corrosivity

CRM Cat. #980	PT Cat. #900	Q	QR Cat. #980QR
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One 500 mL whole-volume bottle is ready to analyze for corrosivity, calcium carbonate saturation, and Langelier Saturation Index.

Corrosivity.....-4 to +4 SI units

Turbidity

CRM Cat. #699	PT Cat. #592	M	QR Cat. #699QR
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One 24 mL amber glass vial yields up to 1 liter after dilution. Use with nephelometric methods.

Turbidity.....0.5–8 NTU

UV 254 Absorbance

CRM Cat. #662	PT Cat. #904	Q	QR Cat. #662QR
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One 15 mL screw-cap vial yields up to 1 liter after dilution.

UV 254 absorbance.....0.05–0.7 cm⁻¹

Learn more about WS products

Volatile Organics

1,4-Dioxane

CRM Cat. #689	PT Cat. #272	B	QR Cat. #689QR
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One 2 mL flame-sealed ampule yields 500 mL after dilution. Use with EPA method 522.

1,4-Dioxane.....0.1–10 µg/L

Unregulated Volatiles

CRM Cat. #683	PT Cat. #841	M	QR Cat. #683QR
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One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Methods 502.2, 524.2, or other applicable method. Contains at least 60% of the analytes randomly selected from the list below at 2–50 µg/L.

Bromobenzene	1,3-Dichlorobenzene	4-Isopropyltoluene
Bromochloromethane	Dichlorodifluoromethane	Methyl tert-butyl ether (MTBE)
Bromomethane	1,1-Dichloroethane	Naphthalene
n-Butylbenzene	1,3-Dichloropropane	n-Propylbenzene
sec-Butylbenzene	2,2-Dichloropropane	1,1,2-Tetrachloroethane
tert-Butylbenzene	1,1-Dichloropropene	1,1,2,2-Tetrachloroethane
Chloroethane	cis-1,3-Dichloropropene	1,2,3-Trichlorobenzene
Chloromethane	trans-1,3 Dichloropropene	1,2,3-Trichloropropane
2-Chlorotoluene	Fluorotrichloromethane	1,2,4-Trimethylbenzene
4-Chlorotoluene	Hexachlorobutadiene	1,3,5-Trimethylbenzene
Dibromomethane	Isopropylbenzene	

Gasoline Additives

CRM Cat. #909	PT Cat. #905	Q	QR Cat. #909QR
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One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Method 524.2, or other applicable method for gasoline additives/oxygenates. Contains all of the analytes below at 5–50 µg/L.

tert-Amyl methyl ether (TAME) Ethyl tert-butyl ether (ETBE) Trichlorofluoromethane
tert-Butyl alcohol Methyl tert-butyl ether (MTBE) (Freon® 11)
Di-isopropylether (DIEP) Trichlorotrifluoroethane (Freon 113)

Halomethanes (THMs)

CRM Cat. #702	PT Cat. #842	M	QR Cat. #702QR
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One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Methods 502.2, 524.2, 551, or other applicable method. Contains all of the analytes below at 5–50 µg/L.

Bromodichloromethane Chlorodibromomethane Chloroform
Bromoform

Regulated Volatiles

CRM Cat. #703	PT Cat. #840	M	QR Cat. #703QR
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One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Methods 502.2, 524.2, or other applicable method. Contains all of the analytes below at 2–50 µg/L.

Benzene	cis-1,2-Dichloroethylene	Toluene
Carbon tetrachloride	trans-1,2-Dichloroethylene	1,2,4-Trichlorobenzene
Chlorobenzene	1,2-Dichloropropane	1,1,1-Trichloroethane
1,2-Dichlorobenzene	Ethylbenzene	1,1,2-Trichloroethane
1,4-Dichlorobenzene	Methylene chloride	Trichloroethylene
1,2-Dichloroethane	Styrene	Vinyl chloride
1,1-Dichloroethylene	Tetrachloroethylene	Xylenes, total

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

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Per- and Polyfluoroalkyl Substances (PFAS)

NEW
PRODUCT

PFAS in Drinking Water

CRM Cat. #733	PT Cat. #959	QR Cat. #733QR
One 2 mL flame-sealed ampule yields in excess of 1.5 L after dilution. The sample is designed for LC/MS/MS methods for analyzing potable water, specifically EPA Methods 533, 537 and 537.1. The diluted standard is certified for the 32 analytes listed below.		
Perfluorobutanoic acid, PFBA.....	20-200 ng/L	
Perfluoropentanoic acid , PFPeA.....	20-200 ng/L	
Perfluorohexanoic acid, PFHxA.....	20-200 ng/L	
Perfluoroheptanoic acid, PFHpA.....	20-200 ng/L	
Perfluoroctanoic acid, PFOA.....	20-200 ng/L	
Perfluorononanoic acid, PFNA.....	20-200 ng/L	
Perfluorodecanoic acid, PFDA.....	20-200 ng/L	
Perfluoroundecanoic acid, PFUdA.....	20-200 ng/L	
Perfluorododecanoic acid, PFDoA.....	20-200 ng/L	
Perfluorotridecanoic acid, PFTrDA	20-200 ng/L	
Perfluorotetradecanoic acid, PFTeDA.....	20-200 ng/L	
Perfluorobutanesulfonic acid, PFBS.....	20-200 ng/L	
Perfluoropentanesulfonic acid, PFPeS.....	20-200 ng/L	
Perfluorohexanesulfonic acid, PFHxS.....	20-200 ng/L	
Perfluoroheptanesulfonic acid, PFHpS.....	20-200 ng/L	
Perfluoroctanesulfonic acid, PFOS.....	20-200 ng/L	
Perfluorononanesulfonic acid, PFNS.....	20-200 ng/L	
Perfluorodecanesulfonic acid, PFDS.....	20-200 ng/L	
4:2 fluorotelomersulfonic acid, 4:2 FTS.....	20-200 ng/L	
6:2 fluorotelomersulfonic acid, 6:2 FTS.....	20-200 ng/L	
8:2 fluorotelomersulfonic acid, 8:2 FTS.....	20-200 ng/L	
Perfluoroctanesulfonamide, PFOSA.....	20-200 ng/L	
N-ethyl perfluorooctanesulfonamidoacetic acid, NEtFOSAA.....	20-200 ng/L	
N-methyl perfluorooctanesulfonamidoacetic acid, NMeFOSAA.....	20-200 ng/L	
Hexafluoropropylene oxide dimer acid , HFPO-DA.....	20-200 ng/L	
4,8-dioxa-3H-perfluoronanoic acid, ADONA.....	20-200 ng/L	
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid, 9Cl-PF3ONS.....	20-200 ng/L	
11-chloroeicosfluoro-3-oxaundecane-1-sulfonic acid, 11Cl-PF3OUds.....	20-200 ng/L	
Perfluoro-4-methoxybutanoic acid, PFMBA.....	20-200 ng/L	
Perfluoro-3-methoxypropanoic acid, PFMPA.....	20-200 ng/L	
Perfluoro(2-ethoxyethane) sulfonic acid, PFEESA.....	20-200 ng/L	
Nonafluoro-3,6-dioxaheptanoic acid, NFDHA.....	20-200 ng/L	

Pesticides

Pesticides

CRM Cat. #709	PT Cat. #850	M	QR Cat. #709QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 505, 507, 508, 525, or other applicable method for organochlorine, nitrogen, and organophosphorus pesticides. Each standard contains at least 14 analytes randomly selected from the list below at 0.2-20 µg/L.

Alachlor	Heptachlor	Metribuzin
Aldrin	Heptachlor epoxide (beta)	Molinate (ordram)
Atrazine	Hexachlorobenzene	Prometon
Bromacil	Hexachlorocyclopentadiene	Propachlor
Butachlor	Lindane (gamma-BHC)	Simazine
Diazinon	Methoxychlor	Thiobencarb
Dieldrin	Metolachlor	Trifluralin
Endrin		

Carbamate/Carbamoxylxime Pesticides

CRM Cat. #707	PT Cat. #846	M	QR Cat. #707QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 531.1, 531.2, 632, or other applicable method. Each standard contains at least 8 of the analytes below at 15-150 µg/L.

Aldicarb	Carbaryl	Methiocarb
Aldicarb sulfone	Carbofuran	Methomyl
Aldicarb sulfoxide	3-Hydroxycarbofuran	Oxamyl
Baygon		

Chlordane

CRM Cat. #705	PT Cat. #845	M	QR Cat. #705QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 505, 508, 525, or other applicable method. Each standard contains technical chlordane at 2-20 µg/L.

Toxaphene

CRM Cat. #700	PT Cat. #844	M	QR Cat. #700QR
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 505, 508, 525, or other applicable method. Each standard contains toxaphene at 2-20 µg/L.

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Pesticides (continued)

EDB/DBCP/TCP		
CRM Cat. #706	PT Cat. #847	M
QR Cat. #706QR		

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Methods 504, 551, or other applicable method. Each lot contains all analytes below at 0.05–2 µg/L.

1,2-Dibromo-3-chloropropane (DBCP)
Ethylene dibromide (EDB)

Low-Level 1,2,3-TCP

CRM Cat. #682	PT Cat. #596	B	QR Cat. #682QR
------------------	-----------------	---	-------------------

One 2 mL flame-sealed ampule yields 100 mL after dilution. Use with California method SRL 524M, or other applicable method. Each standard contains 1,2,3-Trichloropropane (TCP) at 5–100 ng/L after dilution.

B Low-Level 1,2,3-TCP available in January and July.

Semivolatile Organics

Dioxin		
CRM Cat. #663	PT Cat. #857	Q
QR Cat. #663QR		

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 613, 1613, 8280, 8290, or other applicable method. Each standard contains 2,3,7,8-TCDD at 20–100 pg/L.

PCBs as Decachlorobiphenyl		
CRM Cat. #708	PT Cat. #839	Q
QR Cat. #708QR		

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Quantitative Method 508A. This standard can also be used for aroclor identification and quantification using EPA Methods 505, 508, 508.1, or other applicable method. Includes an aroclor randomly selected from the list below at 0.5–5 µg/L as decachlorobiphenyl.

Aroclor 1016 Aroclor 1242 Aroclor 1254
Aroclor 1221 Aroclor 1248 Aroclor 1260
Aroclor 1232

Semivolatile Organics (continued)

Semivolatiles #1		
CRM Cat. #690	PT Cat. #848	M
QR Cat. #690QR		

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 506, 525, 550, or other applicable method for PAHs, phthalates, and adipates. Each standard contains benzo(a)pyrene, bis(2-ethylhexyl)adipate, and bis(2-ethylhexyl)phthalate plus at least 13 additional analytes, selected from the list below, at 0.2–50 µg/L.

Acenaphthene	Butyl benzyl phthalate	bis(2-Ethylhexyl)phthalate
Acenaphthylene	Chrysene	Fluoranthene
Anthracene	Dibenz(a,h)anthracene	Fluorene
Benzo(a)anthracene	Di-n-butyl phthalate	Indeno(1,2,3-cd)pyrene
Benzo(b)fluoranthene	Diethyl phthalate	Naphthalene
Benzo(k)fluoranthene	Dimethyl phthalate	Phenanthrene
Benzo(g,h,i)perylene	Di-n-octyl phthalate	Pyrene
Benzo(a)pyrene	bis(2-Ethylhexyl)adipate	

Naphthalene is not within the EPA/NELAC range. Use the Unregulated Volatiles standard (page 27 for this compound in the EPA/NELAC range).

Herbicides

Chlorinated Acid Herbicides		
CRM Cat. #704	PT Cat. #851	M
QR Cat. #704QR		

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 515.1, 515.2, 515.3, 515.4, 555, or other applicable method. All lots include at least 10 analytes from the list below at 1–120 µg/L.

Acifluorfen	Dalapon	4-Nitrophenol
Bentazon	Dicamba	Pentachlorophenol
Chloramben	3,5-Dichlorobenzoic acid	Picloram
2,4-D	Dichlorprop	2,4,5-T
2,4-DB	Dinoseb	2,4,5-TP (silvex)
	Dacthal diacid (DCPA)	

Semivolatiles #2 Herbicides		
CRM Cat. #691	PT Cat. #849	M
QR Cat. #691QR		

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 547, 548, 549, or other applicable method. Each standard contains all the analytes below at 8–800 µg/L.

Diquat	Glyphosate	Paraquat
Endothall		

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

All Waters ERA WS PTs open monthly (M), quarterly (Q), or biannually (B) unless otherwise noted. Quarterly months are January, April, July, and October.

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MICROBIOLOGY

Matrices with low and high concentrations of analytes for testing bacteria in drinking water and waste water. Samples are delivered as lyophilized pellets in a glass vial with phosphate buffer dilution water.



Water Pollution PT Schedule

2024

Water Pollution (including UST in Water)			
	Scheme #	Opens	Closes
Q	WP 348	Jan 16	Mar 1
	WP 349	Feb 12	Mar 28
	WP 350	Mar 11	Apr 25
Q	WP 351	Apr 15	May 30
	WP 352	May 13	Jun 27
	WP 353	Jun 10	Jul 25
Q	WP 354	Jul 15	Aug 29
	WP 355	Aug 12	Sep 26
	WP 356	Sep 9	Oct 24
Q	WP 357	Oct 11	Nov 25
	WP 358	Nov 11	Dec 26
	WP 359	Dec 9	Jan 23, 2025

2025

Water Pollution (including UST in Water)			
	Scheme #	Opens	Closes
Q	WP 360	Jan 21	Mar 7
	WP 361	Feb 17	Apr 3
	WP 362	Mar 10	Apr 24
Q	WP 363	Apr 14	May 29
	WP 364	May 12	Jun 26
	WP 365	Jun 16	Jul 31
Q	WP 366	Jul 14	Aug 28
	WP 367	Aug 11	Sep 25
	WP 368	Sep 15	Oct 30
Q	WP 369	Oct 10	Nov 24
	WP 370	Nov 3	Dec 18
	WP 371	Dec 8	Jan 22, 2026

Schedule subject to change – see Waters ERA's website at eraqc.com

Contents

CRM: A reference material characterized by a metrologically valid procedure for one or more specified properties, accompanied by a reference material certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability.

A complete listing of ERA's CRMs can be found on our Scope of Accreditation for general requirements for competence of reference material producers available at www.eraqc.com/AboutERA/Accreditations.

PT: A Proficiency Test (PT) is an analysis of what is often referred to as a blind sample or a sample with unknown concentrations of analytes for the purpose of evaluating a laboratory's analytical performance.

QR: Similar to a Proficiency Test, a QuiK Response (QR) is a sample with unknown concentrations. However, unlike a scheduled PT, QR is on-demand and available at any time. Plus, your results are returned within two business days. QuiK Response can be used as a bilateral PT as referenced in the IUPAC/CITAC guide: Selection and use of PT schemes for a limited number of participants – chemical analytical labs.

RM: A material, sufficiently homogeneous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process.

Description	CRM	PT	QR	Page
Enterococci	081	880 	787QR	34
Heterotrophic Plate Count (WP)		935 		34
Heterotrophic Plate Count (WS)	084	079 	084QR	34
Massachusetts Ground Water Enterococci	081	077 	—	34
Potable Water Coliform Microbe	694	080 	085QR	34
Source Water Microbe	078	595 	078QR	34
Source Water Microbe - 9221	078A	595A 	078AQR	34
Wastewater Coliform Microbe	083	576 	786QR	34
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Water Supply PT Schedule 2024

Water Supply			
	Scheme #	Opens	Closes
	WS 330	Jan 8	Feb 22
	WS 331	Feb 5	Mar 21
	WS 332	Mar 4	Apr 18
	WS 333	Apr 8	May 23
	WS 334	May 6	Jun 20
	WS 335	Jun 3	Jul 18
	WS 336	Jul 8	Aug 22
	WS 337	Aug 5	Sep 19
	WS 338	Sep 3	Oct 18
	WS 339	Oct 4	Nov 18
	WS 340	Nov 4	Dec 19
	WS 341	Dec 2	Jan 16, 2025

2025

Water Supply			
	Scheme #	Opens	Closes
	WS 342	Jan 13	Feb 27
	WS 343	Feb 10	Mar 27
	WS 344	Mar 3	Apr 17
	WS 345	Apr 7	May 22
	WS 346	May 5	Jun 19
	WS 347	Jun 9	Jul 24
	WS 348	Jul 7	Aug 21
	WS 349	Aug 4	Sep 18
	WS 350	Sep 8	Oct 23
	WS 351	Oct 3	Nov 17
	WS 352	Oct 31	Dec 15
	WS 353	Dec 1	Jan 15, 2026

All Waters ERA Microbiology PTs open monthly () quarterly () or biannually () unless otherwise noted. Waters ERA Massachusetts Ground Water Enterococci PT is available any time. Quarterly months are January, April, July, and October.

WP Microbiology

Wastewater Coliform Microbe

CRM
Cat. #083

PT
Cat. #576

M

QR
Cat. #786QR

Each PT sample is one lyophilized quantitative standard for use with all Clean Water Act quantitative methods, including MF and MPN. If determining MPN by SM 9221 or similar multiple tube techniques, use 083A, 576A, or 786A.

CRM also includes one blank sample. Each standard can be used for total coliform, fecal coliform, and *E. coli* which are present in the range 20–2400 CFU/100 mL or MPN/100 mL.

Wastewater Coliform Microbe – 9221

CRM
Cat. #083A

PT
Cat. #576A

M

QR
Cat. #786AQR

Each PT sample is one lyophilized quantitative standard for use with Standard Methods 9221 or similar multiple tube techniques.

CRM also includes one blank sample. Each standard can be used for total coliform, fecal coliform, and *E. coli* which are present in the range 20–2400 MPN/100 mL.

Enterococci

CRM
Cat. #081

PT
Cat. #880

Q

QR
Cat. #787QR

Each PT sample is one lyophilized standard, which can be analyzed for enterococci and/or fecal streptococci, MF or MPN in the range 20–1000 CFU/100 mL or MPN/100 mL.

CRM also includes one blank sample. Use with EPA Methods 1106.1 and 1600, ASTM Methods D5259-92, D6503-99, and Standard Methods 9230B and 9230C, and Enterolert Quantitray.

Heterotrophic Plate Count

PT
Cat. #935

B

One lyophilized sample containing a Heterotrophic bacteria. SPC PT standards are required for laboratories seeking NELAC accreditation as well as by many other state programs.

B Offered Biannually in March and September.

State-Specific Microbiology

Massachusetts Ground Water Enterococci

CRM
Cat. #081

PT
Cat. #077



Each PT sample set is composed of 10 lyophilized samples to be analyzed for presence or absence of enterococci. This sample is specifically designed for the State of Massachusetts certification for compliance with the federal Ground Water Rule. Each CRM sample set is composed of two lyophilized samples - one quantitative positive and one blank.

***** Massachusetts Ground Water Enterococci PT is available any time.

WS Microbiology

Heterotrophic Plate Count

CRM
Cat. #084

PT
Cat. #079

M

QR
Cat. #084QR

Each sample is one lyophilized standard containing a heterotrophic bacteria present in the range 5–500 CFU/mL or MPN/mL. Use with the Standard Methods 9215B – Pour Plate Method, and Most Probable Number (MPN) Method (simple).

Potable Water Coliform Microbe

CRM
Cat. #694

PT
Cat. #080

M

QR
Cat. #085QR

Each sample set consists of lyophilized standards for the presence or absence analysis of total coliform, fecal coliform, and *E. coli*. The standards are applicable to all SDWA promulgated methods-MF, MPN, presence/absence, and ONPG-MUG. The Potable Water Coliform Microbe PT standard is available in all 12-monthly WS studies.

Source Water Microbe

CRM
Cat. #078

PT
Cat. #595

Q

QR
Cat. #078QR

Each sample is one lyophilized quantitative standard containing *E. coli* in the range 20–200 CFU/100 mL or MPN/100 mL. Use with all SDWA quantitative methods. Each standard can be used for total coliform, fecal coliform, and *E. coli*. If determining MPN by SM 9221 or similar multiple tube techniques, use 078A, 595A, and 078AQR.

Source Water Microbe – 9221

CRM
Cat. #078A

PT
Cat. #595A

Q

QR
Cat. #078AQR

Each sample is one lyophilized quantitative standard containing *E. coli* in the range of 20–200 MPN/100 mL for use with Standard Methods 9221 or similar multiple tube techniques. Each standard can be used for total coliforms, fecal coliforms, and *E. coli*.

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

All Waters ERA Microbiology PTs open monthly (**M**) or quarterly (**Q**). Quarterly months are January, April, July, and October.



Learn more about Microbiology products

GOING BEYOND THE STANDARD

Supplying Proficiency Testing (PT) and Certified Reference Material (CRM) standards is not unique. What sets us apart is our commitment to being more than a standards provider. Since 1977, we've worked as your partner, helping you produce reliable, defensible data, maintain critical accreditations, and make your laboratory successful.

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- **Superior Standards for Better Results:** Waters ERA maintains ISO 17025, ISO 17034, and ISO 17043 accreditations, giving you greater confidence in your data due to the largest studies, two-day report turn-around time, and more reliable performance evaluations.





SOIL

Matrices designed to fulfill requirements for monitoring soil and solid matrices. Dried and homogenized standards of soil and sewage sludge may be used to satisfy PT requirements.



Soil (including UST in Soil) PT Schedule 2024

Soil (including UST in Soil)

	Scheme #	Opens	Closes
Q	SOIL 125	Jan 22	Mar 7
Q	SOIL 126	Apr 22	Jun 6
Q	SOIL 127	Jul 22	Sep 5
Q	SOIL 128	Oct 18	Dec 2

2025

Soil (including UST in Soil)

	Scheme #	Opens	Closes
Q	SOIL 129	Jan 27	Mar 13
Q	SOIL 130	Apr 21	Jun 5
Q	SOIL 131	Jul 21	Sep 4
Q	SOIL 132	Oct 17	Dec 1

Schedule subject to change – see Waters ERA's website at eraqc.com

Contents

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Carbamate Pesticides in Soil	926	879	926QR	43
Chlordane in Soil	725	628	725QR	43
Chlorinated Acid Herbicides in Soil	723	626	723QR	42
Corrosivity/pH in Soil	914	875	914QR	38
Cyanide in Soil	541	621	541QR	39
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PCBs in Oil	563	817	563QR	42
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PCBs in Soil	726	624	726QR	42
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PFAS in Soil	603	465	603QR	41
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TCLP Semivolatiles	737	—	737QR	40
TCLP Volatiles	730	—	730QR	40
Total Petroleum Hydrocarbons (TPH) in Soil #1	570	632	572QR	40
Total Petroleum Hydrocarbons (TPH) in Soil #2	571	632	572QR	40
Toxaphene in Soil	724	627	724QR	43
Volatiles in Soil	721	623	721QR	39

QR: Similar to a Proficiency Test, a QuiK Response (QR) is a sample with unknown concentrations. However, unlike a scheduled PT, QR is on-demand and available at any time. Plus, your results are returned within two business days. QuiK Response can be used as a bilateral PT as referenced in the IUPAC/CITAC guide: Selection and use of PT schemes for a limited number of participants – chemical analytical labs.

RM: A material, sufficiently homogeneous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process.

All ERA Soil PTs open quarterly or biannually , unless otherwise noted. Quarterly months are January, April, July, and October.

Metals

Metals in Soil

CRM Cat. #540	PT Cat. #620	Q	QR Cat. #540QR
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One 30 g soil sample in a screw-cap bottle for all ICP and AA, RCRA and Superfund Methods including EPA Digestion Methods 3050 Hot Plate and 3051 Microwave, or other applicable methods. Includes all metals shown below.

Aluminum.....	2500-25,000 mg/kg
Antimony.....	80-300 mg/kg
Arsenic.....	40-400 mg/kg
Barium.....	100-1000 mg/kg
Beryllium.....	40-400 mg/kg
Boron.....	80-800 mg/kg
Cadmium.....	40-400 mg/kg
Calcium.....	1500-25,000 mg/kg
Chromium.....	40-400 mg/kg
Cobalt.....	40-400 mg/kg
Copper.....	40-400 mg/kg
Iron.....	5000-50,000 mg/kg
Lead.....	40-400 mg/kg
Lithium.....	50-250 mg/kg
Magnesium.....	1200-25,000 mg/kg
Manganese.....	100-2000 mg/kg
Mercury.....	1-35 mg/kg
Molybdenum.....	30-300 mg/kg
Nickel.....	40-500 mg/kg
Potassium.....	1400-25,000 mg/kg
Selenium.....	40-400 mg/kg
Silver.....	20-100 mg/kg
Sodium.....	150-15,000 mg/kg
Strontium.....	40-400 mg/kg
Thallium.....	40-400 mg/kg
Tin.....	50-250 mg/kg
Titanium.....	10-2000 mg/kg
Uranium.....	1-250 mg/kg
Vanadium.....	40-400 mg/kg
Zinc.....	100-1000 mg/kg

Hexavalent Chromium in Soil

CRM Cat. #921	PT Cat. #876	Q	QR Cat. #921QR
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One 40 g standard in a screw-cap bottle for use with all promulgated hexavalent chromium methods.

Hexavalent chromium.....	40-300 mg/kg
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TCLP Metals in Soil

CRM Cat. #544	PT Cat. #629	Q	QR Cat. #544QR
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One 105 g soil standard in a screw-cap bottle designed specifically to meet all state requirements for TCLP extraction and analysis for the metals listed below. Sample is designed to be extracted with fluid #1.

Antimony	Cadmium	Nickel
Arsenic	Chromium	Selenium
Barium	Lead	Silver
Beryllium	Mercury	Zinc

Metals in Sewage Sludge

CRM Cat. #160	PT Cat. #619	Q	QR Cat. #160QR
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One 40 g sludge standard in a screw-cap bottle to be analyzed for the metals listed below.

Aluminum.....	1000-50,000 mg/kg
Antimony.....	80-300 mg/kg
Arsenic.....	50-400 mg/kg
Barium.....	250-2000 mg/kg
Beryllium.....	30-200 mg/kg
Cadmium.....	40-300 mg/kg
Calcium.....	5000-70,000 mg/kg
Chromium.....	40-300 mg/kg
Cobalt.....	5-50 mg/kg
Copper.....	40-1000 mg/kg
Iron.....	1000-50,000 mg/kg
Lead.....	50-250 mg/kg
Magnesium.....	1200-25,000 mg/kg
Manganese.....	100-2000 mg/kg
Mercury.....	1-50 mg/kg
Molybdenum.....	5-250 mg/kg
Nickel.....	40-250 mg/kg
Potassium.....	1400-25,000 mg/kg
Selenium.....	50-250 mg/kg
Silver.....	50-250 mg/kg
Sodium.....	150-15,000 mg/kg
Strontium.....	200-2000 mg/kg
Thallium.....	50-250 mg/kg
Vanadium.....	5-250 mg/kg
Zinc.....	70-1500 mg/kg

Physical Parameters

Corrosivity/pH in Soil

CRM Cat. #914	PT Cat. #875	Q	QR Cat. #914QR
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One 100 g soil standard in a screw-cap bottle. Use to measure corrosivity.

Corrosivity/pH.....	2-12 S.U.
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Ignitability/Flash Point

CRM Cat. #979	PT Cat. #874	Q	QR Cat. #979QR
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One standard packaged in three 30 mL bottles. Use to measure ignitability.

Ignitability/flashpoint.....	100-200 °F
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Oil & Grease

Oil & Grease in Soil

CRM Cat. #549	PT Cat. #867	Q	QR Cat. #549QR
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One screw-cap bottle containing 50 g of soil ready to analyze. Use with gravimetric method 9071B or infrared spectrometric analysis.

n-Hexane extractable material (O&G) (Gravimetric).....300-3000 mg/kg
n-Hexane extractable material (O&G) (Infrared).....300-3000 mg/kg

Inorganics

Anions in Soil

CRM Cat. #543	PT Cat. #873	Q	QR Cat. #543QR
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One 40 g soil standard in a screw-cap bottle designed for a DI water extraction procedure for all the anions listed below.

Bromide.....10-100 mg/kg
Chloride.....200-1000 mg/kg
Fluoride.....25-500 mg/kg
Nitrate as N.....25-500 mg/kg
Nitrite as N.....0-500 mg/kg
Nitrate + Nitrite as N.....0-2000 mg/kg
Phosphate as P.....25-500 mg/kg
Sulfate.....25-2000 mg/kg

Cyanide in Soil

CRM Cat. #541	PT Cat. #621	Q	QR Cat. #541QR
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One 40 g soil standard in a screw-cap bottle for all distillation/colorimetric methods.

Total cyanide.....20-200 mg/kg
Amenable cyanide.....0-100 mg/kg

Nutrients in Soil

CRM Cat. #542	PT Cat. #869	Q	QR Cat. #542QR
------------------	-----------------	---	-------------------

One 40 g soil standard in a screw-cap bottle. Use to analyze for all the nutrients listed below.

Ammonia as N.....300-3000 mg/kg
Total Kjeldahl nitrogen as N.....400-4000 mg/kg
Total organic carbon (TOC).....1000-20,000 mg/kg
Total phosphorus as P.....300-3000 mg/kg

Nutrients in Sludge

CRM Cat. #545

One 40 g sludge standard in a screw-cap bottle is ready for analysis.

Ammonia as N.....0.1-5% (w/w)
Total Kjeldahl nitrogen as N.....2-10% (w/w)
Total organic carbon (TOC).....5-50% (w/w)
Total phosphorus as P.....0.5-10% (w/w)

Volatiles

Volatiles in Soil

CRM Cat. #721	PT Cat. #623	Q	QR Cat. #721QR
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One 2 mL flame-sealed ampule in methanol requires spiking onto the provided ten grams of solid matrix before analysis. Use with EPA Methods 8021, 8260, or other applicable methods. Includes a subset of the analytes listed below at 20-200 µg/kg (40-400 µg/kg for total xylenes, 80-1000 for selected ketones, and 100-1000 µg/kg for acetonitrile).

Acetone	1,3-Dichlorobenzene	1,1,2-Tetrachloroethane
Acetonitrile	1,4-Dichlorobenzene	Tetrachloroethene
Acrolein	Dichlorodifluoromethane	Toluene
Benzene	1,1-Dichloroethane	1,2,3-Trichlorobenzene
Bromobenzene	1,2-Dichloroethane	1,2,4-Trichlorobenzene
Bromochloromethane	1,1-Dichloroethylene	1,1,1-Trichloroethane
Bromodichloromethane	cis-1,2-Dichloroethylene	1,1,2-Trichloroethane
Bromoform	trans-1,2-Dichloroethylene	Trichloroethene
Bromomethane	1,2-Dichloropropane	Trichlorofluoromethane
2-Butanone (MEK)	1,3-Dichloropropane	1,2,3-Trichloropropane
n-Butylbenzene	2,2-Dichloropropane	1,2,4-Trimethylbenzene
sec-Butylbenzene	1,1-Dichloropropene	1,3,5-Trimethylbenzene
tert-Butylbenzene	cis-1,3-Dichloropropylene	Vinyl acetate
Carbon disulfide	trans-1,3-Dichloropropylene	Vinyl chloride
Carbon tetrachloride	Ethylbenzene	m&p-Xylene
Chlorobenzene	Hexachlorobutadiene	o-Xylene
Chlorodibromomethane	Hexachloroethane	Xylenes, total
Chloroethane	2-Hexanone	
2-Chloroethyl vinyl ether	Isopropylbenzene	
Chloroform	p-Isopropyltoluene	
Chloromethane	Methyl tert-butyl ether (MTBE)	
2-Chrtotoluene	4-Methyl-2-pentanone (MIBK)	
4-Chlorotoluene	Methylene chloride	
1,2-Dibromo-3-chloropropane (DBCP)	Naphthalene	
1,2-Dibromoethane (EDB)	Nitrobenzene	
Dibromomethane	n-Propylbenzene	
1,2-Dichlorobenzene	Styrene	
	1,1,2-Tetrachloroethane	

This standard is not compliant with the NELAC concentration for hexachloroethane, hexachlorobutadiene, and nitrobenzene. If a NELAC compliant sample is required for these analytes, use Ready-to-Use VOAs in Soil, or Base/Neutrals and Acids in Soil.

1,4-Dioxane in Soil

CRM Cat. #538	PT Cat. #461	B	QR Cat. #538QR
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One 2 mL flame-sealed ampule requires spiking onto the provided ten grams of solid matrix before analysis. Use with modified versions of EPA method 8260, 1624 or other applicable methods.

1,4-Dioxane.....20-200 µg/kg

Gasoline Range Organics (GRO) in Soil

CRM Cat. #763	PT Cat. #630	Q	QR Cat. #763QR
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One flame-sealed ampule with 20 g of soil spiked with unleaded regular gasoline in the range 100-2000 mg/kg. Use with purge and trap and modified EPA 8015 GC/FID Methods, or other applicable methods. Also use to test for BTEX in gasoline.

Note: This standard is not compliant with the NELAC concentration ranges for the BTEX analytes. If a NELAC-compliant sample for these analytes is required, use Volatiles in Soil, Cat. #623 or BTEX & MTBE Soil, Cat. #633.

All ERA Soil PTs open quarterly (Q) or biannually (B), unless otherwise noted. Quarterly months are January, April, July, and October.

Volatiles (continued)

BTEX & MTBE in Soil

CRM
Cat. #761PT
Cat. #633

Q

QR
Cat. #761QR

One 2 mL flame-sealed ampule requires spiking onto the ten grams of provided certified clean soil. Includes the analytes below at 20–200 µg/kg (40–400 µg/kg for total xylenes). Use with EPA Method 8021, or other applicable methods.

Benzene
EthylbenzeneMethyl tert-butyl ether
(MTBE)
TolueneXylenes, total
m&p Xylene
o-Xylene

Ready-to-Use VOAs in Soil

CRM
Cat. #924PT
Cat. #870

Q

QR
Cat. #924QR

One 20 mL flame-sealed ampule containing 10 g of soil and 10 mL of methanol is ready to analyze. Use with EPA Methods 8021, 8260, or other applicable methods. Includes a subset of the analytes listed below at 1000–20,000 µg/kg.

Acetone	1,2-Dibromoethane (EDB)	Methylene chloride
Acetonitrile	Dibromomethane	Naphthalene
Acrolein	1,2-Dichlorobenzene	Nitrobenzene
Benzene	1,3-Dichlorobenzene	n-Propylbenzene
Bromobenzene	1,4-Dichlorobenzene	Styrene
Bromochloromethane	Dichlorodifluoromethane	1,1,2-Tetrachloroethane
Bromodichloromethane	1,1-Dichloroethane	1,1,2,2-Tetrachloroethane
Bromoform	1,2-Dichloroethane	Tetrachloroethene
Bromomethane	1,1-Dichloroethene	Toluene
2-Butanone (MEK)	cis-1,2-Dichloroethylene	1,2,3-Trichlorobenzene
n-Butylbenzene	trans-1,2-Dichloroethylene	1,2,4-Trichlorobenzene
sec-Butylbenzene	1,2-Dichloropropane	1,1,2-Trichloroethane
tert-Butylbenzene	1,3-Dichloropropane	Trichloroethene
Carbon disulfide	2,2-Dichloropropane	Trichlorofluoromethane
Carbon tetrachloride	1,1-Dichloropropene	cis-1,3-Dichloropropylene
Chlorobenzene	cis-1,3-Dichloropropylene	1,2,3-Trichlorobenzene
Chlorodibromomethane	trans-1,3-Dichloropropylene	1,2,4-Trimethylbenzene
Chloroethane	Ethylbenzene	1,3,5-Trimethylbenzene
2-Chloroethyl vinyl ether	Hexachlorobutadiene	Vinyl acetate
Chloroform	Hexachloroethane	Vinyl chloride
Chloromethane	2-Hexanone	m&p-Xylene
2-Chlorotoluene	Isopropylbenzene	o-Xylene
4-Chlorotoluene	p-Isopropyltoluene	Xylenes, total
1,2-Dibromo-3-chloropropane (DBCP)	Methyl tert-butyl ether (MTBE)	4-Methyl-2-pentanone (MIBK)



Total Petroleum Hydrocarbons

Total Petroleum Hydrocarbons (TPH) in Soil #1

CRM
Cat. #570PT
Cat. #632

Q

QR
Cat. #572QR

One screw-top bottle with 50 g of soil to be analyzed for TPH. Use with EPA IR or Gravimetric Methods 8440, 9071B, or other applicable methods.

Non-polar extractable material (TPH) (Gravimetric)..... 300–3000 mg/kg
Non-polar extractable material (TPH) (IR) 300–3000 mg/kg

Total Petroleum Hydrocarbons (TPH) in Soil #2

CRM
Cat. #571PT
Cat. #632

Q

QR
Cat. #572QR

One screw-top bottle with 50 g of soil to be analyzed for TPH in the presence of interfering fatty acids. Use with EPA IR or Gravimetric Methods 8440, 9071B, or other applicable methods.

Non-polar extractable material (TPH) (Gravimetric)..... 300–3000 mg/kg
Non-polar extractable material (TPH) (IR) 300–3000 mg/kg

TCLP

TCLP Volatiles

CRM
Cat. #730QR
Cat. #730QR

One 2 mL flame-sealed ampule containing a subset of the analytes listed below, each at a concentration of 0.05–2.0 mg/L.

Benzene	Chloroform	Tetrachloroethylene
2-Butanone (MEK)	1,4-Dichlorobenzene	Trichloroethylene
Carbon tetrachloride	1,2-Dichloroethane	Vinyl chloride
Chlorobenzene	1,1-Dichloroethylene	

TCLP Semivolatiles

CRM
Cat. #737QR
Cat. #737QR

One 2 mL flame-sealed ampule containing a subset of the analytes listed below, each at a concentration of 0.1–2.0 mg/L after dilution. All unspiked analytes are certified at <0.5 mg/L.

1,4-Dichlorobenzene	Hexachloroethane	Pentachlorophenol
2,4-Dinitrotoluene	2-Methylphenol	Pyridine
Hexachlorobenzene	3 & 4-Methylphenol	2,4,5-Trichlorophenol
Hexachlorobutadiene	Nitrobenzene	2,4,6-Trichlorophenol

TCLP Organochlorine Pesticides

CRM
Cat. #732QR
Cat. #732QR

One 2 mL flame-sealed ampule containing a subset of the analytes listed below, each at a concentration of 0.01–0.2 mg/L after dilution. All unspiked analytes are certified at <0.1 mg/L.

Endrin	Heptachlor epoxide	Methoxychlor
Heptachlor	gamma-BHC (Lindane)	

Semivolatiles

Nitroaromatics & Nitramines in Soil

CRM Cat. #920	PT Cat. #871	Q	QR Cat. #920QR
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Two flame-sealed ampules each containing 30 g of soil are ready to analyze. Use for EPA Methods 8330, 8091, or other applicable methods. Includes a subset of the analytes listed below at 1500–15,000 µg/kg.

4-Amino-2,6-dinitrotoluene	HMX	RDX
2-Amino-4,6-dinitrotoluene	Nitrobenzene	Tetryl
1,3-Dinitrobenzene	2-Nitrotoluene	1,3,5-Trinitrobenzene
2,4-Dinitrotoluene	3-Nitrotoluene	2,4,6-Trinitrotoluene
2,6-Dinitrotoluene	4-Nitrotoluene	

PFAS in Soil

NEW PRODUCT

CRM Cat. #603	PT Cat. #465	Q	QR Cat. #603QR
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One flame-sealed ampule containing 10 g of soil. The standard is certified for all analytes listed below. Each lot will be spiked with a minimum of 24 analytes. Design is suitable for methods analyzing these components with LC-MS/MS techniques.

Perfluorobutanoic acid, PFBA.....	5–50 µg/kg
Perfluoropentanoic acid, PFPeA.....	5–50 µg/kg
Perfluorohexanoic acid, PFHxA.....	5–50 µg/kg
Perfluoroheptanoic acid, PFHpA.....	5–50 µg/kg
Perfluoroctanoic acid, PFOA.....	5–50 µg/kg
Perfluorononanoic acid, PFNA.....	5–50 µg/kg
Perfluorodecanoic acid, PFDA.....	5–50 µg/kg
Perfluoroundecanoic acid, PFUdA.....	5–50 µg/kg
Perfluorododecanoic acid, PFDaO.....	5–50 µg/kg
Perfluorotridecanoic acid, PFTrDA.....	5–50 µg/kg
Perfluorotetradecanoic acid, PFTeDA.....	5–50 µg/kg
Perfluorobutanesulfonic acid, PFBS.....	5–50 µg/kg
Perfluoropentanesulfonic acid, PFPeS.....	5–50 µg/kg
Perfluorohexanesulfonic acid, PFHxS.....	5–50 µg/kg
Perfluoroheptanesulfonic acid, PFHs.....	5–50 µg/kg
Perfluoroocotanesulfonic acid, PFOS.....	5–50 µg/kg
Perfluorononanesulfonic acid, PFNS.....	5–50 µg/kg
Perfluorodecanesulfonic acid, PFDS.....	5–50 µg/kg
Perfluorododecanesulfonic acid, PFDs.....	5–50 µg/kg
4:2 fluorotelomersulfonic acid, 4:2 FTS.....	5–50 µg/kg
6:2 fluorotelomersulfonic acid, 6:2 FTS.....	5–50 µg/kg
8:2 fluorotelomersulfonic acid, 8:2 FTS.....	5–50 µg/kg
Perfluoroctanesulfonamide, PFOSA.....	5–50 µg/kg
N-ethyl perfluorooctanesulfonamidoacetic acid, NEtFOSAA.....	5–50 µg/kg
N-methyl perfluorooctanesulfonamidoacetic acid, NMefFOSAA.....	5–50 µg/kg
N-ethyl perfluorooctanesulfonamide, NEtFOSA.....	5–50 µg/kg
N-methyl perfluorooctanesulfonamide, NMefFOSA.....	5–50 µg/kg
N-ethyl perfluorooctanesulfonamidoethanol, NEtFOSE.....	5–50 µg/kg
N-methyl perfluorooctanesulfonamidoethanol, NMefFOSE.....	5–50 µg/kg
3-Perfluoropropyl propanoic acid, 3:3 FTCA.....	5–50 µg/kg
2H,2H,3H,3H-Perfluoroctanoic acid, 5:3 FTCA.....	5–50 µg/kg
3-Perfluoroheptyl propanoic acid, 7:3 FTCA.....	5–50 µg/kg
Hexafluoropropylene oxide dimer acid, HFPO-DA.....	5–50 µg/kg
4,8-dioxa-3H-perfluorononanoic acid, ADONA.....	5–50 µg/kg
9-chlorohexadecafluoro-3-oxanowane-1-sulfonic acid, 9Cl-PF3ONS.....	5–50 µg/kg
11-chloroeicosfluoro-3-oxaundecane-1-sulfonic acid, 11Cl-PF30UDs.....	5–50 µg/kg
Perfluoro-4-methoxybutanoic acid, PFMBA.....	5–50 µg/kg
Perfluoro-3-methoxypropanoic acid, PFMPA.....	5–50 µg/kg
Perfluoro(2-ethoxyethane) sulfonic acid, PFEESA.....	5–50 µg/kg
Nonafluoro-3,6-dioxaheptanoic acid, NFDHA.....	5–50 µg/kg

Low-Level PAHs in Soil

CRM Cat. #722	PT Cat. #625	Q	QR Cat. #722QR
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Two flame-sealed ampules each containing 30 g are ready to analyze. Use for EPA HPLC Method 8310, 8270 SIM, or other applicable method. Includes a subset of the analytes listed below at 50–1000 µg/kg.

Acenaphthene	Benzo(g,h,i)perylene	Fluorene
Acenaphthylene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene
Anthracene	Chrysene	Naphthalene
Benzo(a)anthracene	Dibenz(a,h)anthracene	Phenanthrene
Benzo(b)fluoranthene	Fluoranthene	Pyrene
Benzo(k)fluoranthene		

Diesel Range Organics (DRO) in Soil

CRM Cat. #765	PT Cat. #631	Q	QR Cat. #765QR
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One flame-sealed ampule with 20 g of soil spiked with #2 Diesel Fuel in the range 300–3000 mg/kg. Use with modified EPA Method 8015, or other applicable GC/FID methods.

Glycols in Soil

CRM Cat. #928	PT Cat. #463	Q	QR Cat. #928QR
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Two flame-sealed ampules each containing 30 g of soil are ready-to-use. Use with EPA Methods 8015B, 8430, 1671, or other applicable method. Includes all the analytes listed below at 75–200 mg/kg.

Diethylene glycol	Propylene glycol	Triethylene glycol
Ethylene glycol	Tetraethylene glycol	

Base/Neutrals & Acids in Soil

CRM Cat. #727	PT Cat. #467	Q	QR Cat. #727QR
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Two flame-sealed ampules each containing 30 g of soil are ready-to-use. Use with EPA Method 8270, or other applicable method. Includes a subset of the analytes listed below at 500–15,000 µg/kg.

Acenaphthene	2-Chlorophenol	2-Methyl-4,6-dinitrophenol
Acenaphthylene	4-Chlorophenyl phenyl ether	2-Methylnaphthalene
Acetophenone	Chrysene	2-Methylphenol
2-Amino-1-methylbenzene	Dibenz(a,h)anthracene	3 & 4-Methylphenol
(o-Toluidine)	Dibenzofuran	Naphthalene
Aniline	Di-n-butyl phthalate	2-Nitroaniline
Anthracene	1,2-Dichlorobenzene	3-Nitroaniline
Atrazine	1,3-Dichlorobenzene	4-Nitroaniline
Benzaldehyde	1,4-Dichlorobenzene	Nitrobenzene
Benzidine	3,3'-Dichlorobenzidine	2-Nitrophenol
Benzic acid	2,4-Dichlorophenol	4-Nitrophenol
Benzo(a)anthracene	2,6-Dichlorophenol	N-Nitrosodiethylamine
Benzo(b)fluoranthene	Diethyl phthalate	N-Nitrosodimethylamine
Benzo(k)fluoranthene	2,4-Dimethylphenol	N-Nitrosodiphenylamine
Benzo(g,h,i)perylene	Dimethyl phthalate	N-Nitroso-di-n-propylamine
Benzo(a)pyrene	2,4-Dinitrophenol	2,2'-Oxybis(1-Chloropropane)
Benzyl alcohol	2,4-Dinitrotoluene	Pentachlorobenzene
Biphenyl	2,6-Dinitrotoluene	Pentachlorophenol
4-Bromophenyl phenyl ether	Di-n-octyl phthalate	Phenanthrene
Butyl benzyl phthalate	bis(2-Ethylhexyl)phthalate	Phenol
Caprolactam	Fluoranthene	Pyrene
Carbazole	Fluorene	Pyridine
4-Chloroaniline	Hexachlorobenzene	1,2,4,5-Tetrachlorobenzene
bis(2-Chloroethyl)ether	Hexachlorobutadiene	2,3,4,6-Tetrachlorophenol
bis(2-Chloroethoxy)methane	Hexachlorocyclopentadiene	1,2,4-Trichlorobenzene
4-Chloro-3-methylphenol	Hexachloroethane	2,4,5-Trichlorophenol
1-Chloronaphthalene	Indeno(1,2,3-cd)pyrene	2,4,6-Trichlorophenol
2-Chlorophthalene	Isophorone	

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Herbicides

Chlorinated Acid Herbicides in Soil

CRM
Cat. #723

PT
Cat. #626



QR
Cat. #723QR

Two flame-sealed ampules, each containing 30 g of soil are ready-to-use. Use with EPA Method 8151, or other applicable methods. Includes a subset of the analytes listed below at 100–1000 µg/kg (MCPA & MCPP 1000–10,000 µg/kg).

Acifluorfen	Dalapon	MCPP
Bentazon	Dicamba	4-Nitrophenol
Chloramben	3,5-Dichlorobenzoic acid	Pentachlorophenol
2,4-D	Dichlorprop	Picloram
2,4-DB	Dinoseb	2,4,5-T
Dacthal diacid (DCPA)	MCPA	2,4,5-TP (Silvex)

This standard is not compliant with the NELAC concentration for 4-Nitrophenol. If a NELAC compliant sample is required for this analyte, use Base/Neutrals and Acids in Soil.

PCBs in Oil Standards

PCBs in oil standards are sold individually in ready-to-use flame-sealed ampules with 5 g of oil. Use with EPA Methods 8082, EPA-600/4-81-045, Sept. 1982, or other applicable methods. LOW LEVEL standards contain an aroclor in the range 10–50 ppm. HIGH LEVEL standards contain an aroclor in the range 51–500 ppm.

CRM Cat. #	Concentration	Aroclor	Range
820	Low	1242	10–50 ppm
821	High	1242	51–500 ppm
826	Low	1248	10–50 ppm
827	High	1248	51–500 ppm
822	Low	1254	10–50 ppm
823	High	1254	51–500 ppm
824	Low	1260	10–50 ppm
825	High	1260	51–500 ppm

PCBs

PCBs in Oil

CRM
Cat. #563

PT
Cat. #817



QR
Cat. #563QR

One 10 mL flame-sealed ampule is ready to analyze. Contains a different Aroclor, randomly selected from the list below at 10–50 mg/kg.

Aroclor 1016	Aroclor 1242	Aroclor 1254
Aroclor 1221	Aroclor 1248	Aroclor 1248
Aroclor 1232		Aroclor 1260

PCBs in Soil

CRM
Cat. #726

PT
Cat. #624



QR
Cat. #726QR

One screw-top bottle containing 50 grams of standard is ready to analyze. Use with EPA Method 8082, or other applicable methods. Each standard includes a different aroclor randomly selected from the list below at 1–50 mg/kg.

Aroclor 1016	Aroclor 1242	Aroclor 1254
Aroclor 1221	Aroclor 1248	Aroclor 1260
Aroclor 1232		

PCBs in Soil Standards

PCBs in soil standards are sold individually in screw-top bottles containing 50 g of soil. Use with EPA Methods 8082, 4020, or other applicable methods. LOW LEVEL standards contain an aroclor in the range 0.5–50 ppm. HIGH LEVEL standards contain an aroclor in the range 51–500 ppm.

CRM Cat. #	Concentration	Aroclor	Range
490	Low	1242	0.5–50 ppm
491	High	1242	51–500 ppm
496	Low	1248	0.5–50 ppm
497	High	1248	51–500 ppm
492	Low	1254	0.5–50 ppm
493	High	1254	51–500 ppm
494	Low	1260	0.5–50 ppm
495	High	1260	51–500 ppm



Learn more about Soil products

Pesticides

Organochlorine Pesticides in Soil

CRM
Cat. #728

PT
Cat. #468

Q

QR
Cat. #728QR

Two flame-sealed ampules each containing 30 g of soil are ready-to-use. Use with EPA Method 8081, or other applicable methods. Includes a subset of the analytes listed below at 50–500 µg/kg.

Aldrin	4,4'-DDD	Endrin
alpha-BHC	4,4'-DDE	Endrin aldehyde
beta-BHC	4,4'-DDT	Endrin ketone
delta-BHC	Dieldrin	Heptachlor
gamma-BHC (Lindane)	Endosulfan I	Heptachlor epoxide
alpha-Chlordane	Endosulfan II	Methoxychlor
gamma-Chlordane	Endosulfan sulfate	

Chlordane in Soil

CRM
Cat. #725

PT
Cat. #628

Q

QR
Cat. #725QR

One screw-top bottle containing 50 g of soil is ready to analyze. Use with EPA Method 8081, or other applicable methods. The standard contains technical chlordane at 100–1000 µg/kg.

Toxaphene in Soil

CRM
Cat. #724

PT
Cat. #627

Q

QR
Cat. #724QR

One screw-top bottle containing 50 g of soil is ready to analyze. Use with EPA Method 8081, or other applicable methods. The standard contains toxaphene at 200–2000 µg/kg.

Carbamate Pesticides in Soil

CRM
Cat. #926

PT
Cat. #879

Q

QR
Cat. #926QR

Two flame-sealed ampules, each containing 30 g of soil are ready to analyze. Use with EPA Methods 8318, 8321, or other applicable methods. Each standard contains a subset of the analytes listed below at 250–2500 µg/kg.

Aldicarb	Dioxacarb	Oxamyl
Aldicarb sulfone	Diuron	Promecarb
Aldicarb sulfoxide	3-Hydroxycarbofuran	Propham
Carbaryl	Methiocarb	Propoxur
Carbofuran	Methomyl	

Organophosphorus Pesticides (OPP) in Soil

CRM
Cat. #925

PT
Cat. #878

Q

QR
Cat. #925QR

Two flame-sealed ampules, each containing 30 g of soil are ready to analyze. Use with EPA Method 8141, or other applicable methods. Each standard contains a subset of the analytes listed below at 100–1000 µg/kg.

Azinphos-methyl (Guthion)	Dichlorvos (DDVP)	Phorate
Chlorpyrifos	Disulfoton	Ronnel
Demeton	Ethyl parathion (Parathion)	Stirophos (Tetrachlorovinphos)
Demeton O & S	Malathion	Terbufos
Diazinon	Methyl parathion	

Blank Soil

Metals & Cyanide Blank Sand

CRM
Cat. #058

One 40 g sand sample in a screw-cap bottle. The concentrations of all EPA/NELAC including the priority pollutant metal and cyanide analytes are below the CLP Required Detection Limits (CRDLs) except iron, which is <250 mg/kg.

Metals & Cyanide Blank Soil

CRM
Cat. #057

One 40 g soil sample in a screw-cap bottle. The concentrations of all of the following analytes are below the CLP CRDL's: antimony, arsenic, beryllium, cadmium, cobalt, mercury, nickel, selenium, silver, sodium, thallium, and cyanide. The concentrations of the following analytes are below 10x the CLP CRDL's: barium, chromium, copper, lead, magnesium, potassium, and vanadium. The concentrations of manganese and zinc are <750 mg/kg. The concentration range for aluminum, calcium, and iron is 3000–25,000 mg/kg.



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UNDERGROUND STORAGE TANK

Our Underground Storage Tank (UST) products in water and soil matrices are purposefully designed to meet accreditation requirements for Petroleum Hydrocarbons analysis in various jurisdictions.



UST in Water PT Scheme Schedule

2024

UST in Water

	Scheme #	Opens	Closes
Q	WP 348	Jan 16	Mar 1
Q	WP 351	Apr 15	May 30
Q	WP 354	Jul 15	Aug 29
Q	WP 357	Oct 11	Nov 25

2025

UST in Water

	Scheme #	Opens	Closes
Q	WP 360	Jan 21	Mar 7
Q	WP 363	Apr 14	May 29
Q	WP 366	Jul 14	Aug 28
Q	WP 369	Oct 10	Nov 24



Soil (including UST in Soil) PT Schedule

2024

Soil (including UST in Soil)

	Scheme #	Opens	Closes
Q	SOIL 125	Jan 22	Mar 7
Q	SOIL 126	Apr 22	Jun 6
Q	SOIL 127	Jul 22	Sep 5
Q	SOIL 128	Oct 18	Dec 2

2025

Soil (including UST in Soil)

	Scheme #	Opens	Closes
Q	SOIL 129	Jan 27	Mar 13
Q	SOIL 130	Apr 21	Jun 5
Q	SOIL 131	Jul 21	Sep 4
Q	SOIL 132	Oct 17	Dec 1

Schedule subject to change – see Waters ERA's website at eraqc.com

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Alaska DRO in Water	647	—	475QR	49
Alaska GRO in Soil	635	—	469QR	49
Alaska GRO in Water	645	—	473QR	49
Alaska RRO in Soil	638	—	472QR	49
Arizona TPH in Soil	798	488 Q	798QR	49
BTEX & MTBE in Soil	761	633 Q	761QR	48
BTEX & MTBE in Water	760	643 Q	760QR	48
Diesel Range Organics in Soil	765	631 Q	765QR	48
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Gasoline Range Organics in Soil	763	630 Q	763QR	48
Gasoline Range Organics in Water	762	640 Q	762QR	48
Massachusetts EPH in Soil	569	484 Q	569QR	50
Massachusetts VPH in Soil	568	483 Q	568QR	50
Massachusetts EPH in Water	567	482 Q	567QR	50
Massachusetts VPH in Water	566	481 Q	566QR	50

CRM: A reference material characterized by a metrologically valid procedure for one or more specified properties, accompanied by a reference material certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability.

A complete listing of ERA's CRMs can be found on our Scope of Accreditation for general requirements for competence of reference material producers available at www.eraqc.com/AboutERA/Accreditations.

PT: A Proficiency Test (PT) is an analysis of what is often referred to as a blind sample or a sample with unknown concentrations of analytes for the purpose of evaluating a laboratory's analytical performance.

Description	CRM	PT	QR	Page
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Texas High-Level Fuels in Water	795	477 Q	795QR	49
Texas Low-Level Fuels in Soil	796	478 Q	796QR	49
Texas Low-Level Fuels in Water	794	476 Q	794QR	49
Total Petroleum Hydrocarbons (TPH) in Soil #1	570	632 Q	572QR	48
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Total Petroleum Hydrocarbons (TPH) in Water #1	600	642 Q	602QR	48
Total Petroleum Hydrocarbons (TPH) in Water #2	601	642 Q	602QR	48
Washington HEM/SGT-HEM	519	489 Q	519QR	50
Wisconsin Gasoline Range Organics (GRO/PVOC) in Water	773	649 Q	773QR	50
Wisconsin Diesel Range Organics (DRO) in Water	772	648 Q	772QR	50

QR: Similar to a Proficiency Test, a QuiK Response (QR) is a sample with unknown concentrations. However, unlike a scheduled PT, QR is on-demand and available at any time. Plus, your results are returned within two business days. QuiK Response can be used as a bilateral PT as referenced in the IUPAC/CITAC guide: Selection and use of PT schemes for a limited number of participants – chemical analytical labs.

RM: A material, sufficiently homogeneous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process.

All Waters ERA UST PTs open quarterly (Q) unless otherwise noted. Quarterly months are January, April, July, and October.

B Waters ERA NJ EPH in Soil PT opens in April and October.

UST in Soil

BTEX & MTBE in Soil

CRM
Cat. #761PT
Cat. #633QR
Cat. #761QR

One 2 mL flame-sealed ampule requires spiking onto the ten grams of provided certified clean soil. Includes all the BTEX compounds and MTBE at 20–200 µg/kg (40–400 µg/kg for total xylenes). Use with EPA Method 8021, or other applicable methods.

Gasoline Range Organics (GRO) in Soil

CRM
Cat. #763PT
Cat. #630QR
Cat. #763QR

One flame-sealed ampule with 20 g of soil spiked with unleaded regular gasoline in the range 100–2000 mg/kg. Use with purge and trap and modified EPA Method 8015, or other applicable GC/FID methods. Also use to test for BTEX in gasoline.

Note: This standard is not compliant with the NELAC concentration ranges for the BTEX analytes. If a NELAC-compliant sample for these analytes is required, use Volatiles in Soil, Cat. #623 or BTEX & MTBE Soil, Cat. #633.

Diesel Range Organics (DRO) in Soil

CRM
Cat. #765PT
Cat. #631QR
Cat. #765QR

One flame-sealed ampule with 20 g of soil spiked with #2 Diesel Fuel in the range 300–3000 mg/kg. Use with modified EPA Method 8015, or other applicable GC/FID methods.

Total Petroleum Hydrocarbons (TPH) in Soil #1

CRM
Cat. #570PT
Cat. #632QR
Cat. #572QR

One screw-top bottle with 50 g of soil to be analyzed for total petroleum hydrocarbons (TPH). Use with EPA IR, Gravimetric Methods 8440 and 9071B, or other applicable methods.

Non-polar extractable material (TPH) (Gravimetric).....300–3000 mg/kg
Non-polar extractable material (TPH) (IR).....300–3000 mg/kg

Total Petroleum Hydrocarbons (TPH) in Soil #2

CRM
Cat. #571PT
Cat. #632QR
Cat. #572QR

One screw-top bottle contains 50 g of soil with TPH in the presence of interfering fatty acids. Use with EPA Methods 8440, 9071B, or other applicable methods.

Non-polar extractable material (TPH) (Gravimetric).....300–3000 mg/kg
Non-polar extractable material (TPH) (IR).....300–3000 mg/kg

UST in Water

BTEX & MTBE in Water

CRM
Cat. #760PT
Cat. #643QR
Cat. #760QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Use with EPA Methods 602, 8021, or other applicable methods. Includes all BTEX compounds and MTBE at 5–300 µg/L after dilution.

Gasoline Range Organics (GRO) in Water

CRM
Cat. #762PT
Cat. #640QR
Cat. #762QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with both purge and trap, and modified EPA Method 8015, or other applicable GC/FID methods to test for GRO at 400–4000 µg/L. Also use to test for BTEX in gasoline.

Diesel Range Organics (DRO) in Water

CRM
Cat. #764PT
Cat. #641QR
Cat. #764QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with modified EPA Method 8015, or other applicable GC/FID methods. Includes #2 Diesel Fuel at 800–6000 µg/L.

Total Petroleum Hydrocarbons (TPH) in Water #1

CRM
Cat. #600PT
Cat. #642QR
Cat. #602QR

One liter whole-volume bottle is ready to analyze for total petroleum hydrocarbons (TPH) without interfering fatty acids. Use with EPA Methods 418.1, 1664, 5520, or other applicable methods.

Total petroleum hydrocarbons.....20–200 mg/L

Total Petroleum Hydrocarbons (TPH) in Water #2

CRM
Cat. #601PT
Cat. #642QR
Cat. #602QR

One liter whole-volume bottle is ready to analyze for TPH in water in the presence of interfering fatty acids. Use with EPA Methods 418.1, 1664, 5520, 8440, or other applicable methods.

Total petroleum hydrocarbons.....20–200 mg/L



Learn more about Underground Storage products



Alaska UST in Water

Alaska GRO in Water

CRM
Cat. #645

QR
Cat. #473QR

One 2 mL flame-sealed ampule. Use with method AK101 for unleaded regular gasoline at 100–500 µg/L after dilution.

Alaska DRO in Water

CRM
Cat. #647

QR
Cat. #475QR

One 2 mL flame-sealed ampule. Use with method AK102 for #2 Diesel Fuel at 800–2300 µg/L after dilution.

Alaska BTEX in Water

CRM
Cat. #646

QR
Cat. #474QR

One 2 mL flame-sealed ampule. Use with method AK101 for all BTEX analytes at 5–30 µg/L after dilution.

Alaska UST in Soil

Alaska GRO in Soil

CRM
Cat. #635

QR
Cat. #469QR

One 20 mL flame-sealed ampule with 10 g of soil and 10 mL of methanol with unleaded regular gasoline at 30–1500 mg/kg. Use with method AK101.

Alaska DRO in Soil

CRM
Cat. #637

QR
Cat. #471QR

One flame-sealed ampule with 20 g of soil spiked with #2 Diesel Fuel at 30–1500 mg/kg. Use with method AK102.

Alaska RRO in Soil

CRM
Cat. #638

QR
Cat. #472QR

One flame-sealed ampule with 20 g of soil with Residual Range Organic fuels at 150–2000 mg/kg. Use with method AK103.

Alaska BTEX in Soil

CRM
Cat. #636

QR
Cat. #470QR

One 2 mL flame-sealed ampule along with clean soil matrix for spiking. Use with method AK101 for all BTEX analytes at 5–100 mg/kg after spiking.

Arizona UST in Soil

Arizona TPH in Soil

CRM
Cat. #798

PT
Cat. #488

Q

QR
Cat. #798QR

One ready-to-use flame-sealed ampule with 30 g of soil with Oil Range Organics and #2 Diesel Fuel. Use with method 8015AZ for TPH in the range 300–400 mg/kg. Also includes two carbon ranges.

Texas TPH in Water

All Texas TPH PT standards are designed for use with TNRCC 1005 method. The standards meet the requirements of all states that accredit for these methods including Texas, Louisiana, and Oklahoma.

Texas Low-Level Fuels (TPH) in Water

CRM
Cat. #794

PT
Cat. #476

Q

QR
Cat. #794QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Contains unleaded regular gasoline and #2 Diesel Fuel resulting in TPH in the range 5–10 mg/L.

Texas High-Level Fuels (TPH) in Water

CRM
Cat. #795

PT
Cat. #477

Q

QR
Cat. #795QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Contains unleaded regular gasoline and #2 Diesel Fuel resulting in TPH in the range 20–100 mg/L.

Texas TPH in Soil

Texas Low-Level Fuels (TPH) in Soil

CRM
Cat. #796

PT
Cat. #478

Q

QR
Cat. #796QR

One ready-to-use flame-sealed ampule with 20 g of soil with unleaded gasoline and #2 Diesel Fuel for TPH in the range 50–100 mg/kg.

Texas High-Level Fuels (TPH) in Soil

CRM
Cat. #797

PT
Cat. #479

Q

QR
Cat. #797QR

One ready-to-use flame-sealed ampule with 20 g of soil with unleaded gasoline and #2 Diesel Fuel for TPH in the range 1000–20,000 mg/kg.

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

RM – Reference Material

All Waters ERA UST PTs open quarterly (Q) unless otherwise noted. Quarterly months are January, April, July, and October.

Wisconsin GRO/PVOC/DRO Method UST

All Wisconsin UST PT standards are designed for use with Wisconsin GRO/PVOC or DRO Methods. The standards meet the requirements of all states that accredit for these methods including Wisconsin and Minnesota.

Wisconsin Gasoline Range Organics (GRO/PVOC) in Water

CRM
Cat. #773PT
Cat. #649QR
Cat. #773QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Includes ten gasoline range synthetic organic compounds as defined by Wisconsin. Use with Wisconsin GRO/PVOC Method.

Wisconsin Diesel Range Organics (DRO) in Water

CRM
Cat. #772PT
Cat. #648QR
Cat. #772QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Includes ten diesel range synthetic organic compounds in the range 200–600 µg/L. Use with the Wisconsin DRO Method.

Washington HEM/SGT-HEM Method UST

The Washington UST PT standard is designed for use with EPA Method 1664 for HEM/SGT-HEM.

Washington HEM/SGT-HEM

CRM
Cat. #519PT
Cat. #489QR
Cat. #519QR

One 5 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Method 1664 to measure HEM/SGT-HEM at 5–100 mg/L.

New Jersey EPH

The New Jersey EPH in Soil standard is designed for use with the NJ Extractable Petroleum Hydrocarbons Method.

New Jersey EPH in Soil

CRM
Cat. #564PT
Cat. #464QR
Cat. #564QR

One flame-sealed ampule with 20 g soil containing EPH in the range of 300–3000 mg/kg.

B The NJ EPH in Soil PT studies open in April and October.

Massachusetts Hydrocarbons in Water

All Massachusetts UST PT standards are designed for use with Massachusetts Volatile Petroleum Hydrocarbon or Extractable Petroleum Hydrocarbon Methods. The standards meet the requirements of all states that accredit for these methods including Massachusetts, North Carolina, and Washington when reporting the Massachusetts carbon ranges.

Massachusetts VPH in Water

CRM
Cat. #566PT
Cat. #481QR
Cat. #566QR

One 2 mL flame-sealed ampule yields in excess of 200 mL after dilution. Contains volatile petroleum hydrocarbon fuels (VPH) in the range 400–4000 µg/L. Use with the Massachusetts Volatile Petroleum Hydrocarbon Method for multiple carbon ranges, BTEX compounds and MTBE.

Massachusetts EPH in Water

CRM
Cat. #567PT
Cat. #482QR
Cat. #567QR

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Contains extractable petroleum hydrocarbon fuels (EPH) in the range 800–6000 µg/L. Use with the Massachusetts Extractable Petroleum Hydrocarbon Method for multiple carbon ranges and PAH compounds.

Massachusetts Hydrocarbons in Soil

Massachusetts VPH in Soil

CRM
Cat. #568PT
Cat. #483QR
Cat. #568QR

One flame-sealed ampule with 20 g soil with VPH fuels. Contains volatile petroleum hydrocarbon fuels (VPH) in the range 100–2000 mg/kg. Use with the Massachusetts Volatile Petroleum Hydrocarbon Method for multiple carbon ranges, BTEX compounds and MTBE.

Massachusetts EPH in Soil

CRM
Cat. #569PT
Cat. #484QR
Cat. #569QR

One flame-sealed ampule with 20 g soil with EPH fuels. Contains extractable petroleum hydrocarbon fuels (EPH) in the range 300–3000 mg/kg. Use with the Massachusetts Extractable Petroleum Hydrocarbon Method for multiple carbon ranges and PAH compounds.

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

RM – Reference Material

All Waters ERA UST PTs open quarterly (**Q**) unless otherwise noted. Quarterly months are January, April, July, and October.

WE FOCUS ON QUALITY AND SERVICE, SO YOU CAN FOCUS ON YOUR BUSINESS

Unmatched Technical Expertise

As your Partner in Quality, our goal is to help you maintain successful PT performance, solve routine analysis challenges, and improve corrective actions. Whether it's organic and/or inorganic chemistry, microbiology, analytical instrumentation or methods, our experts are ready to help you with:

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AIR & EMISSIONS

Matrices consisting of organic, inorganic, and particulate matter for testing emissions and ambient air. Standards are designed to meet regulations of the United States Environmental Protection Clean Air Act and may be used to satisfy PT requirements worldwide.



Air & Emissions PT Schedule

2024

Air & Emissions

	Scheme #	Opens	Closes
Q	AE 67	Jan 29	Mar 14
Q	AE 68	Apr 29	Jun 13
Q	AE 69	Jul 29	Sep 12
Q	AE 70	Oct 25	Dec 9

2025

Air & Emissions

	Scheme #	Opens	Closes
Q	AE 71	Jan 31	Mar 17
Q	AE 72	Apr 28	Jun 12
Q	AE 73	Jul 28	Sep 11
Q	AE 74	Oct 24	Dec 8

Schedule subject to change – see Waters ERA's website at eraqc.com

Contents

CRM: A reference material characterized by a metrologically valid procedure for one or more specified properties, accompanied by a reference material certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability.

A complete listing of ERA's CRMs can be found on our Scope of Accreditation for general requirements for competence of reference material producers available at www.eraqc.com/AboutERA/Accreditations.

PT: A Proficiency Test (PT) is an analysis of what is often referred to as a blind sample or a sample with unknown concentrations of analytes for the purpose of evaluating a laboratory's analytical performance.

QR: Similar to a Proficiency Test, a QuiK Response (QR) is a sample with unknown concentrations. However, unlike a scheduled PT, QR is on-demand and available at any time. Plus, your results are returned within two business days. QuiK Response can be used as a bilateral PT as referenced in the IUPAC/CITAC guide: Selection and use of PT schemes for a limited number of participants – chemical analytical labs.

RM: A material, sufficiently homogeneous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process.

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 All Waters ERA Air & Emissions PTs open quarterly. Quarterly months are January, April, July, and October.

Volatiles

Volatiles in Gas Cylinder*

RM** Cat. #1100	PT Cat. #1000	Q	QR Cat. #1100QR
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One pressurized gas cylinder containing 87 L of gas at 1500 psig (103 bar) for use with EPA methods TO-14, TO-15, or other applicable methods. Contains at least 10 analytes, randomly selected from the list below, at 2–50 ppbv (4–100 ppbv) for Total Xylenes.

Acetone	1,1-Dichloroethane	Styrene	
Benzene	1,2-Dichloroethane	1,1,2,2-Tetrachloroethane	
Benzyl chloride	1,1-Dichloroethylene	Tetrachloroethylene	
Bromodichloromethane	cis-1,2-Dichloroethylene	Toluene	
Bromoform	trans-1,2-Dichloroethylene	Trichloroethene	
Bromomethane	1,2-Dichloropropane	1,2,4-Trichlorobenzene	
1,3-Butadiene	cis-1,3-Dichloropropylene	1,1,1-Trichloroethane	
2-Butanone (MEK)	trans-1,3-Dichloropropylene	1,1,2-Trichloroethane	
Methyl tert-butyl ether (MTBE)	1,2-Dichlorotetrafluoroethane	Trichlorofluoromethane	
Carbon disulfide	(Freon 114)	(Freon 11)	
Carbon tetrachloride	Ethyl acetate	Trichlorotrifluoromethane	
Chlorobenzene	Ethylbenzene	(Freon 113)	
Chlorodibromomethane	p-Ethyltoluene	1,2,4-Trimethylbenzene	
Chloroethane	n-Heptane	1,3,5-Trimethylbenzene	
Chloroform	Hexachlorobutadiene	Vinyl bromide	
Chloromethane	n-Hexane	Vinyl chloride	
Cyclohexane	2-Hexanone	Xylenes, total	
1,2-Dibromoethane (EDB)	Isopropyl alcohol	m&p-Xylene	
1,2-Dichlorobenzene	Methylene chloride	o-Xylene	
1,3-Dichlorobenzene	Methyl methacrylate		
1,4-Dichlorobenzene	4-Methyl-2-pentanone (MIBK)		
Dichlorodifluoromethane	Methyl tert-butyl ether (MTBE)		
(Freon 12)	Propylene		

*Volatiles in Gas Cylinder ships as dangerous goods.

** Reference Material (RM)

Volatiles on Sorbent

CRM Cat. #1101	PT Cat. #1001	Q	QR Cat. #1101QR
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One 2 mL flame-sealed ampule for spiking client-specific sorbent. Use with EPA Methods TO-17, 0030, 0031, or other applicable methods. Contains at least 24 analytes, randomly selected from the list below, at 50–2000 ng/sample (200–3000 ng/sample for Total Xylenes) after preparation.

Acetone	1,1-Dichloropropene	Methylene chloride
Acetonitrile	1,2-Dibromo-3-chloropropane	4-Methyl-2-pentanone (MIBK)
Acrolein	(DBCP)	Naphthalene
Acrylonitrile	1,2-Dibromoethane (EDB)	Nitrobenzene
Benzene	Dibromomethane	n-Propylbenzene
Bromobenzene	1,2-Dichlorobenzene	Styrene
Bromochloromethane	1,3-Dichlorobenzene	1,1,2-Tetrachloroethane
Bromodichloromethane	1,4-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Bromoform	Dichlorodifluoromethane	Tetrachloroethene
Bromomethane	(Freon 12)	Toluene
2-Butanone (MEK)	1,1-Dichloroethane	1,2,3-Trichlorobenzene
n-Butylbenzene	1,2-Dichloroethane	1,2,4-Trichlorobenzene
sec-Butylbenzene	1,1-Dichloroethene	1,1,1-Trichloroethane
tert-Butylbenzene	cis-1,2-Dichloroethene	1,1,2-Trichloroethane
Carbon disulfide	trans-1,2-Dichloroethene	Trichloroethylene
Carbon tetrachloride	1,2-Dichloropropane	Trichlorofluoromethane
Chlorobenzene	cis-1,3-Dichloropropene	1,2,3-Trichloropropane
Chlorodibromomethane	trans-1,3-Dichloropropene	1,2,4-Trimethylbenzene
Chloroethane	Ethylbenzene	1,3,5-Trimethylbenzene
2-Chloroethyl vinyl ether	Hexachlorobutadiene	Vinyl acetate
Chloroform	Hexachloroethane	Vinyl chloride
Chloromethane	2-Hexanone	Xylenes, total
2-Chlorotoluene	Isopropylbenzene	m&p-Xylene
4-Chlorotoluene	4-Isopropyltoluene	o-Xylene
1,3-Dichloropropane	Methyl tert-butyl ether	
2,2-Dichloropropane	(MTBE)	

Semivolatiles

Semivolatiles on Polyurethane Foam

CRM Cat. #1110	PT Cat. #1010	Q	QR Cat. #1110QR
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Two 2 mL flame-sealed ampules plus one polyurethane foam. Use with EPA Method 0010, or other applicable methods. Contains at least 42 analytes, randomly selected from the list below, at 10–225 µg/sample (200–1000 µg/sample for Benzidine) after preparation.

Acenaphthene	1,3-Dichlorobenzene	N-Nitroso-di-n-propylamine
Acenaphthylene	1,4-Dichlorobenzene	2,2'-Oxybis(1-chloropropane)
Aniline	3,3'-Dichlorobenzidine	Pentachlorobenzene
Anthracene	Diethyl phthalate	Phenanthrene
Benzidine	Dimethyl phthalate	Pyrene
Benzo(a)anthracene	2,4-Dinitrotoluene	Pyridine
Benzo(b)fluoranthene	2,6-Dinitrotoluene	o-Toluidine
Benzo(k)fluoranthene	Di-n-octyl phthalate	1,2,4,5-Tetrachlorobenzene
Benzo(g,h,i)perylene	Fluoranthene	1,2,4-Trichlorobenzene
Benzo(a)pyrene	Fluorene	Benzoic Acid
Benzyl alcohol	Hexachlorobenzene	4-Chloro-3-methylphenol
4-Bromophenyl phenyl ether	Hexachlorobutadiene	2-Chlorophenol
Butyl benzyl phthalate	Hexachlorocyclopentadiene	2,4-Dichlorophenol
Carbazole	Hexachloroethane	2,6-Dichlorophenol
4-Chloroaniline	Indeno(1,2,3-cd)pyrene	2,4-Dimethylphenol
Bis(2-chloroethoxy)methane	Isophorone	2,4-Dinitrophenol
Bis(2-chloroethyl)ether	2-Methylnaphthalene	2-Methyl-4,6-dinitrophenol
Bis(2-ethylhexyl)phthalate	Naphthalene	2-Methylphenol (o-Cresol)
1-Chloronaphthalene	2-Nitroaniline	4-Methylphenol (p-Cresol)
2-Chloronaphthalene	3-Nitroaniline	2-Nitrophenol
4-Chlorophenyl phenyl ether	4-Nitroaniline	4-Nitrophenol
Chrysene	Nitrobenzene	Pentachlorophenol
Dibenzo(a,h)anthracene	N-Nitrosodiethylamine	Phenol
Dibenzofuran	N-Nitrosodimethylamine	2,3,4,6-Tetrachlorophenol
Di-n-butyl phthalate	(NDMA)	2,4,5-Trichlorophenol
1,2-Dichlorobenzene	N-Nitrosodiphenylamine	2,4,6-Trichlorophenol

PCBs on Polyurethane Foam

CRM Cat. #1112	PT Cat. #1012	Q	QR Cat. #1112QR
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One 2 mL flame-sealed ampule plus one polyurethane foam. Use with EPA Methods TO-04A, TO-10A, or other applicable methods. Contains one aroclor, randomly selected from the list below, at 2–10 µg/sample after preparation.

Aroclor 1016	Aroclor 1242	Aroclor 1260
Aroclor 1221	Aroclor 1248	
Aroclor 1232	Aroclor 1254	

PAHs on Polyurethane Foam

CRM Cat. #1113	PT Cat. #1013	Q	QR Cat. #1113QR
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One 2 mL flame-sealed ampule plus one polyurethane foam. Use with EPA Method TO-13A, or other applicable methods. Contains at least 13 analytes, randomly selected from the list below, at 10–200 µg/sample after preparation.

Acenaphthene	Benzo(g,h,i)perylene	Indeno(1,2,3-cd)pyrene
Acenaphthylene	Benzo(a)pyrene	1-Methylnaphthalene
Anthracene	Chrysene	2-Methylnaphthalene
Benzo(a)anthracene	Dibenz(a,h)anthracene	Naphthalene
Benzo(b)fluoranthene	Fluoranthene	Phenanthrene
Benzo(k)fluoranthene	Fluorene	Pyrene

Aldehydes & Ketones on Sorbent

CRM Cat. #1114	PT Cat. #1014	Q	QR Cat. #1114QR
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One 2 mL flame-sealed ampule to be spiked onto sorbent. Use with EPA Method TO-11A, or other applicable methods. Contains at least four analytes, randomly selected from the list below, at 0.5–10 µg/sample after preparation.

Acetaldehyde	Crotonaldehyde	Propionaldehyde (Propanal)
Acetone	2,5-Dimethylbenzaldehyde	o-Tolualdehyde
Benzaldehyde	Formaldehyde	m-Tolualdehyde
2-Butanone (MEK)	Hexaldehyde (Hexanal)	p-Tolualdehyde
Butyraldehyde (Butanal)	Isovaleraldehyde	Valeraldehyde (Pentanal)

CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

RM – Reference Material

Q All Waters ERA Air & Emissions PTs open quarterly. Quarterly months are January, April, July, and October.

Metals

Metals on Filter Paper

CRM Cat. #1125	PT Cat. #1025	Q	QR Cat. #1125QR
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One filter paper sample packaged in a 50 mm polystyrene petri dish containing a single 47 mm tissue quartz filter ready for use with EPA Method 29 or other applicable methods.

Antimony.....	25-250 µg/filter
Arsenic.....	20-250 µg/filter
Barium.....	20-250 µg/filter
Beryllium.....	10-250 µg/filter
Cadmium.....	10-250 µg/filter
Chromium.....	15-250 µg/filter
Cobalt.....	10-250 µg/filter
Copper.....	10-250 µg/filter
Lead.....	20-350 µg/filter
Manganese.....	10-250 µg/filter
Nickel.....	20-250 µg/filter
Phosphorus.....	10-250 µg/filter
Selenium.....	20-250 µg/filter
Silver.....	30-250 µg/filter
Thallium.....	30-250 µg/filter
Zinc.....	20-250 µg/filter

Metals in Impinger Solution

CRM Cat. #1126	PT Cat. #1026	Q	QR Cat. #1126QR
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One impinger solution sample packaged in a 15 mL screw-top vial containing approximately 14 mL of standard concentrate for use with EPA Method 29, or other applicable methods.

Antimony.....	0.25-20 µg/mL
Arsenic.....	0.2-20 µg/mL
Barium.....	0.15-25 µg/mL
Beryllium.....	0.05-20 µg/mL
Cadmium.....	0.1-20 µg/mL
Chromium.....	0.2-20 µg/mL
Cobalt.....	0.1-25 µg/mL
Copper.....	0.2-20 µg/mL
Lead.....	0.2-20 µg/mL
Manganese.....	0.1-20 µg/mL
Nickel.....	0.15-30 µg/mL
Phosphorus.....	0.15-25 µg/mL
Selenium.....	0.15-25 µg/mL
Silver.....	0.5-20 µg/mL
Thallium.....	0.15-25 µg/mL
Zinc.....	0.15-25 µg/mL

Mercury on Filter Paper

CRM Cat. #1127	PT Cat. #1027	Q	QR Cat. #1127QR
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One 2 mL flame-sealed ampule containing approximately 2 mL of standard concentrate and a 50 mm polystyrene petri dish containing a single 47 mm glass fiber filter. Sample is ready for use with EPA Method 29, or other applicable methods.

Mercury.....	1-75 µg/filter
--------------	----------------

Mercury in Impinger Solution

CRM Cat. #1128	PT Cat. #1028	Q	QR Cat. #1128QR
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One impinger solution sample packaged in a 15 mL screw-top vial containing approximately 14 mL of standard concentrate for use with EPA Methods 29, 101a, or other applicable methods.

Mercury.....	0.9-200 ng/mL
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Lead on Filter Paper

CRM Cat. #1129	PT Cat. #1029	Q	QR Cat. #1129QR
-------------------	------------------	---	--------------------

One filter paper sample packaged in a 50 mm polystyrene petri dish containing a single 47 mm tissue quartz filter spiked with lead ready-for-use with EPA Method 12 or other applicable methods.

Lead.....	20-350 µg/filter
-----------	------------------

Lead in Impinger Solution

CRM Cat. #1130	PT Cat. #1030	Q	QR Cat. #1130QR
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One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA Method 12, or other applicable methods.

Lead.....	0.2-120 µg/mL
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Chromium on Filter Paper

CRM Cat. #1131	PT Cat. #1031	Q	QR Cat. #1131QR
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One filter paper sample packaged in a 50 mm polystyrene petri dish containing a single 47 mm fiber film filter for use with CARB Method 425, or other applicable methods.

Total chromium.....	1-20 µg/filter
Hexavalent chromium.....	1-20 µg/filter

Hexavalent Chromium in Impinger Solution

CRM Cat. #1132	PT Cat. #1032	Q	QR Cat. #1132QR
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One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA Method 0061/7199, or other applicable methods.

Hexavalent chromium.....	45-880 µg/L
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Inorganics

Hydrogen Halides & Halogens in Impinger Solution

CRM Cat. #1140	PT Cat. #1040	Q	QR Cat. #1140QR
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Two impinger solution samples packaged in 15 mL screw-top vials containing approximately 14 mL of standard concentrate for use with EPA Methods 26, 26a, or other applicable methods.

Total halides.....	10-1000 mg/L
Total halogens.....	10-200 mg/L
Hydrogen chloride.....	5-500 mg/L
Hydrogen fluoride.....	5-500 mg/L
Hydrogen bromide.....	5-100 mg/L
Bromine.....	5-100 mg/L
Chlorine.....	5-100 mg/L

Fluoride in Impinger Solution

CRM Cat. #1141	PT Cat. #1041	Q	QR Cat. #1141QR
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One impinger solution sample packaged in a 15 mL screw-top vial containing approximately 14 mL of standard concentrate for use with EPA Methods 13a, 13b, 14, or other applicable methods.

Fluoride.....	1-50 mg/dscm
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Nitrogen Oxide in Impinger Solution

CRM Cat. #1142	PT Cat. #1042	Q	QR Cat. #1142QR
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One impinger solution sample packaged in a 15 mL screw-top vial containing approximately 14 mL of standard concentrate for use with EPA Method 7, or other applicable methods.

Oxides of nitrogen (NOx).....	100-2000 mg/dscm
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Sulfur Dioxide in Impinger Solution

CRM Cat. #1143	PT Cat. #1043	Q	QR Cat. #1143QR
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One impinger solution sample packaged in a 15 mL screw-top vial containing approximately 14 mL of standard concentrate for use with EPA Method 6 and Method 8, or other applicable methods.

Sulfur dioxide.....	50-2000 mg/dscm
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Sulfuric Acid & Sulfur Dioxide in Impinger Solution

CRM Cat. #1144	PT Cat. #1044	Q	QR Cat. #1144QR
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One impinger solution sample packaged in a 15 mL screw top vial containing approximately 14 mL of standard concentrate for use with EPA Method 8, or other applicable methods.

Sulfuric acid.....	5-150 mg/dscm
--------------------	---------------

Ammonia in Impinger Solution

CRM Cat. #1145	PT Cat. #1045	Q	QR Cat. #1145QR
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One impinger solution sample packaged in a 15 mL screw-top vial containing approximately 14 mL of standard concentrate for use with EPA CTM 027, or other applicable methods.

Ammonium.....	0.1-10 mg/L
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Particulate Matter on Filter Paper

CRM Cat. #1150	PT Cat. #1050	Q	QR Cat. #1150QR
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One filter paper sample packaged in a 50 mm polystyrene petri dish containing a single 47 mm tissue quartz filter ready for use with EPA Methods 5, 5A, 5B, 5D, 5F, or other applicable methods.

Particulate matter.....	50-600 mg/filter
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Particulate Matter in Impinger Solution

CRM Cat. #1151	PT Cat. #1051	Q	QR Cat. #1151QR
-------------------	------------------	---	--------------------

One impinger solution sample packaged in a 250 mL polyethylene bottle containing approximately 250 mL of standard ready for use with EPA Methods 5, 5A, 5B, 5D, 5F, or other applicable methods.

Particulate matter.....	140-675 mg/L
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CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

 All Waters ERA Air & Emissions PTs open quarterly. Quarterly months are January, April, July, and October.



Learn more about Air & Emissions products



RADIOCHEMISTRY

Matrices in soil, vegetation, air filters, and water for monitoring of radiochemicals.

Radiochemistry PT Schedule

2024

Radiochemistry

	Scheme #	Opens	Closes
Q	RAD 136	Jan 8	Feb 22
Q	RAD 137	Apr 8	May 23
Q	RAD 138	Jul 8	Aug 22
Q	RAD 139	Oct 4	Nov 18

2025

Radiochemistry

	Scheme #	Opens	Closes
Q	RAD 140	Jan 13	Feb 27
Q	RAD 141	Apr 7	May 22
Q	RAD 142	Jul 7	Aug 21
Q	RAD 143	Oct 3	Nov 17

MRAD PT Schedule

2024

MRAD

Scheme #	Opens	Closes
MRAD 40	Mar 18	May 17
MRAD 41	Sep 16	Nov 15

2 schemes per year - Open for 60 days

2025

MRAD

Scheme #	Opens	Closes
MRAD 42	Mar 17	May 16
MRAD 43	Sep 22	Nov 21

2 schemes per year - Open for 60 days

Schedule subject to change – see Waters ERA's website at eraqc.com

Contents

CRM: A reference material characterized by a metrologically valid procedure for one or more specified properties, accompanied by a reference material certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability.

A complete listing of ERA's CRMs can be found on our Scope of Accreditation for general requirements for competence of reference material producers available at www.eraqc.com/AboutERA/Accreditations.

PT: A Proficiency Test (PT) is an analysis of what is often referred to as a blind sample or a sample with unknown concentrations of analytes for the purpose of evaluating a laboratory's analytical performance.

QR: Similar to a Proficiency Test, a QuiK Response (QR) is a sample with unknown concentrations. However, unlike a scheduled PT, QR is on-demand and available at any time. Plus, your results are returned within two business days. QuiK Response can be used as a bilateral PT as referenced in the IUPAC/CITAC guide: Selection and use of PT schemes for a limited number of participants – chemical analytical labs.

RM: A material, sufficiently homogeneous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process.

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All Waters ERA WS Radchem PTs open quarterly. Quarterly months are January, April, July, and October.

All Waters ERA MRAD PTs open in March and September.

WS Radchem

All Radchem standards are provided as convenient, easy-to-prepare concentrates except for tritium, which is provided as a whole-volume sample.

Gamma Emitters

CRM Cat. #758	PT Cat. #808	Q	QR Cat. #758QR
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One 12 mL screw-top vial yields up to 2 liters after dilution.

Barium-133.....	10-100 pCi/L
Cesium-134.....	10-100 pCi/L
Cesium-137.....	20-240 pCi/L
Cobalt-60.....	10-120 pCi/L
Zinc-65.....	30-360 pCi/L

Gross Alpha/Beta

CRM Cat. #759	PT Cat. #809	Q	QR Cat. #759QR
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One 12 mL screw-top vial yields up to 1 liter after dilution.

Gross alpha as thorium-230.....	7-75 pCi/L
Gross beta as cesium-137.....	8-75 pCi/L

Naturals

CRM Cat. #751	PT Cat. #811	Q	QR Cat. #751QR
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One 12 mL screw-top vial yields up to 8 liters after dilution.

Radium-226.....	1-20 pCi/L
Radium-228.....	2-20 pCi/L
Uranium (Nat).....	2-70 pCi/L
Uranium (Nat) mass.....	3-104 µg/L

Tritium

CRM Cat. #752	PT Cat. #812	Q	QR Cat. #752QR
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One 250 mL whole-volume bottle is ready to analyze as received. Includes tritium at 1000-24000 pCi/L.

Iodine-131

CRM Cat. #750	PT Cat. #810	Q	QR Cat. #750QR
------------------	-----------------	---	-------------------

One 12 mL screw-top vial yields up to 2 liters after dilution. Contains iodine-131 within the range 3-30 pCi/L. Due to short half-life, CRMs, PTs, and QRs are available only during January, April, July, and October.

Strontium-89/90

CRM Cat. #757	PT Cat. #807	Q	QR Cat. #757QR
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One 12 mL screw-top vial yields up to 2 liters after dilution.

Strontium-89.....	10-70 pCi/L
Strontium-90.....	3-45 pCi/L



Learn more about Radiochemistry products



CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

Q All Waters ERA WS Radchem PTs open quarterly. Quarterly months are January, April, July, and October.

Radchem Lab Control & Matrix Spiking (LCS/MS)

Radiochemistry LCS/MS standards are prepared according to your specifications at activity levels that enable you to directly fortify your batch laboratory control and matrix spike QC samples. These single-use spiking standards are verified, conveniently packaged in 2–20 mL glass vials, and very economical.

The direct benefits:

- Easy-to-use – LCS/MS spiking standards are ready-to-use – no dilutions are required.
- Reliable and consistent – Eliminate the possibility of errors from the contamination or repeated multiple dilutions of your primary stock standards.
- Independently verified – LCS/MS standards are analytically verified and traced to NIST SRMs where available.
- Save money – You no longer need to pay for microcuries of activity when you only need picocuries. You also eliminate the cost of activity loss for short-lived isotopes.
- Reduce analytical cost – You no longer need to spend valuable instrument time re-verifying standard stability. Order what you expect to use on a quarterly or annual basis – we'll do the verification.

The process is easy:

1. Select from any of the following carrier-free, single radionuclide standards.
2. Choose an activity up to the maximum listed in the table below.
3. Choose a convenient volume: 2 to 20 mL glass vials available.
4. For labs that analyze samples with more elevated activities, call for standard availability and pricing.

Single Radionuclide Spiking Standards

Cat. #	Radionuclide	Maximum Activity/Vial
AM241	Americium-241	40 pCi
BA133	Barium-133	400 pCi
CS134	Cesium-134	200 pCi
CS137	Cesium-137	400 pCi
CO60	Cobalt-60	200 pCi
GAB	Gross alpha/beta	30/40 pCi
GA	Gross alpha (Th-230)	30 pCi
GB	Gross beta (Cs-137)	40 pCi
PU238	Plutonium-238	40 pCi
PU239	Plutonium-239	40 pCi
RA226	Radium-226	20 pCi
RA228	Radium-228	Call
SR89	Strontium-89	200 pCi
SR90	Strontium-90	40 pCi
H3	Tritium	2000 pCi
UNAT	Uranium, natural	40 pCi
ZN65	Zinc-65	600 pCi

MRAD Solids

Soil Radionuclides

RM	PT	QR
Cat. #608	Cat. #802	
One 500 cc standard includes the alpha, beta, and gamma emitting radionuclides listed below.		
Actinium-228.....	500-5000 pCi/kg	
Americium-241.....	50-2000 pCi/kg	
Bismuth-212.....	500-5000 pCi/kg	
Bismuth-214.....	500-5000 pCi/kg	
Cesium-134.....	1000-10,000 pCi/kg	
Cesium-137.....	1000-10,000 pCi/kg	
Cobalt-60.....	1000-10,000 pCi/kg	
Lead-212.....	500-5000 pCi/kg	
Lead-214.....	500-5000 pCi/kg	
Plutonium-238.....	50-2000 pCi/kg	
Plutonium-239.....	50-2000 pCi/kg	
Potassium-40.....	5000-50,000 pCi/kg	
Strontium-90.....	500-10,000 pCi/kg	
Thorium-234.....	500-5000 pCi/kg	
Uranium-234.....	500-5000 pCi/kg	
Uranium-238.....	500-5000 pCi/kg	
Uranium (Nat).....	1000-10,000 pCi/kg	
Uranium (Nat) mass.....	1500-15,000 μ g/kg	
Zinc-65.....	1000-10,00 pCi/kg	

Vegetation Radionuclides

RM	PT	QR
Cat. #609	Cat. #803	
One 500 cc standard includes the alpha, beta, and gamma emitting radionuclides listed below.		
Americium-241.....	50-5000 pCi/kg	
Cesium-134.....	300-3000 pCi/kg	
Cesium-137.....	300-3000 pCi/kg	
Cobalt-60.....	300-3000 pCi/kg	
Curium-244.....	50-5000 pCi/kg	
Plutonium-238.....	50-5000 pCi/kg	
Plutonium-239.....	50-5000 pCi/kg	
Potassium-40.....	5000-50,000 pCi/kg	
Strontium-90.....	500-10,000 pCi/kg	
Uranium-234.....	50-5000 pCi/kg	
Uranium-238.....	50-5000 pCi/kg	
Uranium (Nat).....	100-10,000 pCi/kg	
Uranium (Nat) mass.....	150-15,000 μ g/kg	
Zinc-65.....	300-3000 pCi/kg	

MRAD Air Filter

Air Filter Radionuclides

RM	PT	QR
Cat. #606	Cat. #800	
One 47 mm diameter glass fiber filter contains the alpha, beta, and gamma emitting radionuclides listed below.		
Americium-241.....	2-80 pCi/filter	
Cesium-134.....	50-1500 pCi/filter	
Cesium-137.....	50-1500 pCi/filter	
Cobalt-60.....	50-1500 pCi/filter	
Iron-55.....	50-1500 pCi/filter	
Plutonium-238.....	2-80 pCi/filter	
Plutonium-239.....	2-80 pCi/filter	
Strontium-90.....	5-200 pCi/filter	
Uranium-234.....	2-80 pCi/filter	
Uranium-238.....	2-80 pCi/filter	
Uranium (Nat).....	4-160 pCi/filter	
Uranium (Nat) mass.....	6-240 μ g/filter	
Zinc-65.....	50-1500 pCi/filter	

Air Filter Gross Alpha/Beta

RM	PT	QR
Cat. #607	Cat. #801	
One acrylic treated 47 mm diameter glass fiber filter contains the radionuclides listed below.		
Gross alpha as thorium-230.....	5-100 pCi/filter	
Gross beta as cesium-137.....	5-100 pCi/filter	

MRAD Water

Water Radionuclides

RM Cat. #617	PT Cat. #804	QR
		

One 12 mL screw-top vial yields up to 2 liters after dilution. Includes the alpha, beta, and gamma emitting radionuclides listed below.

Americium-241.....	10-200 pCi/L
Cesium-134.....	100-3000 pCi/L
Cesium-137.....	100-3000 pCi/L
Cobalt-60.....	100-3000 pCi/L
Iron-55.....	100-3000 pCi/L
Plutonium-238.....	10-200 pCi/L
Plutonium-239.....	10-200 pCi/L
Strontium-90.....	50-1000 pCi/L
Uranium-234.....	10-200 pCi/L
Uranium-238.....	10-200 pCi/L
Uranium (Nat).....	20-400 pCi/L
Uranium (Nat) mass.....	30-600 µg/L
Zinc-65.....	100-3000 pCi/L

Water Gross Alpha/Beta

RM Cat. #615	PT Cat. #805	QR
		

One 12 mL screw-top vial yields up to 2 liters after dilution. Includes the radionuclides below.

Gross alpha as thorium-230.....	10-200 pCi/L
Gross beta as cesium-137.....	10-200 pCi/L

Water Tritium

RM Cat. #616	PT Cat. #806	QR
		

One 125 mL whole-volume bottle is ready to analyze as received.

Tritium	3000-30,000 pCi/L
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CRM – Certified Reference Material

PT – Proficiency Testing

QR – QuiK Response

* All Waters ERA MRAD PTs open in March and September.



LOW-LEVEL CRMs

Synthetic drinking and wastewater matrices with low concentrations of analytes for testing water supply, drinking water, ground water, water pollution, or wastewater.

Save time diluting your standards or spending numerous hours producing them yourself with our low-level Certified Reference Materials (CRMs).

Our line of low-level CRMs are optimal for:

- Method development and validation
- System checks
- Evaluating limits of quantitation
- Minimum detection limit studies
- Detection verification
- Many other uses

Contents

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RM: A material, sufficiently homogeneous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process.

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Inorganics

Chlorine

CRM
Cat. #1358

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate yields up to 2 liters of sample.

Total chlorine.....	75–500 µg/L
Free chlorine.....	75–500 µg/L

Common Inorganics

CRM
Cat. #1249

One liter poly bottle whole-volume sample is ready to be analyzed.

Alkalinity.....	20–120 mg/L
Calcium.....	2–50 mg/L
Chloride.....	25–500 mg/L
Conductivity.....	80–1,000 µmhos/cm
Fluoride.....	0.25–5 mg/L
Magnesium.....	1–25 mg/L
pH.....	5–10 units
Potassium.....	2–50 mg/L
Sodium.....	5–100 mg/L
Sulfate.....	2–50 mg/L
Total dissolved solids.....	60–750 mg/L
Total hardness.....	9–250 mg/L

Common Inorganics in Hard Water

CRM
Cat. #1346

One liter poly bottle whole-volume sample is ready to be analyzed.

Alkalinity.....	20–100 mg/L
Calcium.....	10–100 mg/L
Chloride.....	20–250 mg/L
Conductivity.....	130–1400 µmhos/cm
Fluoride.....	0.2–2 mg/L
Magnesium.....	2–10 mg/L
pH.....	5–10 units
Potassium.....	2–25 mg/L
Sodium.....	20–250 mg/L
Sulfate.....	20–250 mg/L
Total dissolved solids.....	100–1000 mg/L
Total hardness.....	30–300 mg/L

Common Inorganics in Soft Water

CRM
Cat. #1347

A 1 liter poly bottle whole-volume sample is ready to be analyzed.

Alkalinity.....	20–100 mg/L
Calcium.....	2–50 mg/L
Chloride.....	5–50 mg/L
Conductivity.....	25–300 µmhos/cm
Fluoride.....	0.2–2 mg/L
Magnesium.....	0.5–5 mg/L
pH.....	5–10 units
Potassium.....	1–10 mg/L
Sodium.....	5–50 mg/L
Sulfate.....	5–50 mg/L
Total dissolved solids.....	20–200 mg/L
Total hardness.....	5–75 mg/L

Cyanide

CRM
Cat. #1345

One 15 mL screw-cap vial yields up to 2 liters of sample.

Free cyanide.....	5–100 µg/L
Total cyanide.....	5–100 µg/L

Demand

CRM
Cat. #1344

One 15 mL screw-cap vial yields up to 2 liters of sample.

5-day BOD.....	2–25 mg/L
COD.....	2–25 mg/L
DOC.....	1–10 mg/L
TOC.....	1–10 mg/L

CRM
Cat. #1242

One 15 mL screw-cap vial spiking concentrate yields up to 2 liters of sample.

5-day BOD.....	5–75 mg/L
COD.....	10–150 mg/L
DOC.....	2–40 mg/L
TOC.....	2–40 mg/L

Inorganics (continued)

High Solids

CRM
Cat. #1355

One 24 mL screw-cap vial with a powder concentrate yields 1 liter of solution.

Total dissolved solids..... 100-1000 mg/L
Total suspended solids (TSS)..... 5-50 mg/L

Solids Concentrate

CRM
Cat. #1243

One 24 mL screw-cap vial concentrate yields up to 1 liter of sample.

Total dissolved solids..... 10-250 mg/L
Total suspended solids (TSS)..... 5-50 mg/L

Metals

Hexavalent Chromium

CRM
Cat. #1248

One 15 mL screw-cap vial spiking concentrate and one 24 mL screw-cap vial matrix concentrate yields up to 2 liters of sample.

Hexavalent chromium..... 5-100 µg/L

Mercury

CRM
Cat. #1341

One 15 mL screw-cap vial spiking concentrate and one 24 mL screw-cap vial matrix concentrate yields up to 2 liters of sample.

Mercury, total..... 0.1 to 1.2 µg/L

Metals (continued)

Metals

CRM
Cat. #1244

One 15 mL screw-cap vial spiking concentrate and one 24 mL screw-cap vial matrix concentrate yields up to 2 liters of sample.

Aluminum.....	200-4000 µg/L
Antimony.....	95-900 µg/L
Arsenic.....	70-900 µg/L
Barium.....	100-2500 µg/L
Beryllium.....	8-900 µg/L
Boron.....	800-2000 µg/L
Cadmium.....	8-750 µg/L
Chromium, total.....	17-1000 µg/L
Cobalt.....	28-1000 µg/L
Copper.....	40-900 µg/L
Iron.....	200-4000 µg/L
Lead.....	70-3000 µg/L
Manganese.....	70-4000 µg/L
Molybdenum.....	60-600 µg/L
Nickel.....	80-3000 µg/L
Selenium.....	90-2000 µg/L
Silver.....	26-600 µg/L
Strontium.....	30-300 µg/L
Thallium.....	60-900 µg/L
Vanadium.....	55-2000 µg/L
Zinc.....	100-2000 µg/L

The Industry
for over 40 years

Nutrients

Complex Nutrients in Hard Water

CRM
Cat. #1241

One 15 mL screw-cap vial spiking concentrate yields up to 2 liters of sample.

Total Kjeldahl nitrogen.....	0.5–5 mg/L
Total nitrogen.....	1–20 mg/L
Total phosphorus.....	0.5–5 mg/L

Simple Nutrients

CRM
Cat. #1240

Two 15 mL screw-cap vials yields up to 2 liters of sample.

Ammonia (N).....	1–20 mg/L
Nitrate (NO ₃).....	0.5–10 mg/L
Nitrite (NO ₂).....	0.5–5 mg/L
Total oxidised nitrogen.....	1–15 mg/L
Soluble reactive phosphorus (P).....	0.5–5 mg/L

Simple Nutrients in Hard Water

CRM
Cat. #1348

Two 15 mL screw-cap vial spiking concentrates and one 24 mL screw-cap vial matrix concentrate yields up to 2 liters of sample.

Ammonium (NH ₄).....	0.1–1 mg/L
Nitrate (NO ₃).....	3–60 mg/L
Nitrite (NO ₂).....	0.1–1 mg/L
Soluble reactive phosphorus (P).....	0.5–5 mg/L
Total oxidised nitrogen (TON).....	3–60 mg/L

Simple Nutrients in Soft Water

CRM
Cat. #1349

Two 15 mL screw-cap vial spiking concentrates and one 24 mL screw-cap vial matrix concentrate yields up to 2 liters of sample.

Ammonium (NH ₄).....	0.1–1 mg/L
Nitrate (NO ₃).....	3–60 mg/L
Nitrite (NO ₂).....	0.1–1 mg/L
Soluble reactive phosphorus (P).....	0.5–5 mg/L
Total oxidised nitrogen (TON).....	3–60 mg/L

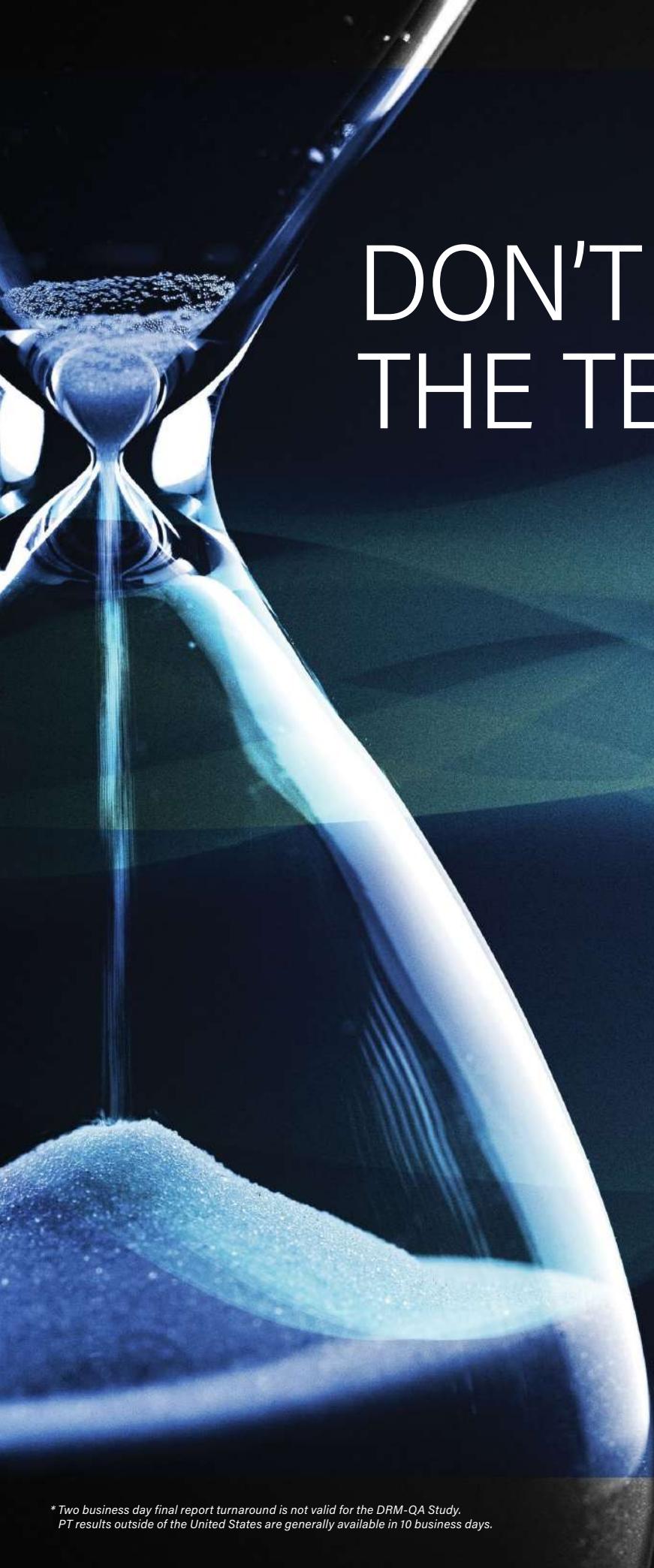
Organics

Volatiles

CRM
Cat. #1370

One 2 mL flame-sealed ampule spiking concentrate and one 24 mL screw-cap vial matrix concentrate yields up to 2 liters of sample to be analyzed for the compounds listed below at 0.1–50 µg/L.

Benzene	Ethylbenzene	o-Xylene
Carbon tetrachloride	Methylene chloride	m-Xylene
Chlorobenzene	Styrene	p-Xylene
1,2-Dichlorobenzene	Tetrachloroethene	m+p-Xylene
1,4-Dichlorobenzene	Toluene	Xylenes, total
1,2-Dichloroethane	1,2,4-Trichlorobenzene	
1,1-Dichloroethylene	1,1,1-Trichloroethane	
cis-1,2-Dichloroethylene	1,1,2-Trichloroethane	
trans-1,2-Dichloroethylene	Trichloroethene	
1,2-Dichloropropane	Vinyl chloride	



DON'T STRESS THE TEST

We understand one of the biggest challenges you face in your laboratory is time. To help reduce laboratory stress, we provide you with final PT results in just two business days.

- Gain peace of mind knowing that you passed your PT quickly
- Identify the root cause of analysis problems faster
- Implement corrective actions sooner to improve the defensibility of results in less time

When Time Is Not On Your Side

A critical evaluation is just that – critical. Sometimes you need to quickly demonstrate corrective action or confirm a new method, meaning you can't wait for a regularly scheduled PT. Quik Response™ PTs are on-demand Proficiency Tests that return results within minutes of entering your study data. No waiting. No wondering. No worries. Just results for critical evaluations.

Ask your Waters ERA representative or an authorized sales partner about QuiK Response PTs.

For more information, **contact our customer service team at 800.372.0122 / +1.303.431.8454.** or **email era_info@waters.com.**



CUSTOM STANDARDS

Standards manufactured to unique specifications available with a range of analytes, concentrations, and matrices.



Experience. Speed. Reliability.

Did you know that our chemists have prepared more than 20,000 unique custom standards?

Custom projects cover a range of analytes, concentrations, and matrices. Whether it is one standard or one hundred, our chemists regularly prepare standards for a range of needs and situations including managed methodology studies, project or site-specific matrices, project or sample-specific limits, and ultra-trace to percent level concentrations.

Examples of custom standards prepared:

- 10,000 mg/kg total organic carbon in soil
- Organic mercury in fish tissue
- Pesticides in freeze-dried spinach
- XRF metals in soil
- Speciated metal standards
- Organometallic standards

Certification of Custom Standards

Three options for certification of custom standards:

- Gravimetric/volumetric
- Analytical
- ISO 17034 certified reference materials*

**Option is based on Waters ERA's ISO 17034 scope of accreditation.*

From Simple to Complex and Everything in Between

A custom standard containing any analyte from the following programs can be supplied:

■ Clean Water Act (CWA)	■ Standards Council of Canada (SCC)
■ Safe Drinking Water Act (SDWA)	■ Canadian Association for Laboratory Accreditation (CALA)
■ Resource Conservation and Recovery Act (RCRA)	■ Ontario Ministry of the Environment and Climate Change (MOECC) Safe Drinking Water Act (SDWA)
■ Superfund Contract Laboratory Program (CLP)	

To request a custom quotation, please visit us online at

eraqc.com/customstandards

or email us at era_info@waters.com

Custom Standards

Performance Evaluation With Double-Blind Project

Gain a level of confidence with tangible evidence that your laboratory is meeting all quality objectives through a double-blind performance evaluation.

The key to evaluating the real performance of your laboratory is in finding the proper blend of realistic sample designs and accurate, stable analyte concentrations.

Here is how a performance evaluation program works:

1. Specify the matrices, analytes, and concentrations. If a stock standard is not available, we can design and prepare custom PE standards.
2. Send us your empty sample bottles, labels, chain-of-custody forms, and sample coolers.
3. We prepare, dilute (if necessary), and preserve the standards; fill your sample bottles; and, return the samples to you via overnight delivery service. You'll receive Waters ERA's certified values and performance acceptance limits (PALs) under separate sealed cover.

4. Integrate the standards into your sampling event or introduce them into your lab's routine sample load.
5. Your lab analyzes the blind PE standards along with routine samples.
6. Compare your lab's results to Waters ERA's certified values and performance acceptance limits.

We can help you design a double-blind project that matches your project-specific needs. Speak with a Waters ERA representative today to begin the process of understanding the real performance of your laboratory.



[Learn more about Custom Standards](#)

CUSTOM STANDARD QUOTATION REQUEST FORM



CUSTOM STANDARDS

Contact Name: _____ Date: _____
Waters ERA Customer #: _____ Phone: _____ Fax: _____
Company Name: _____ Email: _____
Bill to: _____ Ship to: _____

(shipping address is the same as billing address)

Date Needed: _____

Additional/Special Requirements (packaging, shipping, etc.):

	Analytes	CAS #	Concentrations	Units
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Sample Description (for label):

Matrix/Solvent:

Preservative:

Mass/Volume per Container: _____ Number of Containers: _____

Intended Use (calibration, QC, etc.):

Prep/Analytical Method:

Select: Ready-to-use Concentrate Dilution Instructions:

Most custom standards are gravimetrically certified based on the manufacturing process.

Analytical verification may be available for your custom standard, depending upon the standard formulation. Contact Waters ERA to discuss pricing and availability.

- A Waters ERA representative will contact you within one business day to discuss your request.
- Waters ERA provides blind standards to help you evaluate your laboratory's performance. Call and speak with an ERA representative to learn more.

Email this form to era_info@waters.com or fax to 303.421.0159.

For immediate assistance with a customs quote, call Waters ERA at 800.372.0122
or 303.431.8454 and speak with a Waters ERA Customer Service Representative.

C0005 March 2022



CALIBRATION STANDARDS

A variety of inorganic standards including metals, anions, pH, and other common inorganics that can be used for primary calibration or to prepare second source calibration standards.



Contents

CRM: A reference material characterized by a metrologically valid procedure for one or more specified properties, accompanied by a reference material certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability.

A complete listing of ERA's CRMs can be found on our Scope of Accreditation for general requirements for competence of reference material producers available at www.eraqc.com/AboutERA/Accreditations.

RM: A material, sufficiently homogeneous and stable with respect to one or more specified properties, which has been established to be fit for its intended use in a measurement process.

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1000 mg/L Standards

Standards can be used for primary calibration or to prepare second source calibration check standards. They are analytically traceable to NIST SRM's where available, and are guaranteed stable for one year. The certification documentation includes manufacturing uncertainties, traceability summaries and densities to aid in performing gravimetric dilutions. The documentation for metal standards includes impurities.

Inorganics – 1000 mg/L

Chemical Oxygen Demand (COD)

500 mL Bottle
Cat. #974

125 mL Bottle
Cat. #042

One 1000 mg/L standard preserved with H_2SO_4 in an amber glass bottle.

Total Kjeldahl Nitrogen (TKN)

500 mL Bottle
Cat. #996

125 mL Bottle
Cat. #043

One 1000 mg/L standard preserved with HCl in a poly bottle.

MBAS/LAS Surfactants

Cat. #975

One 15 mL screw-cap vial with LAS at 1000 mg/L preserved with H_2SO_4 .

Total Organic Carbon (TOC)

Cat. #978

One 500 mL amber glass bottles with TOC at 1000 mg/L preserved with H_2SO_4 .

Total Organic Halides (TOX)

Cat. #976

One 2 mL flame-sealed ampule with TOX at 1000 mg/L in methanol.

Phenol

Cat. #982

One 500 mL amber glass bottle with phenol at 1000 mg/L preserved with H_2SO_4 .

Sulfide

Cat. #999

One 10 mL flame-sealed ampule containing 1000 mg/L sulfide preserved with NaOH and zinc acetate.

Ions – 1000 mg/L

Parameter	Matrix	500 mL Bottle	125 mL Bottle
Acetate	H_2O	—	Cat. #78202
Ammonia as NH_3	H_2O	Cat. #986	Cat. #044
Ammonia as N	H_2O	Cat. #985	Cat. #045
Bromate	H_2O	—	Cat. #065
Bromide	H_2O	Cat. #987	Cat. #046
Chlorate	H_2O	—	Cat. #066
Chloride	H_2O	Cat. #988	Cat. #047
Chlorite	H_2O	—	Cat. #067
Complex cyanide*	NaOH	Cat. #998	Cat. #049
Cyanide (free)*	NaOH	Cat. #997	Cat. #048
Fluoride	H_2O	Cat. #989	Cat. #050
Iodide	H_2O	—	Cat. #78212
Nitrate as NO_3	H_2O	Cat. #992	Cat. #051
Nitrate as N	H_2O	Cat. #991	Cat. #052
Nitrite as N	H_2O	Cat. #990	Cat. #053
Perchlorate	H_2O	—	Cat. #068
Phosphate as PO_4	H_2O	Cat. #994	Cat. #060
Phosphate as P	H_2O	Cat. #993	Cat. #061
Sulfate	H_2O	Cat. #995	Cat. #062

*Dangerous good. Requires special shipping.

Cations by Ion Chromatography – 100 mg/L

Parameter	Matrix	125 mL Bottle
Ammonium as NH_4	H_2O	Cat. #78102
Ammonium as N	H_2O	Cat. #78104

Cations by Ion Chromatography – 1000 mg/L

Parameter	Matrix	125 mL Bottle
Calcium	H_2O	Cat. #K10
Magnesium	H_2O	Cat. #K11

Metals – 1000 mg/L

Parameter	Matrix	125 mL Bottle	
Aluminum	HNO ₃	DG	Cat. #011
Arsenic	HNO ₃	DG	Cat. #013
Beryllium	HNO ₃	DG	Cat. #015
Bismuth	HNO ₃	DG	Cat. #K01
Calcium	HNO ₃	DG	Cat. #018
Chromium	HNO ₃	DG	Cat. #020
Chromium VI	H ₂ O	—	Cat. #019
Cobalt	HNO ₃	DG	Cat. #021
Copper	HNO ₃	DG	Cat. #022
Iron	HNO ₃	DG	Cat. #023
Lead	HNO ₃	DG	Cat. #024
Lithium	HNO ₃	DG	Cat. #K04
Magnesium	HNO ₃	DG	Cat. #025
Manganese	HNO ₃	DG	Cat. #026
Mercury	HNO ₃	DG	Cat. #027
Molybdenum	HNO ₃	DG	Cat. #028
Nickel	HNO ₃	DG	Cat. #029
Phosphorus	HNO ₃	DG	Cat. #063
Potassium	HNO ₃	DG	Cat. #030
Selenium	HNO ₃	DG	Cat. #031
Silica	H ₂ O	—	Cat. #064
Silicon	HNO ₃	DG	Cat. #032
Silver	HNO ₃	DG	Cat. #033
Sodium	HNO ₃	DG	Cat. #034
Strontium	HNO ₃	DG	Cat. #035
Thallium	HNO ₃	DG	Cat. #036
Tin	HCl	DG	Cat. #037
Titanium	HCl	DG	Cat. #038
Vanadium	HNO ₃	DG	Cat. #039
Yttrium	HNO ₃	DG	Cat. #K08
Zinc	HNO ₃	DG	Cat. #040

DG – Dangerous good. Requires special shipping.

Other metals, concentrations, and volumes are also available.

Call Waters ERA Customer Service for more information.

ICP-MS Metals

These standards come with a Certificate of Traceability and Uncertainty. Use for initial as well as continuing calibration and tuning verification. Provided as convenient concentrates with densities allowing you to easily perform gravimetric dilutions.

ICP-MS Trace Metals

CRM

Cat. #TMS001*

One 125 mL screw-cap poly bottle preserved with HNO₃ and tartaric acid.*

Aluminum	10.0 mg/L	Manganese	10.0 mg/L
Antimony	10.0 mg/L	Molybdenum	10.0 mg/L
Arsenic	10.0 mg/L	Nickel	10.0 mg/L
Barium	10.0 mg/L	Selenium	10.0 mg/L
Beryllium	10.0 mg/L	Silver	10.0 mg/L
Cadmium	10.0 mg/L	Thallium	10.0 mg/L
Chromium	10.0 mg/L	Thorium	10.0 mg/L
Cobalt	10.0 mg/L	Uranium	10.0 mg/L
Copper	10.0 mg/L	Vanadium	10.0 mg/L
Iron	10.0 mg/L	Zinc	10.0 mg/L
Lead	10.0 mg/L		

*Dangerous good. Requires special shipping.

ICP-MS Major Cations

CRM

Cat. #TMS002*

One 125 mL screw-cap poly bottle preserved with HNO₃.*

Calcium	50.0 mg/L	Potassium	50.0 mg/L
Magnesium	50.0 mg/L	Sodium	50.0 mg/L

*Dangerous good. Requires special shipping.

Anions

Ion Chromatography

CRM

Cat. #981

One 15 mL screw-cap vial yields up to 200 mL after dilution. Designed to calibrate or verify IC calibrations.

Call for anion standards at lower levels.

Bromide	0.2-20 mg/L	Nitrate as N	0.2-20 mg/L
Chloride	0.2-20 mg/L	Phosphate as P	0.5-30 mg/L
Fluoride	0.1-10 mg/L	Sulfate	0.5-30 mg/L



Learn more about Calibration products

AA/ICP Metals

All metals standards come with a Certificate of Traceability. The ICP Trace Metals standard also includes uncertainties. Use as initial as well as continuing calibration verification.

Flame AA Trace Metals

CRM
Cat. #508

One 24 mL screw-cap vial, preserved with HNO₃, yields up to 500 mL after dilution. Designed for flame AA. Includes aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver, strontium, thallium, vanadium, and zinc.

Flame AA Cations

CRM
Cat. #530

One 15 mL screw-cap vial, preserved with HNO₃, yields up to 250 mL after dilution.

Use with ICP, IC, and AA methods.

Calcium	10–200 mg/L
Magnesium	10–200 mg/L
Potassium	5–100 mg/L
Sodium	10–250 mg/L

ICP Trace Metals

CRM
Cat. #524*

One 500 mL whole-volume standard, preserved with HNO₃ and HCl, is ready-to-use.*

Aluminum	10.0 mg/L
Antimony	1.0 mg/L
Arsenic	1.0 mg/L
Barium	1.0 mg/L
Beryllium	1.0 mg/L
Bismuth	1.0 mg/L
Boron	1.0 mg/L
Cadmium	1.0 mg/L
Calcium	10.0 mg/L
Chromium	1.0 mg/L
Cobalt	1.0 mg/L
Copper	1.0 mg/L
Iron	10.0 mg/L
Lanthanum	10.0 mg/L
Lead	10.0 mg/L
Magnesium	10.0 mg/L
Manganese	1.0 mg/L
Molybdenum	1.0 mg/L
Nickel	1.0 mg/L
Phosphorus	1.0 mg/L
Potassium	10.0 mg/L
Selenium	10.0 mg/L
Sodium	10.0 mg/L
Strontium	1.0 mg/L
Tin	1.0 mg/L
Titanium	1.0 mg/L
Vanadium	1.0 mg/L
Zinc	1.0 mg/L

*Dangerous good. Requires special shipping.

pH Buffers

Our pH Buffers are analytically traceable to NIST SRMs, mercury free, guaranteed stable for at least one year after your receipt, and are supplied with a full certificate of analysis. Choose single bottles or convenient six-bottle cases.

Value	Volume	Single Bottle	Six-Bottle Case
pH 4.00	1 pint	Cat. #127	Cat. #128
pH 7.00	1 pint	Cat. #131	Cat. #132
pH 10.00	1 pint	Cat. #135	Cat. #136
Case of 2 ea.	Pints		Cat. #141

CHROMATOGRAPHIC AND SAMPLE CLEANUP PRODUCTS FROM WATERS

Sample Preparation

Sample concentration and cleanup

Oasis Sample Extraction Products

Analysis of water samples often requires concentration and cleanup of "dirty" or complex matrices. Oasis™ Solid-Phase Extraction (SPE) Products allow for simple and rapid method development. With the Oasis product line, you can expect robust SPE methods that provide reproducible results and high recoveries, without having to be concerned with sorbent drying or pH limitations.

Key features/benefits

- Greater capacity.
- Excellent stability over entire pH range.
- Cleanest extracts.
- Elimination of matrix effects.
- Reduction of ion suppression.
- Superior recovery, reproducibility, retention, and selectivity for a wide variety of compounds.
- Available in cartridges or high throughput, 96-well plates.



Oasis Sample Extraction Products.

Certified cleanliness for ultra-trace level analysis

Vials

Waters Certified Vials are manufactured to exacting standards, tested and certified to give you confidence that the peaks you observe are representative of your sample, not your vials.

Key features/benefits

- Prevent ghost peaks stemming from contaminants.
- Eliminate unexplained masses in MS.
- Eliminate potential of needle damage due to tight dimensional specifications.

Reduce interference and increase sensitivity for better quality results

Certified Sep-Pak SPE Cartridges

Sep-Pak™ SPE Cartridges are widely used by scientists for trace-level analysis in water samples. Manufactured using strict performance and cleanliness specifications and QC-tested for extractables and leachables, Certified Sep-Pak Sample Preparation Products reduce interference and increase sensitivity by eliminating contaminants introduced by the cartridge hardware and sorbents.

Key features/benefits

- Superior extracts for water sample residue analysis.
- Cleanliness and reproducibly needed for demanding sample preparation methods.
- Allows for accurate, high-quality water testing results.

Sep-Pak SPE Cartridges.



Waters Certified Vials.

LC COLUMNS AND CONSUMABLES

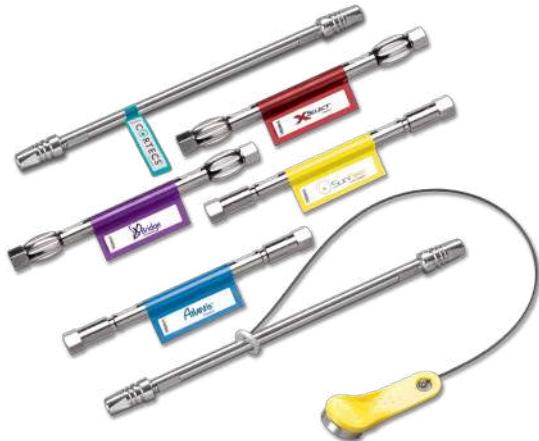
Maximize efficiency, ruggedness, and throughput

LC Columns

Featured in methods to meet regulatory requirements throughout the world, Waters columns provide cutting-edge performance. In addition to our complete selection of UHPLC, UPLC™ and HPLC column chemistries, Waters also provides application-specific columns for optimal specificity.

Key features/benefits

- Industry leading reliability and reproducibility.
- Wide range of general purpose and application specific columns.
- Uncompromised analytical performance.



UPLC, UHPLC, and HPLC Columns.

Standardize and simplify workflows

Analytical Standards and Reagents

Waters understands that the quality of the standards and reagents you use directly correlates to the quality of your results. Our standards are precisely formulated to ensure data comparability and defensibility over time, and provide absolute traceability to meet your quality assurance requirements.

Key features/benefits

- Saves costly validation time of standards and reagents.
- Easy and convenient formulations and packaging ensure accuracy of LC and LC-MS results over time.
- Optimized kits to keep your system operating at peak performance.



Waters Analytical Standards and Reagents.

Waters™

These and many more products are available for purchase directly from
waters.com, or call 800.252.HPLC (4752)



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PROCESS WATER

Products intended for use in industrial or municipal settings where water quality parameters are being monitored continuously (by in-line, on-line, or at-line instrumentation), or by frequent and routine collection of samples for laboratory analysis.

Products in this section include calibration, system suitability, and conductivity solutions and kits for TOC, Conductivity, and Turbidity devices for ultra-pure water analysis including pharmaceutical, power generation, and semiconductor manufacturing. We also offer reagents and other instrument consumables such as replacement lamps.



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BECKMAN COULTER ANATEL TOC

All of our ANATEL Certified Reference Materials (CRMs) are prepared using carefully controlled processes that are scrutinized under Waters ERA's ISO 17034 accreditation. CRMs for the ANATEL PAT700 are formulated specifically for the unique technology inherent in that instrument and are packaged in ready-to-use RFID tagged bottles.

ANATEL PAT700

System Suitability			Validation		
Sets - USP / EP	Cat. #	Availability	Kits	Cat. #	Availability
USP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzoquinone in 60 mL bottles. <i>Replaces ANATEL FG7018402</i>	18402	Ships in 1 business day	Validation Control Kit Includes (1) Blank, and (1) 0.50 mg/L C NIST Sucrose in 60 mL bottles. <i>Replaces ANATEL FG7019222</i>	19222	Ships in 1 business day
Calibration					
Kits	Cat. #	Availability	Validation Protocol Reagent Kit Includes (14) Blanks, (5) Conductivity Solutions, (1) Validation Control Kit, (2) Calibration Standards Kit, (1) System Suitability Set, (1) Excursion with Validation Kit, (1) 0.25 mg/L C NIST Sucrose, (1) 0.75 mg/L C NIST Sucrose, (1) USP Reagent Water Rw, (1) 0.50 mg/L C USP 1,4-Benzoquinone, and (2) Excursion Bottles (all bottles are 60 mL). <u>Does not include NIST Traceable Resistor.</u> <i>Replaces ANATEL FG7019232</i>	19232	Ships in 5 business days
Conductivity			Consumables		
Kits	Cat. #	Availability	Replacement UV Lamp	Cat. #	Availability
Conductivity Solution Kit Includes (1) 100 μ S/cm Potassium Chloride (KCl) Solution in a 60 mL bottle. <i>Replaces ANATEL FG7002602</i>	02602	Ships in 1 business day	60 mL Pre-cleaned HDPE Bottles – Natural (case of 50) Case of 50: 60 mL Low TOC HDPE bottles with septa cap and dust cover.	25056	Ships in 1 business day
			Pre-Cleaned Caps w/Septa (100/pack)	25011	Ships in 5 business days

Individual set/kit components and/or bulk sizes may be available for the TOC and Conductivity standards. Please contact your Waters ERA sales representative if you have questions about any products that are not listed in this publication.

Waters ERA is making the most commonly requested products available within 24 hours of order receipt to consistently meet your product needs. Products that are less frequently requested will be shipped within five business days of order receipt. Please check your order confirmation for the specific ship date.

The following CRMs are used for calibration and validation of the ANATEL A643 on-line TOC analyzer.

ANATEL A643

System Suitability			Validation		
Sets - USP / EP	Cat. #	Availability	Kits	Cat. #	Availability
USP Bulk Water System Suitability Set Includes (2) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzquinone in 60 mL bottles. <i>Replaces Cat.# 18400</i>	48400	Ships in 1 business day	Validation Control Kit Includes (2) Blanks, and (1) 0.50 mg/L C NIST Sucrose in 60 mL bottles. <i>Replaces Cat.# 19220</i>	49220	Ships in 1 business day
Calibration			Validation Protocol Reagent Kit Includes (10) Blanks, (3) 0.25 mg/L C NIST Sucrose, (5) 0.50 mg/L C NIST Sucrose, (3) 0.75 mg/L C NIST Sucrose, (1) 100 μ S/cm Conductivity Solution Kit, and (4) USP System Suitability Sets (all bottles are 60 mL). <i>Replaces reference materials portion of ANATEL FG5017701. Does not include NIST Traceable Resistor.</i>	19230	Ships in 5 business days
Conductivity			Validation Kit Includes (2) Blanks, and (1) 0.25 mg/L C NIST Sucrose, (1) 0.50 mg/L C NIST Sucrose, (1) 0.750 mg/L C NIST Sucrose, (1) 100 μ S/cm Conductivity Solution Kit, and (1) USP System Suitability Set in 60 mL bottles. <i>Replaces Cat.# 19210</i>	49210	Ships in 1 business day
Consumables					
Kits	Cat. #	Availability		Cat. #	Availability
Conductivity Solution Kit Includes (1) 100 μ S/cm Potassium Chloride (KCl) Solution in a 60 mL bottle. <i>Replaces ANATEL FG5010401</i>	02610	Ships in 1 business day	Replacement UV Lamp <i>Replaces ANATEL FG6002601</i>	20036A	Ships in 1 business day
			60 mL Pre-cleaned HDPE Bottles – Natural (case of 50) Case of 50: 60 mL Low TOC HDPE bottles with septa cap and dust cover.	25056	Ships in 1 business day
			Pre-Cleaned Caps w/Septa (100/pack)	25011	Ships in 1 business day

Individual set/kit components and/or bulk sizes may be available for the TOC and Conductivity standards. Please contact your Waters ERA sales representative if you have questions about any products that are not listed in this publication.

Waters ERA is making the most commonly requested products available within 24 hours of order receipt to consistently meet your product needs. Products that are less frequently requested will be shipped within five business days of order receipt. Please check your order confirmation for the specific ship date.

BECKMAN COULTER ANATEL TOC

ANATEL TOC600

The following CRMs are used for calibration and validation of the ANATEL TOC600 TOC analyzer.

System Suitability		
Sets - USP / EP	Cat. #	Availability
USP/EP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzoquinone in 125 mL bottles. <i>Replaces Cat.# 18036</i>	48036	Ships in 1 business day

Calibration		
Kits	Cat. #	Availability
Calibration Standards Kit Includes (1) Blank, (1) 0.25 mg/L C NIST Sucrose, (1) 0.50 mg/L C NIST Sucrose, and (1) 0.75 mg/L C NIST Sucrose in 125 mL bottles. <i>Replaces Cat.#19201</i>	49201	Ships in 1 business day

Conductivity		
Kits	Cat. #	Availability
Conductivity Solution Kit Includes (1) 100 μ S/cm Potassium Chloride (KCl) Solution in a 125 mL bottle. <i>Replaces ANATEL FG5002601</i>	02601	Ships in 1 business day

Validation		
Kits	Cat. #	Availability
Validation Control Kit Includes (1) Blank, and (1) 0.50 mg/L C NIST Sucrose in 125 mL bottles. <i>Replaces Cat.#19221</i>	49221	Ships in 1 business day
Validation Protocol Reagent Kit Includes (3) TOC600 Calibration Kits, (1) TOC600 100 μ S/cm Conductivity Solution Kit, (2) TOC600 Validation Control Kits, and (4) TOC600 USP System Suitability Sets (all bottles are 125 mL). <i>Replaces ANATEL FG5019231</i>	19231	Ships in 5 business days

Consumables		
	Cat. #	Availability
Replacement UV Lamp <i>Replaces ANATEL FG6002601</i>	20036A	Ships in 1 business day

ANATEL A-1000

The following CRMs are used for calibration and validation of the ANATEL A-1000 TOC analyzer.

System Suitability		
Sets - USP / EP	Cat. #	Availability
USP/EP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzoquinone in 1000 mL HDPE bottles. <i>Replaces Cat.# 19030</i>	49030	Ships in 5 business days

The Industry Standard
for over 40 years




Learn more about Total Organic Carbon products

VEOLIA SIEVERS

Sievers 900, 5310 C, M9, and M5310 C

All of our Sievers Certified Reference Materials (CRMs) are prepared using carefully controlled processes that are scrutinized under Waters ERA's ISO 17034 accreditation.

Contact Waters ERA at era_info@waters.com (USA) or ERA_Europe_Sales@waters.com (Europe) for availability of Sievers 800 and 400 consumables.



System Suitability

Sets - USP / EP	Cat. #	Availability
USP/EP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzoquinone in 40 mL vials. <i>Replaces Sievers CSTD 31004-01</i>	18000	Ships in 1 business day
Sets - USP	Cat. #	Availability
USP Sterile Water System Suitability Set Includes (1) Reagent Water Rw, (1) 8.0 mg/L C USP Sucrose, and (1) 8.0 mg/L USP 1,4-Benzoquinone in 40 mL vials.	18061	Ships in 5 business days
Sets - JP	Cat. #	Availability
JP System Suitability Set Includes (1) Reagent Water, and (1) 0.50 mg/L C from Sodium Dodecylbenzene Sulfonate in 40 mL vials. <i>Replaces Sievers CSTD 90039-01</i>	18000J	Ships in 5 business days

Consumables

	Cat. #	Availability
Replacement UV Lamp	20045	Ships in 1 business day
Replacement Pump Tubing	20060	Ships in 1 business day
Phosphoric Acid Reagent Cartridge -150 mL*	21010	Ships in 5 business days
Phosphoric Acid Reagent Cartridge - 300 mL*	21001	Ships in 5 business days
Persulfate Oxidizer Reagent Cartridge - 150 mL	21015	Ships in 5 business days
Persulfate Oxidizer Reagent Cartridge - 300 mL	21006	Ships in 5 business days
40 mL Ultra-Low TOC Vials, 80/case	25025	Ships in 1 business day
60 Micron In-Line Stainless Filter	25035	Ships in 5 business days

* Dangerous good. Requires special shipping.

Calibration & Validation

Kits	Cat. #	Availability
Linearity Set Includes (1) Blank, (1) 0.25 mg/L C NIST Sucrose, (1) 0.50 mg/L C NIST Sucrose and (1) 0.75 mg/L C NIST Sucrose in 40 mL vials. <i>Replaces CSTD 31012-01</i>	19515	Ships in 5 business days
Calibration & Verification Set Includes (2) Blanks, (2) 1.0 mg/L C NIST NaHCO ₃ , (1) 1.0 mg/L C NIST KHP, and (1) 1.0 mg/L C NIST Sucrose in 40 mL vials. <i>Replaces CSTD 90016-01</i>	19600	Ships in 1 business day
Multi-Point Calibration Set Includes (1) Blank, (1) each of 1.0, 5.0, 10.0, 25.0 and 50.0 mg/L C NIST KHP, and (1) each of 1.0, 5.0, 10.0, 25.0 and 50.0 mg/L C NIST NaHCO ₃ in 40 mL vials. <i>Replaces CSTD 90000-01</i>	19610	Ships in 5 business days
Autoreagents Calibration Set Includes (1) Blank, (1) 25.0 mg/L C NIST KHP, (1) 25.0 mg/L C NIST NaHCO ₃ , and (1) 50.0 mg/L C from Nicotinamide in 40 mL vials.. <i>Replaces CSTD 90036-01</i>	19611	Ships in 5 business days
Autoreagents Calibration & Verification Set Includes (2) Blanks, (1) 25.0 mg/L C NIST KHP, (1) 25.0 mg/L C NIST NaHCO ₃ , (1) 50.0 mg/L C from Nicotinamide, (1) 25.0 mg/L C NIST Sucrose, (1) 50.0 mg/L C NIST Sucrose, and (1) 50.0 mg/L C NaHCO ₃ in 40 mL vials. <i>Replaces CSTD 90028-01</i>	19616	Ships in 5 business days
Specificity Verification Set Includes (1) Blank, (1) 0.50 mg/L C from Methanol, (1) 0.50 mg/L C from Nicotinamide, and (1) 0.50 mg/L C from KHP in 40 mL vials.	19615	Ships in 5 business days
Validation Set with Calibration & Verification Includes (28) 40 mL vials, (2) Blanks, (2) 1.0 mg/L C NIST KHP, (2) 1.0 mg/L C NIST NaHCO ₃ ; (1) Blank, (1) 0.50 mg/L C NIST Sucrose, (1) 0.50 mg/L C NIST NaHCO ₃ ; (2) Reagent Water Rw, (2) 0.50 mg/L C from USP Sucrose Rs and (2) 0.50 mg/L C from USP 1,4-Benzoquinone Rss; (1) Blank, (1) 0.25 mg/L C NIST Sucrose, (1) 0.50 mg/L C NIST Sucrose, (1) 0.75 mg/L C NIST Sucrose; (1) Reagent Water, (1) 0.50 mg/L C from USP Sucrose; (1) Blank; (1) 0.50 mg/L C from Methanol; (1) 0.50 mg/L C from Nicotinamide; (1) 0.50 mg/L C from NIST KHP; (1) Reagent Water Rw; (1) 0.50 mg/L C from USP Sucrose Rs; and (1) 0.50 mg/L C from USP 1,4-Benzoquinone Rss. <i>Replaces Sievers CSTD90025</i>	19617	Ships in 5 business days
Calibration Kit Includes (1) Blank, and (1) 1.0 mg/L C NIST NaHCO ₃ , (1) 1.0 mg/L C NIST KHP in 40 mL vials. <i>Replaces CSTD 90001-01</i>	19620	Ships in 1 business day

Individual set/kit components and/or bulk sizes may be available for the TOC and Conductivity standards. Please contact your Waters ERA sales representative if you have questions about any products that are not listed in this publication.

Waters ERA is making the most commonly requested products available within 24 hours of order receipt to consistently meet your product needs. Products that are less frequently requested will be shipped within five business days of order receipt. Please check your order confirmation for the specific ship date.

VEOLIA SIEVERS

Sievers 500 RL

The following CRMs are designed to use on Sievers 500 RL TOC instruments for calibration, validation, and to satisfy regulatory requirements.

Contact Waters ERA at era_info@waters.com (USA) or ERA_Europe_Sales@waters.com (Europe) for availability of Sievers 800 and 400 consumables.

System Suitability			Calibration & Validation		
Sets - USP / EP	Cat. #	Availability	Kits	Cat. #	Availability
USP/EP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzoquinone in 40 mL vials. <i>Replaces Sievers CSTD 74403</i>	15105	Ships in 1 business day	Single-Point Calibration Set Includes (2) Blanks, (1) 1.5 mg/L C NIST KHP in 40 mL glass vials, and (1) 25.0 μ S/cm Conductivity standard in 30 mL HDPE vial. <i>Replaces CSTD 74401</i>	15100	Ships in 5 business days
Sets - USP	Cat. #	Availability	Single-Point Calibration/Verification Kit Includes (2) Blanks, (1) 1.5 mg/L C NIST KHP in 40 mL glass vials, (1) 25.0 μ S/cm Conductivity standard in 30 mL HDPE vial, (1) Verification Blank, (1) 0.50 mg/L C NIST Sucrose in 40 mL glass vials, and (1) 25.0 μ S/cm Conductivity standard in 30 mL HDPE vial. <i>Replaces CSTD 74612</i>	15101	Ships in 5 business days
Sets - JP	Cat. #	Availability	Accuracy/Precision/Verification Set Includes (1) Verification Blank, (1) 0.5 mg/L C NIST Sucrose in 40 mL glass vials, and (1) 25.0 μ S/cm Conductivity standard in 30 mL HDPE vial. <i>Replaces CSTD 74402</i>	15104	Ships in 5 business days
Consumables	Cat. #	Availability	Linearity Set Includes (1) Linearity Blank, (1) each 0.25 mg/L, 0.50 mg/L, and 0.75 mg/L C NIST KHP in 40 mL glass vials. <i>Replaces CSTD 74406</i>	15106	Ships in 5 business days
Replacement UV Lamp	20045	Ships in 1 business day	Single-Point Calibration Set - TOC Only Includes (2) Calibration Blanks and (1) 1.5 mg/L C NIST KHP in 40 mL glass vials. <i>Replaces CSTD 74405</i>	15109	Ships in 5 business days
40 mL Ultra-Low TOC Vials, 80/case	25025	Ships in 1 business day	Accuracy/Precision/Verification Set - TOC Only Includes (1) Verification Blank and (1) 0.5 mg/L C NIST Sucrose in 40 mL glass vials. Conductivity standard is not included in this set. <i>Replaces CSTD 74407</i>	15110	Ships in 5 business days
60 Micron In-Line Stainless Filter	25035	Ships in 5 business days	Single-Point Calibration/Verification Set - TOC Only Includes (2) Blanks, (1) 1.5 mg/L C NIST KHP, (1) Verification Blank, and (1) 0.50 mg/L C NIST Sucrose in 40 mL glass vials. Conductivity standards are not included in this set. <i>Replaces CSTD 74622</i>	15111	Ships in 5 business days

Individual set/kit components and/or bulk sizes may be available for the TOC and Conductivity standards. Please contact your Waters ERA sales representative if you have questions about any products that are not listed in this publication.

Waters ERA is making the most commonly requested products available within 24 hours of order receipt to consistently meet your product needs. Products that are less frequently requested will be shipped within five business days of order receipt. Please check your order confirmation for the specific ship date.

ANALYTIK JENA

All of our Analytik Jena Certified Reference Materials (CRMs) are prepared using carefully controlled processes that are scrutinized under Waters ERA's ISO 17034 accreditation.

The following CRMs are designed to use on Analytik Jena TOC instruments for calibration, validation, and to satisfy regulatory requirements.

System Suitability			Calibration & Cleaning Validation		
Sets - USP/EP	Cat. #	Availability	Kits	Cat. #	Availability
USP/EP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzquinone in 40 mL vials. <i>For use with AJ multi N/C pharma or UV HS and IL500</i>	18000	Ships in 1 business day	Cleaning Validation Kit Includes (1) Calibration Blank, (1) each 0.25 mg/L, 0.50 mg/L, 0.75 mg/L, and 1.0 mg/L C NIST Sucrose in 40 mL vials.	19900	Ships in 5 business days
Sets - USP	Cat. #	Availability	Full TOC Calibration Kit Includes (1) Calibration Blank, (1) each 1.0 mg/L, 2.50 mg/L, 5.0 mg/L, 10.0 mg/L, 25.0 mg/L, 50.0 mg/L, and 100 mg/L C NIST KHP in 250 mL amber glass bottles.	19970	Ships in 5 business days
USP Sterile Water System Suitability Set Includes (1) Reagent Water Rw, (1) 8.0 mg/L C USP Sucrose Rs, and (1) 8.0 mg/L USP 1,4-Benzquinone Rss in 40 mL vials.	18061	Ships in 5 business days	Limited TOC Calibration Kit Includes (1) Calibration Blank and (1) 0.6 mg/L C NIST Sucrose in 250 mL amber glass bottles.	19985	Ships in 5 business days
Sets - JP	Cat. #	Availability	Individual set/kit components and/or bulk sizes may be available for the TOC and Conductivity standards. Please contact your Waters ERA sales representative if you have questions about any products that are not listed in this publication.		
JP System Suitability Set Includes (1) Reagent Water, and (1) 0.50 mg/L C from Sodium Dodecylbenzene Sulfonate in 40 mL vials.	18000J	Ships in 5 business days	Waters ERA is making the most commonly requested products available within 24 hours of order receipt to consistently meet your product needs. Products that are less frequently requested will be shipped within five business days of order receipt. Please check your order confirmation for the specific ship date.		
Sets - Low-Level System Suitability	Cat. #	Availability			
Low-Level System Suitability Set Includes (1) Reagent Water, (1) 0.30 mg/L C USP Sucrose, and (1) 0.30 mg/L C USP 1,4-Benzquinone in 40 mL vials.	18040	Ships in 5 business days			

XYLEM OI ANALYTICAL

The Certified Reference Materials (CRMs) listed below are commonly purchased for use with OI Analytical TOC instruments, including the very popular Aurora® model. All Waters ERA Certified Reference Materials (CRMs) are prepared using carefully controlled processes that are scrutinized under Waters ERA's ISO 17034 accreditation.

The following CRMs are designed to use on OI Analytical TOC instruments for calibration, validation, and to satisfy regulatory requirements.

System Suitability			Consumables		
Sets - USP/EP	Cat. #	Availability	Kits	Cat. #	Availability
USP/EP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzoquinone in 40 mL vials.	18000	Ships in 1 business day	Phosphoric Acid Reagent (1 Liter)*	21016	Ships in 5 business days
USP Sterile Water System Suitability Set Includes (1) Reagent Water Rw, (1) 8.0 mg/L C USP Sucrose Rs, and (1) 8.0 mg/L USP 1,4-Benzoquinone Rss in 40 mL vials.	18061	Ships in 5 business days	Phosphoric Acid Reagent (2 Liter)*	21018	Ships in 5 business days
JP System Suitability Set Includes (1) Reagent Water, and (1) 0.50 mg/L C from Sodium Dodecylbenzene Sulfonate in 40 mL vials.	18000J	Ships in 5 business days	Persulfate Oxidizer Reagent (1 Liter)*	21017	Ships in 5 business days
Calibration & Validation			Persulfate Oxidizer Reagent (2 Liter)*	21019	Ships in 5 business days
Kits	Cat. #	Availability	*Dangerous goods.		
Ultra Low-Level CRMs Kit Includes (3) Calibration Blanks, (1) each 0.050 mg/L, 0.060 mg/L, 0.070 mg/L, 0.080 mg/L, 0.090 mg/L, 0.10 mg/L, 0.25 mg/L, 0.50 mg/L, and 1.0 mg/L C NIST KHP in 40 mL vials.	14200	Ships in 5 business days	Individual set/kit components and/or bulk sizes may be available for the TOC and Conductivity standards. Please contact your Waters ERA sales representative if you have questions about any products that are not listed in this publication.		
Validation Set - Aurora Includes (6) Water Blanks, (1) 0.50 mg/L C NIST KHP, (3) 1.0 mg/L C NIST KHP, (1) 5.0 mg/L C NIST KHP, (1) 10.0 mg/L C NIST KHP, (1) 25.0 mg/L C NIST KHP, (1) 5.0 mg/L C NIST KHP/50.0 mg/L IC NIST NaHCO ₃ , (4) 0.50 mg/L C USP Sucrose, and (1) 0.50 mg/L C USP 1,4-Benzoquinone in 40 mL vials.	19007	Ships in 5 business days	Waters ERA is making the most commonly requested products available within 24 hours of order receipt to consistently meet your product needs. Products that are less frequently requested will be shipped within five business days of order receipt. Please check your order confirmation for the specific ship date.		

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SHIMADZU

Certified Reference Materials (CRMs) listed are commonly purchased for use with Shimadzu TOC instruments. **Please specify at time of order whether you have a chemical or combustion Shimadzu TOC.** All of our Shimadzu Certified Reference Materials (CRMs) are prepared using carefully controlled processes that are scrutinized under Waters ERA's ISO 17034 accreditation.

The following CRMs are designed to use on Shimadzu TOC instruments for calibration, validation, and to satisfy regulatory requirements.

System Suitability			Consumables		
Sets - USP/EP	Cat. #	Availability	Kits	Cat. #	Availability
USP/EP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzoquinone in 40 mL vials.	18000	Ships in 1 business day	Phosphoric Acid Reagent (1 Liter)*	21016	Ships in 5 business days
Sets - USP	Cat. #	Availability	Phosphoric Acid Reagent (2 Liter)*	21018	Ships in 5 business days
USP Sterile Water System Suitability Set Includes (1) Reagent Water Rw, (1) 8.0 mg/L C USP Sucrose Rs, and (1) 8.0 mg/L USP 1,4-Benzoquinone Rss in 40 mL vials.	18061	Ships in 5 business days	Persulfate Oxidizer Reagent (1 Liter)*	21017	Ships in 5 business days
Sets - JP	Cat. #	Availability	Persulfate Oxidizer Reagent (2 Liter)*	21019	Ships in 5 business days
JP System Suitability Set Includes (1) Reagent Water, and (1) 0.50 mg/L C from Sodium Dodecylbenzene Sulfonate in 40 mL vials.	18000J	Ships in 5 business days	*Dangerous goods.		
Sets - Low-Level System Suitability	Cat. #	Availability	Individual set/kit components and/or bulk sizes may be available for the TOC and Conductivity standards. Please contact your Waters ERA sales representative if you have questions about any products that are not listed in this publication.		
Low-Level System Suitability Set Includes (1) Reagent Water, (1) 0.30 mg/L C USP Sucrose, and (1) 0.30 mg/L C USP 1,4-Benzoquinone in 40 mL vials.	18040	Ships in 5 business days	Waters ERA is making the most commonly requested products available within 24 hours of order receipt to consistently meet your product needs. Products that are less frequently requested will be shipped within five business days of order receipt. Please check your order confirmation for the specific ship date.		

Calibration & Validation		
Kits	Cat. #	Availability
TOC-V and TOC-L Validation Kit Includes (1) Water Blank, and (2) 100.0 mg/L C NIST KHP in 125 mL amber glass bottles.	11002	Ships in 5 business days
TOC-V and TOC-L HS Validation Kit Includes (1) Water Blank, and (2) 10.0 mg/L C NIST KHP in 125 mL amber glass bottles.	11003	Ships in 5 business days
TOC-V and TOC-L Wet Chem Validation Kit Includes (3) Water Blanks, (2) 0.50 mg/L C NIST KHP, and (4) 1.0 mg/L C NIST KHP in 40 mL vials.	11004	Ships in 5 business days
TOC-V and TOC-L Multi Calibration Kit Includes (2) Calibration Blanks, (2) each 0.10 mg/L, 0.25 mg/L, 0.50 mg/L C NIST KHP, and (1) each 0.75 mg/L and 1.0 mg/L C NIST KHP in 40 mL vials.	11005	Ships in 5 business days

TELEDYNE TEKMAR

All of our Teledyne Tekmar Certified Reference Materials (CRMs) are prepared using carefully controlled processes that are scrutinized under Waters ERA's ISO 17034 accreditation.

The following CRMs are designed to use on Teledyne Tekmar TOC instruments for calibration, validation, and to satisfy regulatory requirements.

System Suitability			Calibration & Validation		
Sets - USP/EP	Cat. #	Availability	Kits	Cat. #	Availability
USP/EP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzoquinone in 40 mL vials.	18000	Ships in 1 business day	Ultra Low-Level CRMs Kit Includes (3) Calibration Blanks, and (1) each 0.050 mg/L, 0.060 mg/L, 0.070 mg/L, 0.080 mg/L, 0.090 mg/L, 0.10 mg/L, 0.25 mg/L, 0.50 mg/L, and 1.0 mg/L C NIST KHP in 40 mL vials.	14200	Ships in 5 business days
Sets - USP USP Sterile Water System Suitability Set Includes (1) Reagent Water Rw, (1) 8.0 mg/L C USP Sucrose Rs, and (1) 8.0 mg/L USP 1,4-Benzoquinone Rss in 40 mL vials.	18061	Ships in 5 business days	Validation Set - Phoenix Includes (2) Water Blanks, (3) 0.50 mg/L C NIST KHP, (6) 1.0 mg/L C NIST KHP, (1) 2.0 mg/L C NIST KHP, (1) 5.0 mg/L C NIST KHP, (1) 50.0 mg/L C NIST KHP, (1) 100 mg/L C NIST NaHCO ₃ , (1) Reagent Water Rw, (1) 0.50 mg/L C USP Sucrose Rs, and (1) 0.50 mg/L C USP 1,4-Benzoquinone Rss in 40 mL vials.	19000	Ships in 5 business days
Sets - JP JP System Suitability Set Includes (1) Reagent Water, and (1) 0.50 mg/L C from Sodium Dodecylbenzene Sulfonate in 40 mL vials.	18000J	Ships in 5 business days	Validation Set - Phoenix Includes (5) Water Blanks, (1) 0.50 mg/L C NIST KHP, (5) 1.0 mg/L C NIST KHP, (1) 5.0 mg/L C NIST KHP, (1) 50.0 mg/L C NIST KHP, (1) 1.0 mg/L C NIST NaHCO ₃ , (1) Reagent Water Rw, (1) 0.50 mg/L C USP Sucrose Rs, and (1) 0.50 mg/L C USP 1,4-Benzoquinone Rss in 40 mL vials.	19001	Ships in 5 business days
Sets - Low-Level System Suitability Low-Level System Suitability Set Includes (1) Reagent Water, (1) 0.30 mg/L C USP Sucrose, and (1) 0.30 mg/L C USP 1,4-Benzoquinone in 40 mL vials.	18040	Ships in 5 business days	Validation Set - Fusion Includes 15 x 40 mL vials & 2 125 mL bottles: (4) TOC Blank, (3) 1.00 mg C/L NIST KHP, (1) 10.0 mg C/L NIST KHP, (1) 25.0 mg C/L NaHCO ₃ , (1) Reagent Water Rw, (1) 0.500 mg/L C from USP Sucrose Rs, (1) 0.500 mg/L C from USP 1,4-Benzoquinone Rss, (1) Reagent Water Rw, (1) 8.0 mg/L C from USP Sucrose Rs, (1) 8.0 mg/L C from USP 1,4-Benzoquinone Rss, (1) 10.0 mg C/L NIST KHP - 125 mL, (1) 5.00 mg C/L NIST KHP - 125 mL	19004	Ships in 5 business days

Consumables

Reagents	Cat. #	Availability
Phosphoric Acid Reagent (1 Liter)*	21016	Ships in 5 business days
Phosphoric Acid Reagent (2 Liter)*	21018	Ships in 5 business days
Persulfate Oxidizer Reagent (1 Liter)	21017	Ships in 5 business days
Persulfate Oxidizer Reagent (2 Liter)	21019	Ships in 5 business days

*Dangerous goods.

Individual set/kit components and/or bulk sizes may be available for the TOC and Conductivity standards. Please contact your Waters ERA sales representative if you have questions about any products that are not listed in this publication.

Waters ERA is making the most commonly requested products available within 24 hours of order receipt to consistently meet your product needs. Products that are less frequently requested will be shipped within five business days of order receipt. Please check your order confirmation for the specific ship date.

Phoenix and Fusion are registered trademarks of Teledyne Technologies Incorporated.

OTHER TOC INSTRUMENTS

All of our Certified Reference Materials (CRMs) are prepared using carefully controlled processes that are scrutinized under Waters ERA's ISO 17034 accreditation.

The following CRMs are designed to use on various brands of TOC instruments for calibration and to satisfy regulatory requirements.

If you do not see your brand of TOC instrument listed below, please contact us for availability.

Swan Analytical and Comet Analytics

System Suitability		
Sets - USP/EP	Cat. #	Availability
USP/EP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzoquinone in 250 mL HDPE containers.	18055	Ships in 5 business days
Sets - USP	Cat. #	Availability
USP Sterile Water System Suitability Set Includes (1) Reagent Water Rw, (1) 8.0 mg/L C USP Sucrose, and (1) 8.0 mg/L USP 1,4-Benzoquinone in 250 mL HDPE containers.	18056	Ships in 5 business days
Sets - Low-Level System Suitability	Cat. #	Availability
Low-Level System Suitability Set Includes (1) Reagent Water, (1) 0.30 mg/L C USP Sucrose, and (1) 0.30 mg/L C USP 1,4-Benzoquinone in 250 mL HDPE containers.	18059	Ships in 5 business days

Calibration & Other

Kits	Cat. #	Availability
Swan Calibration Kit Includes (1) Calibration Blank and (1) 1.0 mg/L C NIST Sucrose in 250 mL HDPE containers.	10035S	Ships in 5 business days
Swan Function Test Kit Includes (1) 20.0 mg/L C Sucrose and (1) 20.0 mg/L C 1,4-Benzoquinone in 125 mL HDPE containers.	19700	Ships in 5 business days

Calibration

Kits	Cat. #	Availability
Calibration Kit Includes (1) Calibration Blank and (1) each 0.25 mg/L, 0.50 mg/L, and 0.75 mg/L C NIST Sucrose in 60 mL HDPE containers.	19202	Ships in 1 business day

Membrapure

System Suitability		
Sets - USP/EP	Cat. #	Availability
USP/EP Bulk Water System Suitability Set Includes (1) Reagent Water Rw, (1) 0.5 mg/L C USP Sucrose, and (1) 0.5 mg/L USP 1,4-Benzoquinone in 500 mL HDPE containers.	18140	Ships in 5 business days
Individual - USP Sterile Water (500 mL HDPE Container)	Cat. #	Availability
USP Reagent Water (Rw)	18144	Ships in 5 business days
8.0 mg/L C USP Sucrose (Rs)	18147	Ships in 5 business days
8.0 mg/L C USP 1,4-Benzoquinone (Rss)	18148	Ships in 5 business days

Calibration

Individual Standards (500 mL HDPE Container)	Cat. #	Availability
Calibration Blank	10110	Ships in 1 business day
0.5 mg/L C NIST Sucrose	10710	Ships in 1 business day

Individual set/kit components and/or bulk sizes may be available for the TOC and Conductivity standards. Please contact your Waters ERA sales representative if you have questions about any products that are not listed in this publication.

Waters ERA is making the most commonly requested products available within 24 hours of order receipt to consistently meet your product needs. Products that are less frequently requested will be shipped within five business days of order receipt. Please check your order confirmation for the specific ship date.

CONSUMABLES

Ever wonder what the USP means by: "Use labware and containers that have been scrupulously cleaned of organic residues"?

Just like the USP, we demand scrupulously cleaned vials for our TOC standards. All of our vials, whether glass or polymer, represent the most consistently clean sample vials available anywhere. They are the perfect vial for your purified water (PW) or water for injection (WFI) sample analysis.

We offer consumable products for various TOC instruments as detailed below.

Vials and Bottles

	Cat. #	Availability
40 mL Ultra-Low TOC Glass Vials (80/case)	25025	Ships in 1 business day
60 mL Low TOC HDPE Bottle - Natural (50/case)	25056	Ships in 1 business day

UV Lamps

Replacement UV Lamps for ANATEL and Sievers models.

	Cat. #	Availability
ANATEL A643/TOC600	20036A	Ships in 1 business day
ANATEL PAT700	20037	Ships in 1 business day
Sievers 400/800	20040	Ships in 1 business day
Sievers 500/900	20045	Ships in 1 business day

Reagent Cartridges for Sievers

	Cat. #	Availability
Phosphoric Acid Reagent Cartridge for Sievers 800/900 (150 mL)*	21010	Ships in 5 business days
Phosphoric Acid Reagent Cartridge for Sievers 800/900 (300 mL)*	21001	Ships in 5 business days
Persulfate Oxidizer Reagent Cartridge for Sievers 800/900 (150 mL)	21005	Ships in 5 business days
Persulfate Oxidizer Reagent Cartridge for Sievers 800/900 (300 mL)	21006	Ships in 5 business days

*Dangerous goods.

Reagents

	Cat. #	Availability
Phosphoric Acid Reagent (1 Liter)*	21016	Ships in 5 business days
Phosphoric Acid Reagent (2 Liter)*	21018	Ships in 5 business days
Persulfate Oxidizer Reagent (1 Liter)*	21017	Ships in 5 business days
Persulfate Oxidizer Reagent (2 Liter)*	21019	Ships in 5 business days

*Dangerous goods.

Tubing

Replacement Pump Tubing for Sievers models.

	Cat. #	Availability
Sievers 400	20055	Ships in 1 business day
Sievers 800	20050	Ships in 1 business day
Sievers 900	20060	Ships in 1 business day

Filters

	Cat. #	Availability
60 Micron In-Line Stainless Filter	25035	Ships in 5 business days
Fan Filter for Sievers 800	25040	Ships in 5 business days



Learn more about Consumables

CLEANING VALIDATION

Waters ERA is the premier manufacturer of specialty cleaning validation products – coupons, certified clean sample vials and swabs for swab recovery studies as well as kits that can be customized to suit your laboratory, analyst and validation needs.

Sampling Kit with Vial and Swab

	Cat. #	Availability
Vial and Swab Sampling Kit – Small Includes (20) certified clean swabs and (10) certified clean vials.	CV10000TX	Ships in 5 business days
Vial and Swab Sampling Kit – Large Includes (160) certified clean swabs and (80) certified clean vials.	CV10005TX	Ships in 5 business days

Swabbing Templates

Pre-cleaned Teflon® square swabbing templates are a simple way to ensure accuracy and precision in your cleaning validation sampling. Each pack comes with a Certificate of Analysis for residual HPLC and TOC levels. Swabbing templates can be custom made to your needs. Stainless steel templates are available upon request. Call for pricing, availability, and custom sizing.

	Cat. #	Availability
16 cm ² (25/pack)	30028	Call for delivery
25 cm ² (25/pack)	30029	Call for delivery
100 cm ² (25/pack)	30032	Call for delivery

Swabs

Large polyester swabs with snap-off head for ultra-low interference levels.

	Cat. #	Availability
TOC Swabs (< 50.0 ppb TOC) Includes (20) swabs (1 total bag)	30033TX	Ships in 5 business days
TOC Swabs (< 50.0 ppb TOC) Includes (100) swabs (20/bag, 5 total bags)	30031TX	Ships in 5 business days
HPLC Swabs (Abs 254: 0.1 au max) Includes (100) swabs (50/bag, 2 total bags)	30030	Ships in 5 business days

Custom Coupons

Waters ERA can accommodate your custom requests for coupons of just about any size, shape or material. Please use the general catalog numbers below and provide the information at the bottom to your customer service representative.

	Cat. #	Availability
Polymer	30024	Call for delivery
Metal	30025	Call for delivery
Glass	30027	Call for delivery

Call 800.372.0122 or 303.431.8454 for a quote on your custom coupon needs in the U.S. Contact your sales partner or e-mail your inquiry to ERA_Europe_Sales@waters.com in Ireland. Please have the following information available:

Material	Metal, plastic, rubber, or glass type (stainless steel, polyethylene, etc.).
Grade	Specific grade of material (i.e., 316 stainless, HDPE or borosilicate glass).
Finish	Arguably the most important factor for metals. The finish refers to the surface roughness and is generally stated in units of "Ra". It is most often measured using a profilometer.
Coating	Some materials can be coated to offer desirable surface properties.
Etching	Some materials can be etched with serial numbers, swabbing areas or other information.
Dimensions	Size and shape of the coupon.
Quantity	The quantity of coupons needed.



Learn more about Cleaning Validation products

REFERENCE STANDARDS

Inorganic Carbon

All of Waters ERA's Certified Reference Materials (CRMs) are prepared using carefully controlled processes that are scrutinized under Waters ERA's ISO 17034 accreditation. Inorganic Carbon (IC) is derived from non-living sources and it exists in pharmaceutical waters as carbonate, bicarbonate, and dissolved carbon dioxide (CO₂). Whether your instrument quantifies IC as part of a differential calculation or removes it as part of a "non-purgeable" method of TOC determination, your instrument's ability to remove and/or measure IC must be validated. Below are the most commonly requested IC concentrations for calibration and validation of TOC instrumentation.

Individual CRMs for Inorganic Carbon			
	Volume	Cat. #	Availability
0.5 mg/L IC from NIST NaHCO ₃	40 mL	15990	Ships in 1 business day
1.0 mg/L IC from NIST NaHCO ₃	40 mL	16000	Ships in 1 business day
5.0 mg/L IC from NIST NaHCO ₃	40 mL	16300	Ships in 1 business day
10.0 mg/L IC from NIST NaHCO ₃	40 mL	16600	Ships in 1 business day
25.0 mg/L IC from NIST NaHCO ₃	40 mL	16900	Ships in 1 business day
50.0 mg/L IC from NIST NaHCO ₃	40 mL	17130	Ships in 1 business day

Bulk sizes may be available for the Inorganic Carbon standards. Please contact your sales representative if you have questions about any products that are not listed in this publication.

We make the most commonly requested products available within 24 hours of order receipt to consistently meet your product needs. Products that are less frequently requested will be shipped within five business days of order receipt. Please check your order confirmation for the specific ship date.

Turbidity

Turbidity products are designed specifically for pharmaceutical turbidimetric validation, calibration and monitoring applications including performing particle content/concentration testing, monitoring for fermentation progress, or filter break monitoring.

Custom turbidity products are available if you need a standard. Please contact us to inquire about custom turbidity reference materials.

REFERENCE STANDARDS

High-Purity Water

Certified Low-TOC Water suitable for use with your TOC or liquid chromatography system. All of our waters are prepared with the highest level of care throughout the Ion-Exchange-Filtration-RO-UV purification process. Our water must pass a rigorous testing scheme and we guarantee the analysis of each bottle as well as your satisfaction.

USP Purified – Certified Low-TOC Water		
	Cat. #	Availability
USP Purified Low-TOC Water – 4 Liter	PW10000	Ships in 5 business days
USP Purified Low-TOC Water – 4 x 4 Liter Case	PW10005	Ships in 5 business days

pH Buffers

Three color-coded pH Buffers that are prepared under our ISO 17034 accreditation. The buffers are mercury free, guaranteed stable for one year, and they are analytically traceable to NIST Standard Reference Materials (SRMs). Waters ERA pH Buffers are designed for routine calibration and/or verification of pH meters and they are supplied with a full certificate of analysis.

pH Buffer Products in 500 mL HDPE Containers		
	Cat. #	Availability
pH 4 (Red) 1 Bottle	127	Ships in 1 business day
pH 4 (Red) Case of 6 Bottles	128	Ships in 1 business day
pH 7 (Yellow) 1 Bottle	131	Ships in 1 business day
pH 7 (Yellow) Case of 6 Bottles	132	Ships in 1 business day
pH 10 (Blue) 1 Bottle	135	Ships in 1 business day
pH 10 (Blue) Case of 6 Bottles	136	Ships in 1 business day
(2) Each of pH 4, pH 7, and pH 10	141	Ships in 1 business day

For other pH buffers please contact us at 800.372.0122 and inquire about our custom pH buffers or our line of environmental reagents.



Learn more about Conductivity products

CONDUCTIVITY

Conductivity solutions and kits that support accurate, verifiable, and approved approaches to validating/verifying your conductivity sensors. Whether you are validating detection limits, determining accuracy and precision, or constructing a low-level linearity curve, Waters ERA has the conductivity products and services to support your efforts.

All Waters ERA Conductivity standards are manufactured in a water matrix, and are scrutinized under Waters ERA's ISO 17034 accreditation.

Conductivity Kits

	Cat. #	Availability
Conductivity Validation Kit – Multiple Use Includes (1) 25 $\mu\text{S}/\text{cm}$, (1) 100 $\mu\text{S}/\text{cm}$, (1) 146.93 $\mu\text{S}/\text{cm}$ (Solution D), and (1) Reagent Blank for use with Solution D in 500 mL HDPE bottles.	02900	Ships in 5 business days
Solution 25 Test Kit Includes (1) 25 $\mu\text{S}/\text{cm}$ standard in a 500 mL HDPE bottle and (5) pre-cleaned 125 mL HDPE wide-mouth bottles.	01100	Ships in 1 business day
Solution 25 Test Kit Includes (1) 25 $\mu\text{S}/\text{cm}$ standard in a 1 Liter HDPE bottle and (5) pre-cleaned 125 mL HDPE wide-mouth bottles.	01001	Ships in 1 business day

Low-Level Conductivity (in HDPE bottles)

Our Low-Level conductivity is an excellent verification solution once you have calibrated your system using our ASTM Solution D.

	Cat. #	Availability
25 $\mu\text{S}/\text{cm}$ (500 mL)	01300	Ships in 5 business days
25 $\mu\text{S}/\text{cm}$ (1 Liter)	01200	Ships in 5 business days

Mid-Level Conductivity (in HDPE bottles)

Manufactured using NIST traceable materials and certified. This potassium chloride (KCl) solution is an excellent calibration or calibration verification solution. This solution is certified by analysis and it does not require the use of a reference blank for accurate calibration or validation.

	Cat. #	Availability
100 $\mu\text{S}/\text{cm}$ (125 mL)	02600	Ships in 5 business days
100 $\mu\text{S}/\text{cm}$ (250 mL)	02250	Ships in 5 business days
100 $\mu\text{S}/\text{cm}$ in (500 mL)	02500	Ships in 5 business days
100 $\mu\text{S}/\text{cm}$ (1 Liter)	02400	Ships in 5 business days

Mid-Level Conductivity ASTM Solution D (in HDPE bottles)

ASTM Solution D is the lowest level solution that can be made following a NIST protocol for conductivity solution preparations. This standard makes an excellent calibration or verification solution together with our 25 $\mu\text{S}/\text{cm}$ solution. All Solution D products include an associated Reference Blank.

	Cat. #	Availability
Solution D at 146.93 $\mu\text{S}/\text{cm}$ (1 Liter)	01700	Ships in 5 business days
Solution D at 146.93 $\mu\text{S}/\text{cm}$ (500 mL)	01800	Ships in 5 business days
Solution D at 146.93 $\mu\text{S}/\text{cm}$ (125 mL)	01900	Ships in 5 business days
Solution D Test Kit (1 Liter) Includes (1) Solution D, (1) Reference Blank, and (20) pre-cleaned 125 mL wide-mouth HDPE containers.	01500	Ships in 5 business days
Solution D Test Kit (500 mL) Includes (1) Solution D, (1) Reference Blank, and (10) pre-cleaned 125 mL wide-mouth HDPE containers.	01600	Ships in 5 business days

CONDUCTIVITY (continued)

High-Level Conductivity (in HDPE bottles)

ASTM Solutions C and D are prepared prescriptively from KCl and offer superior accuracy at mid- to high-levels for conductivity sensor validation and verification.

	Cat. #	Availability
ASTM Solution C at 1408.8 $\mu\text{S}/\text{cm}$ (125 mL)	01610	Ships in 5 business days
ASTM Solution C at 1408.8 $\mu\text{S}/\text{cm}$ (1 Liter)	01620	Ships in 5 business days
1000 $\mu\text{S}/\text{cm}$ (125 mL)	01410	Ships in 5 business days
1000 $\mu\text{S}/\text{cm}$ (500 mL)	01420	Ships in 5 business days
1000 $\mu\text{S}/\text{cm}$ (1 Liter)	01430	Ships in 5 business days
10,000 $\mu\text{S}/\text{cm}$ (125 mL)	01630	Ships in 5 business days
10,000 $\mu\text{S}/\text{cm}$ (1 Liter)	01640	Ships in 5 business days
100,000 $\mu\text{S}/\text{cm}$ (125 mL)	01650	Ships in 5 business days
100,000 $\mu\text{S}/\text{cm}$ (500 mL)	01655	Ships in 5 business days
100,000 $\mu\text{S}/\text{cm}$ (1 Liter)	01660	Ships in 5 business days
200,000 $\mu\text{S}/\text{cm}$ (125 mL)	01661	Ships in 5 business days
200,000 $\mu\text{S}/\text{cm}$ (500 mL)	01662	Ships in 5 business days
300,000 $\mu\text{S}/\text{cm}$ (125 mL)*	01663	Ships in 5 business days
300,000 $\mu\text{S}/\text{cm}$ (500 mL)*	01664	Ships in 5 business days
400,000 $\mu\text{S}/\text{cm}$ (125 mL)*	01665	Ships in 5 business days
400,000 $\mu\text{S}/\text{cm}$ (500 mL)*	01666	Ships in 5 business days
500,000 $\mu\text{S}/\text{cm}$ (125 mL)*	01667	Ships in 5 business days
500,000 $\mu\text{S}/\text{cm}$ (500 mL)*	01668	Ships in 5 business days

*Dangerous goods.



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Waters ERA Subscription Services

We can setup subscription orders to meet your specific needs if your internal quality control program requires regularly scheduled analyses for compliance monitoring or routine instrument maintenance. Subscriptions eliminate the need to place recurring orders. Products are delivered on a regular schedule and they will always be available when you need them. Some of the benefits include:

- Subscriptions can be designed to match your specific needs (e.g., weekly, monthly, etc.)
- Billing occurs for each individual shipment regardless of how you normally pay for vendor supplied materials
- Changes can be made if necessary during the length of the subscription
- You will have the maximum amount of expiration period for your required reference materials
- Subscriptions can be designed for custom products

Please contact Waters ERA to set up a subscription order or if you have any questions about these services.

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603QR	PFAS in Soil	41	665	Organophosphorus Pesticides (OPP)	17	706	EDB/DBCP/TCP	30
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606QR	Air Filter Radionuclides	62	666	Mercury	24	707	Carbamate/Carbamoxylloxime Pesticides	28
607	Air Filter Gross Alpha/Beta	62	666QR	Mercury	24	707QR	Carbamate/Carbamoxylloxime Pesticides	28
607QR	Air Filter Gross Alpha/Beta	62	667	o-Phosphate Nutrients	25	708	PCBs as Decachlorobiphenyl	30
608	Soil Radionuclides	62	667QR	o-Phosphate Nutrients	25	708QR	PCBs as Decachlorobiphenyl	30

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713QR	Organochlorine Pesticides	17
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716	Chlordane	17
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717	Toxaphene	17
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718QR	Chlorinated Acid Herbicides	15
721	Volatiles in Soil	39
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729SQR	PCBs in Oil	15
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730QR	TCLP Volatiles	40
732	TCLP Organochlorine Pesticides	40
732QR	TCLP Organochlorine Pesticides	40
733	PFAS in Drinking Water	28
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734S	PCBs in Water	15
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737QR	TCLP Semivolatiles	40
739	Simple Nutrients	18
740	Trace Metals	18
741	Complex Nutrients	18
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750	Iodine-131	60
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752	Tritium	60
752QR	Tritium	60
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757QR	Strontium-89/90	60
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779QR	pH	26
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851	Chlorinated Acid Herbicides	30
852	Haloacetic Acids (HAA)	25
853	Chloral Hydrate	25
854	Hexavalent Chromium	24
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914QR	Corrosivity/pH in Soil	38	997	Cyanide (free) - 1000 mg/L, 500 mL	76	1128	Mercury in Impinger Solution	56
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4093	QC Plus - Total Cyanide	20
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4882	PAH-GC & GCMS	16
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4992	Lithium	12
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5262	Inorganic Disinfection #2	25
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5270	Inorganic Disinfection #1	25
5272	Inorganic Disinfection #1	25
5272QR	Inorganic Disinfection #1	25
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78102	Ammonium as NH ₄ - 100 mg/L, 125 mL	76
78104	Ammonium as N - 100 mg/L, 125 mL	76
78202	Acetate - 1000 mg/L, 125 mL	76
78212	Iodide - 1000 mg/L, 125 mL	76
K01	Bismuth	77
K08	Yttrium	77
K10	Cations by Ion Chromatography - 100 mg/L	76
K11	Cations by Ion Chromatography - 100 mg/L	76

A		ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Accuracy/Precision Sets							88									
Autoreagent Sets						87										
B		ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Bottles													95			
C		ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Calibration Kits		84	85	86	86	87	88	89	90	94		94				
Caps		84	85													
Cleaning Validation								89						96		
Conductivity Kits		84	85	86		87	88									99
Conductivity - High-Level																99
Conductivity - Low-Level																99
Conductivity - Mid-Level																99
Conductivity - Mid-Level ASTM Solution																99
Conductivity- High Level																99
Consumables		84	85	86		87	88		90				95			
Custom Coupons														96		
F		ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Filters						87	88						95			
Function Test Kit										94						
Full Cal Kit								89								
H		ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
High-Purity Water Reference Standards														98		
I		ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Inorganic Carbon CRMs															98	N/A
Individual CRMs															98	N/A
L		ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Limited Cal Kit								89								
Linearity Sets						87	88									
Multipoint Cal Sets						87										

P	ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
pH Buffer Products														98	
R	ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Reagents					87			90					95		
Reagent Cartridges					87			90					95		
Resin Beds					87										
S	ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Sampling Kit w/Vial and Swab													96		
Specificity Sets					87	88									
Service Kits					87										
Swabs													96		
Swabbing Templates													96		
System Suitability Kits	84	85	86	86	87	88	89	90	94	94	94				
T	ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Tubing					87	88							95		
U	ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Ultra Low CRM Kits								90							
UV Lamps	84	85	86		87	88							95		
V	ANATEL PAT700	ANATEL A643	ANATEL TOC600	ANATEL A-1000	SIEVERS 900, 5310 C, M9, M5310 C	SIEVERS 500	ANALYTIK JENA	OI ANALYTICAL	SWAN	LIGHTHOUSE	MEMBRAPURE	CONSUMABLES	CLEANING VALIDATION	REFERENCE STANDARDS	CONDUCTIVITY
Validation Kits	84	85	86		87	88		90							
Vials	84	85			87	88							95		

A - C

A	4-AAP	4 - Aminoantipyrine
	A2LA	American Association for Laboratory Accreditation
	AE	Air & emissions
B	BCH	Benzene hexachloride
	BOD	Biochemical oxygen demand
	BTEX	Benzene, toluene, ethylbenzene, and xylenes
C	CALA	Canadian Association for Laboratory Accreditation
	CFU	Colony-forming unit
	CLP	Contract laboratory program
	COD	Chemical oxygen demand
	CofA	Certificate of analysis
	CRDL	Contract required detection limit
	CRM	Certified reference material
	CVAFS	Cold vapor atomic fluorescence spectroscopy
	CVAA	Cold vapor atomic absorption
	CWA	Clean Water Act

D - F

D	DBCP	Dibromochloropropane
	DI	Deionized
E	EDB	Ethylene dibromide also known as 1,2-Dibromoethane
	EDD	Electronic data deliverable
	ELAP	Environmental Laboratory Accreditation Program
	EPA	Environmental Protection Agency
	EPTIS	European Proficiency Testing Information System
	ERA	Environmental Resource Associates
F	FAQ	Frequently asked question
	FID	Flame ionization detector
	FoPT	Field of Proficiency Testing

G - I

G	GC	Gas chromatography
H	HCH	Hexachlorocyclohexane
	HEM	Hexane extractable material
	HMX	Nitroamine high explosive
	HPC	Heterotrophic plate count
	HPLC	High performance liquid chromatography
I	IC	Ion chromatography
	ICP	Inductively coupled plasma
	IR	Infrared
	ISE	Ion selective electrode
	ISO	International Organization for Standardization

L - N

L	LAS	Linear alkylbenzene sulphonates
	LIMS	Laboratory information management system
M	MBAS	Methylene blue active substances
	MCAPA	2-methyl-4-chlorophenoxyacetic acid
	MCPP	Mecoprop (chlorophenoxy herbicide)
	MEK	Methyl ethyl ketone
	MF	Membrane filtration
	mg	Milligrams
	mg/dscm	Milligrams per dry standard cubic meter
	MIBK	Methyl isobutyl ketone
	MOE	Ministry of the Environment (Ontario)
	MPN	Most probable number
	MRAD	Multi-media radiochemistry
	MTBE	Methyl tert-butyl ether

N

NELAC	National Environmental Laboratory Accreditation Conference
NELAP	National Environmental Laboratory Accreditation Program
NIST	National Institute of Standards and Technology (U.S.)
NPDES	National Pollutant Discharge Elimination System
NQA	National Quality Assurance
NTU	Nephelometric turbidity unit

O - Q

O	OES	Optical emission spectrometry
P	PAH	Polycyclic aromatic hydrocarbons
	PC units	Platinum-cobalt
	PCB	Polychlorinated biphenyls
	pci/kg	Picocuries per kilogram
	PE	Performance evaluation
	pg	Picogram
	PT	Proficiency test(ing)
	PUF	Polyurethane foam
Q	QC	Quality control
	QR	QuiK Response

R - T

R	RCRA	Resource Conservation and Recovery Act
	RDX	Research department explosive (an explosive nitroamine)
	RM	Reference material
	RTU	Ready-to-use
S	SCC	Standards Council of Canada
	SDWA	Safe Drinking Water Act
	SGTheM	Silica gel treated hexane extractable materials
	SI unit	International System of units
	SPE	Solid-phase extraction
	SU	Standard units
T	TCDD	Tetrachlorodibenzo-p-dioxin
	TCLP	Toxicity characteristic leaching procedure
	TCP	Trichloropropene
	TKN	Total Kjeldahl (kel'dahl) Nitrogen
	TNI	The NELAC Institute
	TOC	Total organic carbon
	TOX	Total organic halides
	TPH	Total petroleum hydrocarbons
	TSS	Total suspended solids

U - Z

U	UCMR	Unregulated contaminant monitoring rule
	UKAS	United Kingdom Accreditation Service
	µmhos	Micromhos (measure of electrical conductivity of a solution)
	UPLC	Ultra performance liquid chromatography
V	VOA	Volatile organic analysis
	VOC	Volatile organic compounds
W	WP	Water pollution
	WS	Water supply
	WWTP	Wastewater treatment plant
Z	Z-score	Statistical measurement of a score's relationship to the mean in a group of scores

Notes

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