

Waters™ | ERA™

# Environmental and Process Water

Proficiency Testing and Reference Materials

2024–2025 Product Catalog

*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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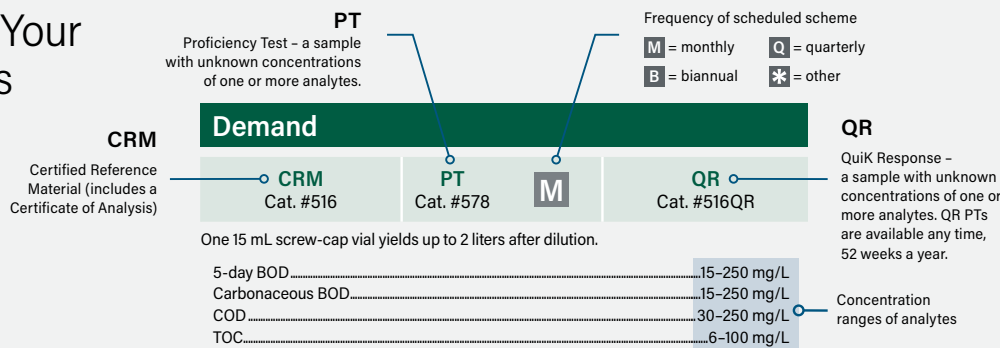
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## Ordering Your Standards



# 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**



**1982**

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

**1999**

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

**2006**

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

**2006**

Waters ERA joins the International Space Station

Waters acquires  
Products  
c. (APG)

2008

Waters ERA introduces  
Stationary Source Audit  
Sample (SSAS)

2013

eDATA 2.0  
launched

2015

New website  
launched

2022



2008

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

## Today

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



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# 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](http://eraqc.com).

Q Quarterly Study

For the latest products and information,  
please visit us online at [eraqc.com](http://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](http://eraqc.com).

Q Quarterly Study

For the latest products and information,  
please visit us online at [eraqc.com](http://eraqc.com)

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# 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
	WP 371	Dec 8	Jan 22, 2026

Schedule subject to change – see Waters ERA's website at [eraqc.com](http://eraqc.com)

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Description	CRM	PT	QR	Page
1 Liter Oil & Grease	518	582 <b>M</b>	518QR	11
1,4-Dioxane	402	597 <b>B</b>	402QR	14
Acidity	915	885 <b>Q</b>	915QR	13
Acids	712	834 <b>M</b>	712QR	16
Base/Neutrals	711	833 <b>M</b>	711QR	16
Boron	919	886 <b>Q</b>	919QR	14
Bromide	769	887 <b>Q</b>	769QR	14
BTEX & MTBE	760	643 <b>Q</b>	760QR	14
Carbamate Pesticides	908	899 <b>Q</b>	908QR	17
Chlordane	716	837 <b>M</b>	716QR	17
Chlorinated Acid Herbicides	718	829 <b>M</b>	718QR	15
Color	1070C	882C <b>Q</b>	1070CQR	13
Complex Nutrients	525	579 <b>M</b>	525QR	10
Cyanide	502	588 <b>M</b>	502QR	13
Demand	516	578 <b>M</b>	516QR	12
Diesel Range Organics (DRO) in Water	764	641 <b>Q</b>	764QR	16
Dissolved Oxygen	213	212 <b>Q</b>	213QR	13
EDB/DBCP/TCP	692	562 <b>Q</b>	692QR	16
Gasoline Range Organics (GRO) in Water	762	640 <b>Q</b>	762QR	14
Glycols in Water	401	271 <b>Q</b>	401QR	16
Hardness	507	580 <b>M</b>	507QR	10
HEM/SGT-HEM	519	489 <b>Q</b>	519QR	11
Hexavalent Chromium	984	898 <b>M</b>	984QR	12
Lithium	4992	4990 <b>*</b>	4992QR	12
Low-Level Mercury	931	896 <b>Q</b>	931QR	12
Low-Level Nitroaromatics & Nitramines	677	932 <b>Q</b>	677QR	16
Low-Level PAHs	715	836 <b>Q</b>	715QR	16
Low-Level Total Residual Chlorine (TRC)	917	881 <b>M</b>	917QR	14
Mercury	514	574 <b>M</b>	514QR	12
Minerals	506	581 <b>M</b>	506QR	10
Nitrite	770	888 <b>M</b>	770QR	10
Nitrogen Pesticides	674	487 <b>Q</b>	674QR	17

Description	CRM	PT	QR	Page
Oil & Grease	504			11
Oil & Grease Concentrate	4122	4120 <b>M</b>	4122QR	11
Organochlorine Pesticides	713	831 <b>M</b>	713QR	17
Organophosphorus Pesticides (OPP)	665	934 <b>Q</b>	665QR	17
PAHs-GC/GCMS	4882	4880 <b>Q</b>	4882QR	16
PCBs in Oil	729S	835S <b>M</b>	729SQR	15
PCBs in Water	734S	832S <b>M</b>	734SQR	15
PCBs in Water Standards		see page 15 for options		
Perchlorate	1501	1500 <b>Q</b>	1501QR	13
PFAS in Wastewater	404	599 <b>Q</b>	404QR	15
pH	977	577 <b>M</b>	977QR	14
QC Plus		see page 19 for options		
Ready-to-Use CRMs		see page 18 for options		
Settleable Solids	911	883 <b>M</b>	911QR	10
Silica	775	890 <b>Q</b>	775QR	13
Simple Nutrients	505	584 <b>M</b>	505QR	10
Solids	499	241 <b>M</b>	499QR	10
Solids Concentrate	4032	4030 <b>M</b>	4032QR	10
Surfactants-MBAS	776	892 <b>Q</b>	776QR	13
Sulfide	071	891 <b>M</b>	071QR	13
Sulfite	534	244 <b>B</b>	534QR	13
Tin & Titanium	517	573 <b>M</b>	517QR	12
Total Organic Halides (TOX)	670	895 <b>Q</b>	670QR	13
Total Petroleum Hydrocarbons (TPH) in Water #1	600	642 <b>Q</b>	602QR	11
Total Petroleum Hydrocarbons (TPH) in Water #2	601	642 <b>Q</b>	602QR	11
Total Phenolics (4-AAP)	515	589 <b>M</b>	515QR	13
Total Residual Chlorine (TRC)	501	587 <b>M</b>	501QR	14
Toxaphene	717	838 <b>M</b>	717QR	17
Trace Metals	500	586 <b>M</b>	500QR	12
Turbidity	777	893 <b>M</b>	777QR	13
Uranium	4402	4400 <b>Q</b>	4402QR	12
Volatile Aromatics	4452	4450 <b>Q</b>	4452QR	14
Volatile Solids	913	884 <b>M</b>	913QR	10
Volatiles	710	830 <b>M</b>	710QR	14

CRM - Certified Reference Material  
 PT - Proficiency Testing  
 QR - Quik Response  
 RM - Reference Material

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.

# Minerals/Solids

## Minerals

<b>CRM</b> Cat. #506	<b>PT</b> Cat. #581	<b>M</b>	<b>QR</b> Cat. #506QR
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One 500 mL whole-volume bottle is ready to analyze.

Total alkalinity as CaCO <sub>3</sub> .....	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 µmhos/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

<b>CRM</b> Cat. #507	<b>PT</b> Cat. #580	<b>M</b>	<b>QR</b> Cat. #507QR
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One 500 mL whole-volume bottle is ready to analyze.

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

## Settleable Solids

<b>CRM</b> Cat. #911	<b>PT</b> Cat. #883	<b>M</b>	<b>QR</b> Cat. #911QR
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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](http://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

<b>CRM</b> Cat. #913	<b>PT</b> Cat. #884	<b>M</b>	<b>QR</b> Cat. #913QR
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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
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## Solids Concentrate

<b>CRM</b> Cat. #4032	<b>PT</b> Cat. #4030	<b>M</b>	<b>QR</b> Cat. #4032QR
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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

<b>CRM</b> Cat. #499	<b>PT</b> Cat. #241	<b>M</b>	<b>QR</b> Cat. #499QR
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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

<b>CRM</b> Cat. #505	<b>PT</b> Cat. #584	<b>M</b>	<b>QR</b> Cat. #505QR
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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

<b>CRM</b> Cat. #525	<b>PT</b> Cat. #579	<b>M</b>	<b>QR</b> Cat. #525QR
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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

<b>CRM</b> Cat. #770	<b>PT</b> Cat. #888	<b>M</b>	<b>QR</b> Cat. #770QR
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One 15 mL screw-cap vial yields up to 2 liters after dilution.

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

**M**

**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

**M**

**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

**Q**

**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

**Q**

**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

**Q**

**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

<b>CRM</b> Cat. #516	<b>PT</b> Cat. #578	<b>M</b>	<b>QR</b> Cat. #516QR
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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

<b>CRM</b> Cat. #500	<b>PT</b> Cat. #586	<b>M</b>	<b>QR</b> Cat. #500QR
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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

<b>CRM</b> Cat. #514	<b>PT</b> Cat. #574	<b>M</b>	<b>QR</b> Cat. #514QR
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One 15 mL screw-cap vial yields up to 1 liter after dilution. Analyze for total mercury.

Total mercury.....	3-30 µg/L
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## Low-Level Mercury

<b>CRM</b> Cat. #931	<b>PT</b> Cat. #896	<b>Q</b>	<b>QR</b> Cat. #931QR
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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
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*Waters ERA Low-Level Mercury is also available during February and March WP PT schemes.*

# Metals (continued)

## Hexavalent Chromium

<b>CRM</b> Cat. #984	<b>PT</b> Cat. #898	<b>M</b>	<b>QR</b> Cat. #984QR
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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
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## Tin and Titanium

<b>CRM</b> Cat. #517	<b>PT</b> Cat. #573	<b>M</b>	<b>QR</b> Cat. #517QR
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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

<b>CRM</b> Cat. #4402	<b>PT</b> Cat. #4400	<b>Q</b>	<b>QR</b> Cat. #4402QR
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One 15 mL screw-cap vial yields up to 1 liter after dilution.

Uranium.....	25-200 µg/L
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## Lithium

<b>CRM</b> Cat. #4992	<b>PT</b> Cat. #4990	<b>*</b>	<b>QR</b> Cat. #4992QR
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One 15 mL screw-cap vial yields up to 1 liter after dilution. Designed for the Ohio VAP program.

Lithium.....	50-500 µg/L
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**\*** Waters ERA WP Lithium PTs open in February and August.

# Physical Property

## Color

<b>CRM</b> Cat. #1070C	<b>PT</b> Cat. #882C	<b>Q</b>	<b>QR</b> Cat. #1070CQR
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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

<b>CRM</b> Cat. #777	<b>PT</b> Cat. #893	<b>M</b>	<b>QR</b> Cat. #777QR
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One 24 mL amber glass vial yields up to 1 liter after dilution. Use with nephelometric methods.

Turbidity .....2-30 NTU

# Miscellaneous Chemistry

## Cyanide

<b>CRM</b> Cat. #502	<b>PT</b> Cat. #588	<b>M</b>	<b>QR</b> Cat. #502QR
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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

<b>CRM</b> Cat. #213	<b>PT</b> Cat. #212	<b>Q</b>	<b>QR</b> Cat. #213QR
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One 500 mL whole-volume bottle is ready to analyze.

Dissolved oxygen .....1-20 mg/L

## Total Organic Halides (TOX)

<b>CRM</b> Cat. #670	<b>PT</b> Cat. #895	<b>Q</b>	<b>QR</b> Cat. #670QR
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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)

<b>CRM</b> Cat. #515	<b>PT</b> Cat. #589	<b>M</b>	<b>QR</b> Cat. #515QR
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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

<b>CRM</b> Cat. #1501	<b>PT</b> Cat. #1500	<b>Q</b>	<b>QR</b> 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

<b>CRM</b> Cat. #775	<b>PT</b> Cat. #890	<b>Q</b>	<b>QR</b> Cat. #775QR
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One 60 mL poly bottle yields up to 1 liter after dilution. Analyze for silica as SiO<sub>2</sub> with colorimetric or ICP methods.

Silica as SiO<sub>2</sub> .....50-250 mg/L

## Sulfide

<b>CRM</b> Cat. #071	<b>PT</b> Cat. #891	<b>M</b>	<b>QR</b> 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

<b>CRM</b> Cat. #534	<b>PT</b> Cat. #244	<b>B</b>	<b>QR</b> 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

<b>CRM</b> Cat. #776	<b>PT</b> Cat. #892	<b>Q</b>	<b>QR</b> 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

<b>CRM</b> Cat. #915	<b>PT</b> Cat. #885	<b>Q</b>	<b>QR</b> 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 CaCO<sub>3</sub> .....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. #977PT  
Cat. #577

M

QR  
Cat. #977QR

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

pH.....5-10 units

## Boron

CRM  
Cat. #919PT  
Cat. #886

Q

QR  
Cat. #919QR

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. #769PT  
Cat. #887

Q

QR  
Cat. #769QR

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. #501PT  
Cat. #587

M

QR  
Cat. #501QR

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. #917PT  
Cat. #881

M

QR  
Cat. #917QR

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. #4452PT  
Cat. #4450

Q

QR  
Cat. #4452QR

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. #710PT  
Cat. #830

M

QR  
Cat. #710QR

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 (DBCP)	Methyl tert-butyl ether (MTBE)
Acetonitrile		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	1,1,1,2-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. #402PT  
Cat. #597

B

QR  
Cat. #402QR

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 &amp; MTBE in Water

CRM  
Cat. #760PT  
Cat. #643

Q

QR  
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 method. Includes all BTEX compounds and MTBE at 10-300 µg/L after dilution.

## Gasoline Range Organics (GRO) in Water

CRM  
Cat. #762PT  
Cat. #640

Q

QR  
Cat. #762QR

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

# Per-and Polyfluoroalkyl Substances (PFAS)

## PCBs in Water

<b>CRM</b> Cat. #734S	<b>PT</b> Cat. #832S	<b>M</b>	<b>QR</b> 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

<b>CRM</b> Cat. #729S	<b>PT</b> Cat. #835S	<b>M</b>	<b>QR</b> 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

<b>CRM</b> Cat. #718	<b>PT</b> Cat. #829	<b>M</b>	<b>QR</b> 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)

## PFAS in Wastewater

**NEW PRODUCT**

<b>CRM</b> Cat. #404	<b>PT</b> Cat. #599	<b>Q</b>	<b>QR</b> 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
Perfluorooctanoic 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, PFTriDA.....	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
Perfluorooctanesulfonic acid, PFOS.....	20-200 ng/L
Perfluorononanesulfonic 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
Perfluorooctanesulfonamide, PFOSA.....	20-200 ng/L
N-ethyl perfluorooctanesulfonamidoacetic acid, NtEFOSAA.....	20-200 ng/L
N-methyl perfluorooctanesulfonamidoacetic acid, NMeFOSAA.....	20-200 ng/L
N-ethyl perfluorooctanesulfonamide, NtEFOSA.....	20-200 ng/L
N-methyl perfluorooctanesulfonamide, NMeFOSA.....	20-200 ng/L
N-ethyl perfluorooctanesulfonamidoethanol, NtEFOSE.....	20-200 ng/L
N-methyl perfluorooctanesulfonamidoethanol, NMeFOSE.....	20-200 ng/L
3-Perfluoropropyl propanoic acid, 3:3 FTCA.....	40-400 ng/L
2H,2H,3H,3H-Perfluorooctanoic 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-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid, 11Cl-PF3OUdS.....	40-400 ng/L
Perfluoro-4-methoxybutanoic acid, PFMBAA.....	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-decenoic acid, FOUEA.....	20-200 ng/L
Bis(trifluoromethane)sulfonamide.....	20-200 ng/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.

## 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-Nitrosodimethylamine
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-Dinitrobenzene	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.

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

## 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 mg/L.

Diethylene glycol	Propylene glycol	Triethylene glycol
Ethylene glycol	Tetraethylene glycol	

## Low-Level Nitroaromatics &amp; 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-Dinitrobenzene	2-Nitrotoluene	1,3,5-Trinitrobenzene
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	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		

## PAHs – GC/GCMS

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
Benzo(a)anthracene	Dibenz(a,h)anthracene	Naphthalene
Benzo(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 <sub>3</sub> .....	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 µmhos/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

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

Calcium.....	10–100 mg/L
Calcium hardness as CaCO <sub>3</sub> .....	25–250 mg/L
Total hardness as CaCO <sub>3</sub> .....	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

## 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 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

## 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 - 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 <sub>3</sub> .....	10.0-300 mg/L
Calcium.....	5.00-150 mg/L
Calcium hardness as CaCO <sub>3</sub> .....	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 <sub>3</sub> .....	15.0-600 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 - 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](https://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](http://eraqc.com)

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1,4-Dioxane	689	272 <b>B</b>	689QR	27
Ammonia as N	1359	1319 <b>B</b>	1359QR	25
Carbamates/Carbamoxylxime Pesticides	707	846 <b>M</b>	707QR	28
Chloral Hydrate	676	853 <b>B</b>	676QR	25
Chlordane	705	845 <b>M</b>	705QR	28
Chlorinated Acid Herbicides	704	851 <b>M</b>	704QR	30
Color	661C	859C <b>Q</b>	661CQR	26
Corrosivity	980	900 <b>Q</b>	980QR	26
Cyanide	983	556 <b>M</b>	983QR	25
Dioxin	663	857 <b>Q</b>	663QR	30
EDB/DBCP/TCP	706	847 <b>M</b>	706QR	30
Gasoline Additives	909	905 <b>Q</b>	909QR	27
Haloacetic Acids (HAA)	684	852 <b>M</b>	684QR	25
Halomethanes (THMs)	702	842 <b>M</b>	702QR	27
Hardness	693	555 <b>M</b>	693QR	24
Hexavalent Chromium	658	854 <b>Q</b>	658QR	24
Inorganic Disinfection #1	5272	5270 <b>M</b>	5272QR	25
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Inorganics	698	591 <b>M</b>	698QR	24
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Mercury	666	551 <b>M</b>	666QR	24
Metals	697	590 <b>M</b>	697QR	24

**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](http://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
Nitrite	695	594 <b>M</b>	695QR	25
o-Phosphate Nutrients	667	558 <b>M</b>	667QR	25
Organic Carbon	669	557 <b>M</b>	669QR	26
PCBs as Decachlorobiphenyl	708	839 <b>Q</b>	708QR	30
Perchlorate	910	903 <b>Q</b>	910QR	26
Pesticides	709	850 <b>M</b>	709QR	28
PFAS Drinking Water	733	959 <b>Q</b>	733QR	28
pH	779	552 <b>M</b>	779QR	26
Regulated Volatiles	703	840 <b>M</b>	703QR	27
Residual Chlorine	696	593 <b>M</b>	696QR	25
Semivolatiles #1	690	848 <b>M</b>	690QR	30
Semivolatiles #2 Herbicides	691	849 <b>M</b>	691QR	30
Silica	785	902 <b>Q</b>	785QR	26
Solids Concentrate	5152	5150 <b>M</b>	5152QR	24
Surfactants-MBAS	784	901 <b>Q</b>	784QR	26
Toxaphene	700	844 <b>M</b>	700QR	28
Turbidity	699	592 <b>M</b>	699QR	26
Unregulated Volatiles	683	841 <b>M</b>	683QR	27
Uranium	930	858 <b>Q</b>	930QR	24
UV 254 Absorbance	662	904 <b>Q</b>	662QR	26
Vanadium	660	856 <b>Q</b>	660QR	24

**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

<b>CRM</b> Cat. #693	<b>PT</b> Cat. #555	<b>M</b>	<b>QR</b> 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 <sub>3</sub> .....	75-225 mg/L
Total hardness as CaCO <sub>3</sub> .....	83-307 mg/L
Magnesium.....	2-20 mg/L
Sodium.....	12-50 mg/L

### Inorganics

<b>CRM</b> Cat. #698	<b>PT</b> Cat. #591	<b>M</b>	<b>QR</b> 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 <sub>3</sub> .....	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

<b>CRM</b> Cat. #5152	<b>PT</b> Cat. #5150	<b>M</b>	<b>QR</b> 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

<b>CRM</b> Cat. #697	<b>PT</b> Cat. #590	<b>M</b>	<b>QR</b> 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

<b>CRM</b> Cat. #666	<b>PT</b> Cat. #551	<b>M</b>	<b>QR</b> 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

<b>CRM</b> Cat. #658	<b>PT</b> Cat. #854	<b>Q</b>	<b>QR</b> 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

<b>CRM</b> Cat. #930	<b>PT</b> Cat. #858	<b>Q</b>	<b>QR</b> 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

<b>CRM</b> Cat. #660	<b>PT</b> Cat. #856	<b>Q</b>	<b>QR</b> 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

# Nutrients

## Chloral Hydrate

<b>CRM</b> Cat. #676	<b>PT</b> Cat. #853	<b>B</b>	<b>QR</b> 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)

<b>CRM</b> Cat. #684	<b>PT</b> Cat. #852	<b>M</b>	<b>QR</b> 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	Dichloroacetic acid	Monochloroacetic acid
Dibromoacetic acid	Monobromoacetic acid	Trichloroacetic acid

## Inorganic Disinfection #1

<b>CRM</b> Cat. #5272	<b>PT</b> Cat. #5270	<b>M</b>	<b>QR</b> 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

<b>CRM</b> Cat. #5262	<b>PT</b> Cat. #5260	<b>M</b>	<b>QR</b> 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

## Ammonia as N

<b>CRM</b> Cat. #1359	<b>PT</b> Cat. #1319	<b>B</b>	<b>QR</b> 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
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**B** Waters ERA WS Ammonia as N PTs open in January and July.

## Nitrite

<b>CRM</b> Cat. #695	<b>PT</b> Cat. #594	<b>M</b>	<b>QR</b> 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
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## o-Phosphate Nutrients

<b>CRM</b> Cat. #667	<b>PT</b> Cat. #558	<b>M</b>	<b>QR</b> 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
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# Miscellaneous Inorganic

## Residual Chlorine

<b>CRM</b> Cat. #696	<b>PT</b> Cat. #593	<b>M</b>	<b>QR</b> 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

<b>CRM</b> Cat. #983	<b>PT</b> Cat. #556	<b>M</b>	<b>QR</b> 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

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

## Miscellaneous Inorganic (continued)

## Organic Carbon

CRM  
Cat. #669PT  
Cat. #557

M

QR  
Cat. #669QR

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. #910PT  
Cat. #903

Q

QR  
Cat. #910QR

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

Perchlorate.....4-20 µg/L

## pH

CRM  
Cat. #779PT  
Cat. #552

M

QR  
Cat. #779QR

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

pH.....5-10 units

## Silica

CRM  
Cat. #785PT  
Cat. #902

Q

QR  
Cat. #785QR

One 60 mL poly bottle yields 1 liter after dilution.

Silica as SiO<sub>2</sub>.....5-75 mg/L

## Surfactants-MBAS

CRM  
Cat. #784PT  
Cat. #901

Q

QR  
Cat. #784QR

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

Surfactants-MBAS.....0.1-1 mg/L

## Physical Property

## Color

CRM  
Cat. #661CPT  
Cat. #859C

Q

QR  
Cat. #661CQR

One 30 mL screw-cap bottle yields up to 200 mL after dilution.

Color.....10-75 PC units

## Corrosivity

CRM  
Cat. #980PT  
Cat. #900

Q

QR  
Cat. #980QR

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. #699PT  
Cat. #592

M

QR  
Cat. #699QR

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. #662PT  
Cat. #904

Q

QR  
Cat. #662QR

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

UV 254 absorbance.....0.05-0.7 cm<sup>-1</sup>

Learn more about WS products

# Volatile Organics

## 1,4-Dioxane

<b>CRM</b> Cat. #689	<b>PT</b> Cat. #272	<b>B</b>	<b>QR</b> 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

## Gasoline Additives

<b>CRM</b> Cat. #909	<b>PT</b> Cat. #905	<b>Q</b>	<b>QR</b> 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 (DIPE)		Trichlorotrifluoroethane
		(Freon 113)

## Halomethanes (THMs)

<b>CRM</b> Cat. #702	<b>PT</b> Cat. #842	<b>M</b>	<b>QR</b> 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

<b>CRM</b> Cat. #703	<b>PT</b> Cat. #840	<b>M</b>	<b>QR</b> 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

## Unregulated Volatiles

<b>CRM</b> Cat. #683	<b>PT</b> Cat. #841	<b>M</b>	<b>QR</b> 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	1,1,1,2-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	

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.

# Per- and Polyfluoroalkyl Substances (PFAS)

**NEW  
PRODUCT**

## PFAS in Drinking Water

CRM Cat. #733	PT Cat. #959	Q	QR Cat. #733QR
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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
Perfluorooctanoic 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
Perfluorooctanesulfonic 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
Perfluorooctanesulfonamide, 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-dioxo-3H-perfluorononanoic acid, ADONA.....	20–200 ng/L
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid, 9Cl-PF3ONS.....	20–200 ng/L
11-chloroeicosafluoro-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-dioxahexanoic 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/Carbamoyloxime 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.

# Tackle Your Most Stringent PFAS Limits and Get Ready to Conquer Your Analytical Challenges With the Waters LC-MS/MS Workflow Solutions



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[waters.com/PFAS](https://waters.com/PFAS)



SCAN ME

Waters™

## Pesticides (continued)

## EDB/DBCP/TCP

CRM Cat. #706	PT Cat. #847	M	QR Cat. #706QR
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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)                      1,2,3-Trichloropropane (1,2,3-TCP)  
Ethylene dibromide (EDB)

## Low-Level 1,2,3-TCP

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

# Evolution in Dioxin Analysis Technology

**Waters provides industry leading technology to address complex environmental challenges affecting human health.**

Dioxin analysis is particularly demanding due to low level regulatory exposure limits and complex sample matrices. With the adoption of atmospheric pressure chemical ionization with tandem mass spectrometry (APCI-MS/MS) as an acceptable alternative, your operational efficiency and analytical quality will improve as you experience:

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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](http://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](http://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 <b>Q</b>	787QR	34
Heterotrophic Plate Count (WP)		935 <b>B</b>		34
Heterotrophic Plate Count (WS)	084	079 <b>M</b>	084QR	34
Massachusetts Ground Water Enterococci	081	077 <b>*</b>	–	34
Potable Water Coliform Microbe	694	080 <b>M</b>	085QR	34
Source Water Microbe	078	595 <b>Q</b>	078QR	34
Source Water Microbe - 9221	078A	595A <b>Q</b>	078AQR	34
Wastewater Coliform Microbe	083	576 <b>M</b>	786QR	34
Wastewater Coliform Microbe - 9221	083A	576A <b>M</b>	786AQR	34

## Water Supply PT Schedule 2024

Water Supply			
	Scheme #	Opens	Closes
<b>Q</b>	WS 330	Jan 8	Feb 22
	WS 331	Feb 5	Mar 21
	WS 332	Mar 4	Apr 18
<b>Q</b>	WS 333	Apr 8	May 23
	WS 334	May 6	Jun 20
	WS 335	Jun 3	Jul 18
<b>Q</b>	WS 336	Jul 8	Aug 22
	WS 337	Aug 5	Sep 19
	WS 338	Sep 3	Oct 18
<b>Q</b>	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
<b>Q</b>	WS 342	Jan 13	Feb 27
	WS 343	Feb 10	Mar 27
	WS 344	Mar 3	Apr 17
<b>Q</b>	WS 345	Apr 7	May 22
	WS 346	May 5	Jun 19
	WS 347	Jun 9	Jul 24
<b>Q</b>	WS 348	Jul 7	Aug 21
	WS 349	Aug 4	Sep 18
	WS 350	Sep 8	Oct 23
<b>Q</b>	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 (**M**), quarterly (**Q**), or biannually (**B**) 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

<b>CRM</b> Cat. #083	<b>PT</b> Cat. #576	<b>M</b>	<b>QR</b> Cat. #786QR
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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

<b>CRM</b> Cat. #083A	<b>PT</b> Cat. #576A	<b>M</b>	<b>QR</b> Cat. #786AQR
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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 of 20–2400 MPN/100 mL.

### Enterococci

<b>CRM</b> Cat. #081	<b>PT</b> Cat. #880	<b>Q</b>	<b>QR</b> Cat. #787QR
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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


<b>PT</b> Cat. #935	<b>B</b>
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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

<b>CRM</b> Cat. #081	<b>PT</b> Cat. #077	
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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

<b>CRM</b> Cat. #084	<b>PT</b> Cat. #079	<b>M</b>	<b>QR</b> Cat. #084QR
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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 (simplate).

### Potable Water Coliform Microbe

<b>CRM</b> Cat. #694	<b>PT</b> Cat. #080	<b>M</b>	<b>QR</b> Cat. #085QR
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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

<b>CRM</b> Cat. #078	<b>PT</b> Cat. #595	<b>Q</b>	<b>QR</b> Cat. #078QR
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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

<b>CRM</b> Cat. #078A	<b>PT</b> Cat. #595A	<b>Q</b>	<b>QR</b> Cat. #078AQR
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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.

- **Data Tools to Help You Succeed:** eDATA online PT data management portal allows you to effectively manage your proficiency testing program, assess risk, and evaluate trends over time.
- **Expert Guidance at Your Fingertips:** Direct access to one of the most qualified Customer Service and Technical Support teams in the environmental PT and CRM industry.
- **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](http://eraqc.com)

# Contents

Description	CRM	PT	QR	Page
1,4-Dioxane in Soil	538	461 <b>B</b>	538QR	39
Anions in Soil	543	873 <b>Q</b>	543QR	39
Base/Neutrals & Acids in Soil	727	467 <b>Q</b>	727QR	41
BTEX & MTBE in Soil	761	633 <b>Q</b>	761QR	40
Carbamate Pesticides in Soil	926	879 <b>Q</b>	926QR	43
Chlordane in Soil	725	628 <b>Q</b>	725QR	43
Chlorinated Acid Herbicides in Soil	723	626 <b>Q</b>	723QR	42
Corrosivity/pH in Soil	914	875 <b>Q</b>	914QR	38
Cyanide in Soil	541	621 <b>Q</b>	541QR	39
Diesel Range Organics (DRO) in Soil	765	631 <b>Q</b>	765QR	41
Gasoline Range Organics (GRO) in Soil	763	630 <b>Q</b>	763QR	39
Glycols in Soil	928	463 <b>Q</b>	928QR	41
Hexavalent Chromium in Soil	921	876 <b>Q</b>	921QR	38
Ignitability/Flash Point	979	874 <b>Q</b>	979QR	38
Low-Level PAHs in Soil	722	625 <b>Q</b>	722QR	41
Metals & Cyanide Blank Sand	058	—	—	43
Metals & Cyanide Blank Soil	057	—	—	43
Metals in Sewage Sludge	160	619 <b>Q</b>	160QR	38
Metals in Soil	540	620 <b>Q</b>	540QR	38
Nitroaromatics & Nitramines in Soil	920	871 <b>Q</b>	920QR	41

**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](http://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
Nutrients in Sludge	545	—	—	39
Nutrients in Soil	542	869 <b>Q</b>	542QR	39
Oil & Grease in Soil	549	867 <b>Q</b>	549QR	39
Organochlorine Pesticides in Soil	728	468 <b>Q</b>	728QR	43
Organophosphorus Pesticides (OPP) in Soil	925	878 <b>Q</b>	925QR	43
PCBs in Oil	563	817 <b>Q</b>	563QR	42
PCBs in Oil Standards	see page 42 for options			
PCBs in Soil	726	624 <b>Q</b>	726QR	42
PCBs in Soil Standards	see page 42 for options			
PFAS in Soil	603	465 <b>Q</b>	603QR	41
Ready-to-Use VOAs in Soil	924	870 <b>Q</b>	924QR	40
TCLP Metals in Soil	544	629 <b>Q</b>	544QR	38
TCLP Organochlorine Pesticides	732	—	732QR	40
TCLP Semivolatiles	737	—	737QR	40
TCLP Volatiles	730	—	730QR	40
Total Petroleum Hydrocarbons (TPH) in Soil #1	570	632 <b>Q</b>	572QR	40
Total Petroleum Hydrocarbons (TPH) in Soil #2	571	632 <b>Q</b>	572QR	40
Toxaphene in Soil	724	627 <b>Q</b>	724QR	43
Volatiles in Soil	721	623 <b>Q</b>	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 (**Q**) or biannually (**B**), 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.....	5000–50000 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 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
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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
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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 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	1,1,2,2-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-Chlorotoluene	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	
	1,1,1,2-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 ug/kg
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### 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

<b>CRM</b> Cat. #761	<b>PT</b> Cat. #633	<b>Q</b>	<b>QR</b> Cat. #761QR
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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	Methyl tert-butyl ether (MTBE)	Xylenes, total
Ethylbenzene	Toluene	m&p Xylene
		o-Xylene

## Ready-to-Use VOAs in Soil

<b>CRM</b> Cat. #924	<b>PT</b> Cat. #870	<b>Q</b>	<b>QR</b> Cat. #924QR
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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	1,1,1,2-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	1,1,1-Trichloroethane
tert-Butylbenzene	1,3-Dichloropropane	1,1,2-Trichloroethane
Carbon disulfide	2,2-Dichloropropane	Trichloroethene
Carbon tetrachloride	1,1-Dichloropropene	Trichlorofluoromethane
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

<b>CRM</b> Cat. #570	<b>PT</b> Cat. #632	<b>Q</b>	<b>QR</b> Cat. #572QR
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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

<b>CRM</b> Cat. #571	<b>PT</b> Cat. #632	<b>Q</b>	<b>QR</b> Cat. #572QR
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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

<b>CRM</b> Cat. #730	<b>QR</b> Cat. #730QR
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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

<b>CRM</b> Cat. #737	<b>QR</b> Cat. #737QR
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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

<b>CRM</b> Cat. #732	<b>QR</b> Cat. #732QR
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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
Perfluorooctanoic 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, PFDoA.....	5-50 µg/kg
Perfluorotridecanoic acid, PFTDA.....	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, PFHpS.....	5-50 µg/kg
Perfluorooctanesulfonic acid, PFOS.....	5-50 µg/kg
Perfluorononanesulfonic acid, PFNS.....	5-50 µg/kg
Perfluorodecanesulfonic acid, PFDS.....	5-50 µg/kg
Perfluorododecanesulfonic acid, PFDoS.....	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
Perfluorooctanesulfonamide, PFOSA.....	5-50 µg/kg
N-ethyl perfluorooctanesulfonamidoacetic acid, NtFOSAA.....	5-50 µg/kg
N-methyl perfluorooctanesulfonamidoacetic acid, NMeFOSAA.....	5-50 µg/kg
N-ethyl perfluorooctanesulfonamide, NtFOSA.....	5-50 µg/kg
N-methyl perfluorooctanesulfonamide, NMeFOSA.....	5-50 µg/kg
N-ethyl perfluorooctanesulfonamidoethanol, NtFOSE.....	5-50 µg/kg
N-methyl perfluorooctanesulfonamidoethanol, NMeFOSE.....	5-50 µg/kg
3-Perfluoropropyl propanoic acid, 3:3 FTCA.....	5-50 µg/kg
2H,2H,3H,3H-Perfluorooctanoic 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-dioxo-3H-perfluorononanoic acid, ADONA.....	5-50 µg/kg
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid, 9Cl-PF3ONS.....	5-50 µg/kg
11-chloroheptafluoro-3-oxaundecane-1-sulfonic acid, 11Cl-PF3OUds.....	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-dioxahexanoic acid, NFDHA.....	5-50 µg/kg

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## 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
Benzoic 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)
Benzylic 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-Chloronaphthalene	Isophorone	

# Herbicides

## Chlorinated Acid Herbicides in Soil

CRM Cat. #723	PT Cat. #626	Q	QR Cat. #723QR
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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

### PCBs in Oil

CRM Cat. #563	PT Cat. #817	Q	QR Cat. #563QR
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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 1260
Aroclor 1232		

## 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 in Soil

CRM Cat. #726	PT Cat. #624	Q	QR Cat. #726QR
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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

<b>CRM</b> Cat. #728	<b>PT</b> Cat. #468	<b>Q</b>	<b>QR</b> Cat. #728QR
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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

<b>CRM</b> Cat. #725	<b>PT</b> Cat. #628	<b>Q</b>	<b>QR</b> Cat. #725QR
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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

<b>CRM</b> Cat. #724	<b>PT</b> Cat. #627	<b>Q</b>	<b>QR</b> Cat. #724QR
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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

<b>CRM</b> Cat. #926	<b>PT</b> Cat. #879	<b>Q</b>	<b>QR</b> Cat. #926QR
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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

<b>CRM</b> Cat. #925	<b>PT</b> Cat. #878	<b>Q</b>	<b>QR</b> Cat. #925QR
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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

<b>CRM</b> 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

<b>CRM</b> 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.



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

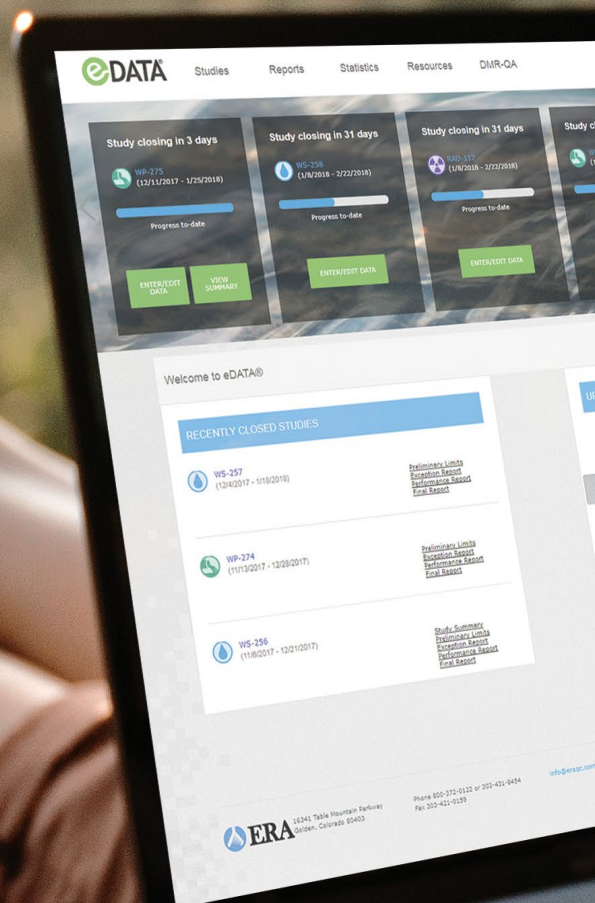
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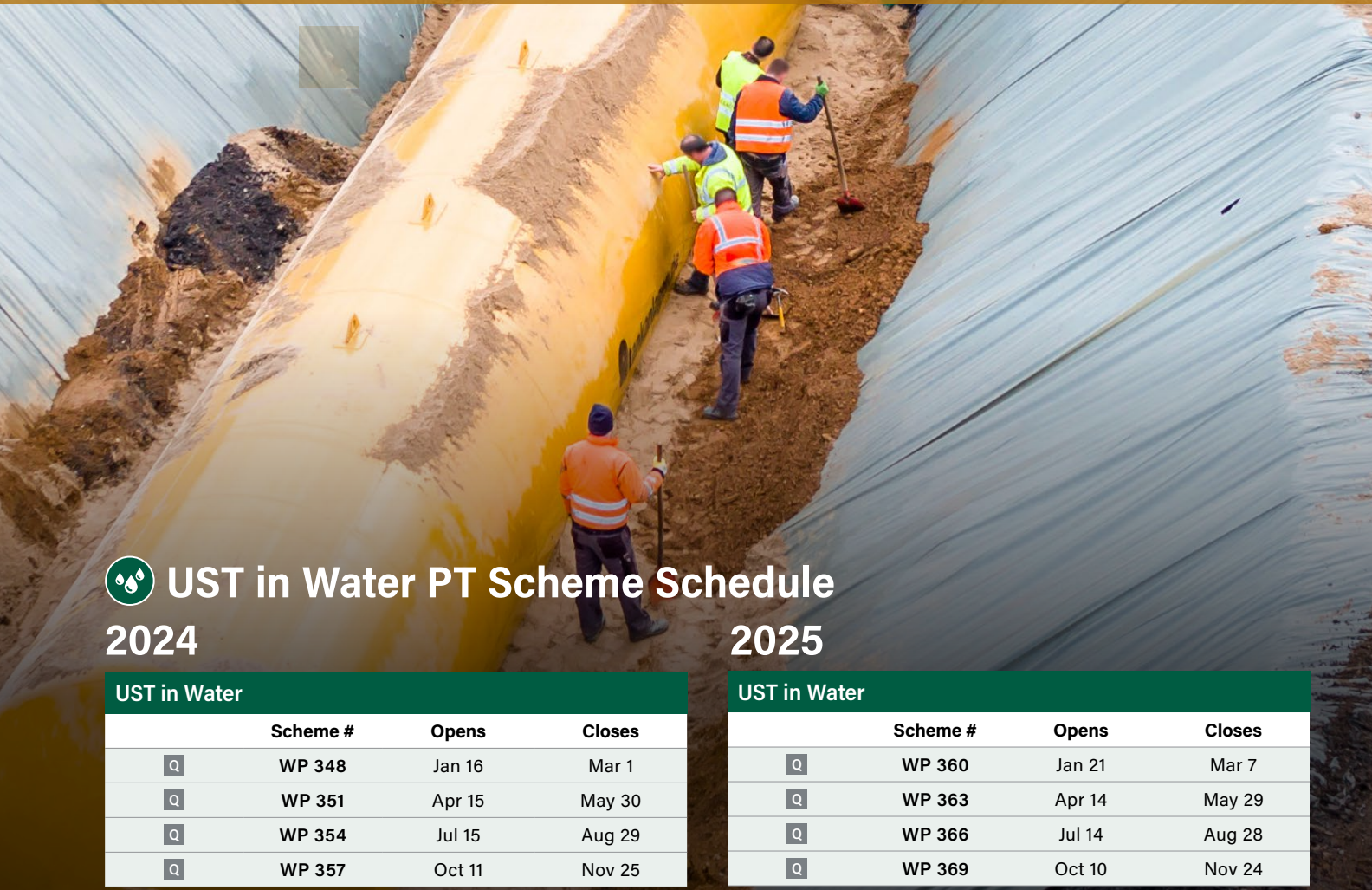
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# UNDERGROUND STORAGE TANK

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](http://eraqc.com)

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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](http://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.

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

<b>CRM</b> Cat. #761	<b>PT</b> Cat. #633	<b>Q</b>	<b>QR</b> Cat. #761QR
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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

<b>CRM</b> Cat. #763	<b>PT</b> Cat. #630	<b>Q</b>	<b>QR</b> 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 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

<b>CRM</b> Cat. #765	<b>PT</b> Cat. #631	<b>Q</b>	<b>QR</b> 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.

### Total Petroleum Hydrocarbons (TPH) in Soil #1

<b>CRM</b> Cat. #570	<b>PT</b> Cat. #632	<b>Q</b>	<b>QR</b> Cat. #572QR
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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

<b>CRM</b> Cat. #571	<b>PT</b> Cat. #632	<b>Q</b>	<b>QR</b> Cat. #572QR
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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

<b>CRM</b> Cat. #760	<b>PT</b> Cat. #643	<b>Q</b>	<b>QR</b> 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 methods. Includes all BTEX compounds and MTBE at 5–300 µg/L after dilution.

### Gasoline Range Organics (GRO) in Water

<b>CRM</b> Cat. #762	<b>PT</b> Cat. #640	<b>Q</b>	<b>QR</b> 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 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

<b>CRM</b> Cat. #764	<b>PT</b> Cat. #641	<b>Q</b>	<b>QR</b> Cat. #764QR
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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

<b>CRM</b> Cat. #600	<b>PT</b> Cat. #642	<b>Q</b>	<b>QR</b> Cat. #602QR
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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

<b>CRM</b> Cat. #601	<b>PT</b> Cat. #642	<b>Q</b>	<b>QR</b> Cat. #602QR
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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



**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



**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



**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



**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



**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

<b>CRM</b> Cat. #773	<b>PT</b> Cat. #649	<b>Q</b>	<b>QR</b> Cat. #773QR
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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

<b>CRM</b> Cat. #772	<b>PT</b> Cat. #648	<b>Q</b>	<b>QR</b> Cat. #772QR
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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

<b>CRM</b> Cat. #519	<b>PT</b> Cat. #489	<b>Q</b>	<b>QR</b> Cat. #519QR
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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 µg/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

<b>CRM</b> Cat. #564	<b>PT</b> Cat. #464	<b>B</b>	<b>QR</b> Cat. #564QR
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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

<b>CRM</b> Cat. #566	<b>PT</b> Cat. #481	<b>Q</b>	<b>QR</b> Cat. #566QR
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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

<b>CRM</b> Cat. #567	<b>PT</b> Cat. #482	<b>Q</b>	<b>QR</b> Cat. #567QR
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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

<b>CRM</b> Cat. #568	<b>PT</b> Cat. #483	<b>Q</b>	<b>QR</b> Cat. #568QR
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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

<b>CRM</b> Cat. #569	<b>PT</b> Cat. #484	<b>Q</b>	<b>QR</b> Cat. #569QR
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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.

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## Unmatched Technical Expertise

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- Instrumentation troubleshooting
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For more information, **contact our customer service team at 800.372.0122 / +1.303.431.8454. or email at [era\\_info@waters.com](mailto:era_info@waters.com).**





# 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](http://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](http://www.eraqc.com/AboutERA/Accreditations).

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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.

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**Q** 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
Dibenz(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

## Organochlorine Pesticides on Polyurethane Foam

CRM Cat. #1111	PT Cat. #1011	Q	QR Cat. #1111QR
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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 at least 16 analytes, randomly selected from the list below, at 1–20 µg/sample after preparation.

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	

## 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 &amp; 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)

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PT – Proficiency Testing

QR – QuiK Response

RM – Reference Material

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# 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
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## 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
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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
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## 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	<b>Q</b>	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	<b>Q</b>	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	<b>Q</b>	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	<b>Q</b>	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	<b>Q</b>	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
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## Ammonia in Impinger Solution

CRM Cat. #1145	PT Cat. #1045	<b>Q</b>	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	<b>Q</b>	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	<b>Q</b>	QR Cat. #1151QR
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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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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](http://eraqc.com)

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Description	CRM/ RM	PT	QR	Page
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Air Filter Radionuclides	606	800 *	606QR	62
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Gross Alpha/Beta	759	809 Q	759QR	60
Iodine-131	750	810 Q	750QR	60
Naturals	751	811 Q	751QR	60
Radchem Lab Control & Matrix Spiking Solutions (LCS/MS)				61
Soil Radionuclides	608	802 *	608QR	62
Strontium-89/90	757	807 Q	757QR	60
Tritium	752	812 Q	752QR	60
Vegetation Radionuclides	609	803 *	609QR	62
Water Gross Alpha/Beta	615	805 *	615QR	63
Water Radionuclides	617	804 *	617QR	63
Water Tritium	616	806 *	616QR	63

Q 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
------------------	-----------------	---	-------------------

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
------------------	-----------------	---	-------------------

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
------------------	-----------------	---	-------------------

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
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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
------------------	-----------------	---	-------------------

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 Cat. #608	PT Cat. #802	QR Cat. #608QR
-----------------	-----------------	-------------------

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 µg/kg
Zinc-65.....	1000-10,000 pCi/kg

### Vegetation Radionuclides

RM Cat. #609	PT Cat. #803	QR Cat. #609QR
-----------------	-----------------	-------------------

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 µg/kg
Zinc-65.....	300-3000 pCi/kg

## MRAD Air Filter

### Air Filter Radionuclides

RM Cat. #606	PT Cat. #800	QR Cat. #606QR
-----------------	-----------------	-------------------

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 µg/filter
Zinc-65.....	50-1500 pCi/filter

### Air Filter Gross Alpha/Beta

RM Cat. #607	PT Cat. #801	QR Cat. #607QR
-----------------	-----------------	-------------------

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

## Water Radionuclides

<b>RM</b> Cat. #617	<b>PT</b> Cat. #804	✱	<b>QR</b> Cat. #617QR
------------------------	------------------------	---	--------------------------

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

<b>RM</b> Cat. #615	<b>PT</b> Cat. #805	✱	<b>QR</b> Cat. #615QR
------------------------	------------------------	---	--------------------------

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

<b>RM</b> Cat. #616	<b>PT</b> Cat. #806	✱	<b>QR</b> Cat. #616QR
------------------------	------------------------	---	--------------------------

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

Tritium.....	3000-30,000 pCi/L
--------------	-------------------



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

**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](http://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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# 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. #1349

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. #1354

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 Standard  
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 <sub>3</sub> ).....	0.5–10 mg/L
Nitrite (NO <sub>2</sub> ).....	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 <sub>4</sub> ).....	0.1–1 mg/L
Nitrate (NO <sub>3</sub> ).....	3–60 mg/L
Nitrite (NO <sub>2</sub> ).....	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 <sub>4</sub> ).....	0.1–1 mg/L
Nitrate (NO <sub>3</sub> ).....	3–60 mg/L
Nitrite (NO <sub>2</sub> ).....	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](mailto: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](http://eraqc.com/customstandards)

or email us at [era\\_info@waters.com](mailto: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

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](mailto: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.**



# 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](http://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<sub>2</sub>SO<sub>4</sub> 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<sub>2</sub>SO<sub>4</sub>.

### Total Organic Carbon (TOC)

Cat. #978

One 500 mL amber glass bottles with TOC at 1000 mg/L preserved with H<sub>2</sub>SO<sub>4</sub>.

### 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<sub>2</sub>SO<sub>4</sub>.

### 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 <sub>2</sub> O	—	Cat. #78202
Ammonia as NH <sub>3</sub>	H <sub>2</sub> O	Cat. #986	Cat. #044
Ammonia as N	H <sub>2</sub> O	Cat. #985	Cat. #045
Bromate	H <sub>2</sub> O	—	Cat. #065
Bromide	H <sub>2</sub> O	Cat. #987	Cat. #046
Chlorate	H <sub>2</sub> O	—	Cat. #066
Chloride	H <sub>2</sub> O	Cat. #988	Cat. #047
Chlorite	H <sub>2</sub> O	—	Cat. #067
Complex cyanide*	NaOH	Cat. #998	Cat. #049
Cyanide (free)*	NaOH	Cat. #997	Cat. #048
Fluoride	H <sub>2</sub> O	Cat. #989	Cat. #050
Iodide	H <sub>2</sub> O	—	Cat. #78212
Nitrate as NO <sub>3</sub>	H <sub>2</sub> O	Cat. #992	Cat. #051
Nitrate as N	H <sub>2</sub> O	Cat. #991	Cat. #052
Nitrite as N	H <sub>2</sub> O	Cat. #990	Cat. #053
Perchlorate	H <sub>2</sub> O	—	Cat. #068
Phosphate as PO <sub>4</sub>	H <sub>2</sub> O	Cat. #994	Cat. #060
Phosphate as P	H <sub>2</sub> O	Cat. #993	Cat. #061
Sulfate	H <sub>2</sub> O	Cat. #995	Cat. #062

\*Dangerous good. Requires special shipping.

## Cations by Ion Chromatography – 100 mg/L

Parameter	Matrix	125 mL Bottle
Ammonium as NH <sub>4</sub>	H <sub>2</sub> O	Cat. #78102
Ammonium as N	H <sub>2</sub> O	Cat. #78104

## Cations by Ion Chromatography – 1000 mg/L

Parameter	Matrix	125 mL Bottle
Calcium	H <sub>2</sub> O	Cat. #K10
Magnesium	H <sub>2</sub> O	Cat. #K11

# Metals – 1000 mg/L

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

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 HNO<sub>3</sub>, 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 HNO<sub>3</sub>, 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 HNO<sub>3</sub> 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.

### 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.

### 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.



Waters Certified Vials.

# LC COLUMNS AND CONSUMABLES

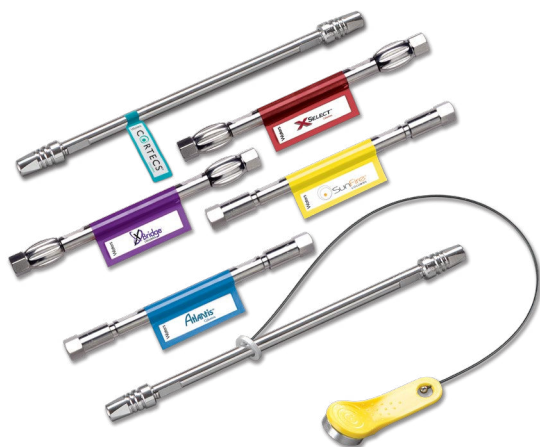
Maximize efficiency, ruggedness, and throughput

## 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](http://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

Sets - USP / EP	Cat. #	Availability
<b>USP Bulk Water System Suitability Set</b> 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

### Calibration

Kits	Cat. #	Availability
<b>Calibration Standards Kit</b> 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 60 mL bottles. <i>Replaces ANATEL FG7019202</i>	19202	Ships in 1 business day

### Conductivity

Kits	Cat. #	Availability
<b>Conductivity Solution Kit</b> Includes (1) 100 µS/cm Potassium Chloride (KCl) Solution in a 60 mL bottle. <i>Replaces ANATEL FG7002602</i>	02602	Ships in 1 business day

### Validation

Kits	Cat. #	Availability
<b>Validation Control Kit</b> 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
<b>Validation Protocol Reagent Kit</b> 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

### Consumables

	Cat. #	Availability
Replacement UV Lamp	20037	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	
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

Sets - USP / EP	Cat. #	Availability
<b>USP Bulk Water System Suitability Set</b> Includes (2) 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 Cat.# 18400</i>	48400	Ships in 1 business day

### Calibration

Kits	Cat. #	Availability
<b>Calibration Standards Kit</b> Includes (2) Blanks, (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 60 mL bottles. <i>Replaces Cat.# 19200</i>	49200	Ships in 1 business day

### Conductivity

Kits	Cat. #	Availability
<b>Conductivity Solution Kit</b> Includes (1) 100 µS/cm Potassium Chloride (KCl) Solution in a 60 mL bottle. <i>Replaces ANATEL FG5010401</i>	02610	Ships in 1 business day

### Validation

Kits	Cat. #	Availability
<b>Validation Control Kit</b> 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
<b>Validation Protocol Reagent Kit</b> 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 µS/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
<b>Validation Kit</b> 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 µS/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

	Cat. #	Availability
<b>Replacement UV Lamp</b> <i>Replaces ANATEL FG6002601</i>	20036A	Ships in 1 business day
<b>60 mL Pre-cleaned HDPE Bottles - Natural (case of 50)</b> Case of 50: 60 mL Low TOC HDPE bottles with septa cap and dust cover.	25056	Ships in 1 business day
<b>Pre-Cleaned Caps w/Septa (100/pack)</b>	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 µS/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 µS/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

## 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](mailto:era_info@waters.com) (USA) or [ERA\\_Europe\\_Sales@waters.com](mailto:ERA_Europe_Sales@waters.com) (Europe) for availability of Sievers 800 and 400 consumables.

System Suitability		
Sets - USP / EP	Cat. #	Availability
<b>USP/EP Bulk Water System Suitability Set</b> 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
<b>USP Sterile Water System Suitability Set</b> 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
<b>JP System Suitability Set</b> 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
<b>Linearity Set</b> 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
<b>Calibration &amp; Verification Set</b> Includes (2) Blanks, (2) 1.0 mg/L IC NIST NaHCO <sub>3</sub> , (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
<b>Multi-Point Calibration Set</b> 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 IC NIST NaHCO <sub>3</sub> in 40 mL vials. <i>Replaces CSTD 90000-01</i>	19610	Ships in 5 business days
<b>Autoreagents Calibration Set</b> Includes (1) Blank, (1) 25.0 mg/L C NIST KHP, (1) 25.0 mg/L IC NIST NaHCO <sub>3</sub> , 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
<b>Autoreagents Calibration &amp; Verification Set</b> Includes (2) Blanks, (1) 25.0 mg/L C NIST KHP, (1) 25.0 mg/L IC NIST NaHCO <sub>3</sub> , (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 mg/L IC NaHCO <sub>3</sub> in 40 mL vials. <i>Replaces CSTD 90028-01</i>	19616	Ships in 5 business days
<b>Specificity Verification Set</b> 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
<b>Validation Set with Calibration &amp; Verification</b> Includes (28) 40 mL vials, (2) Blanks, (2) 1.0 mg/L C NIST KHP, (2) 1.0 mg/L IC NaHCO <sub>3</sub> ; (1) Blank, (1) 0.50 mg/L C NIST Sucrose, (1) 0.50 mg/L IC NaHCO <sub>3</sub> ; (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
<b>Calibration Kit</b> Includes (1) Blank, and (1) 1.0 mg/L IC NIST NaHCO <sub>3</sub> , (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

Sets - USP / EP	Cat. #	Availability
<b>USP/EP Bulk Water System Suitability Set</b> 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
Sets - USP	Cat. #	Availability
<b>USP Sterile Water System Suitability Set</b> 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
Sets - JP	Cat. #	Availability
<b>JP System Suitability Set</b> 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
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

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### Calibration & Validation

#### RL (Standard IOS) Single-Use CRMs

Kits	Cat. #	Availability
<b>Single-Point Calibration Set</b> Includes (2) Blanks, (1) 1.5 mg/L C NIST KHP in 40 mL glass vials, and (1) 25.0 µS/cm Conductivity standard in 30 mL HDPE vial. <i>Replaces CSTD 74401</i>	15100	Ships in 5 business days
<b>Single-Point Calibration/Verification Kit</b> Includes (2) Blanks, (1) 1.5 mg/L C NIST KHP in 40 mL glass vials, (1) 25.0 µS/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 µS/cm Conductivity standard in 30 mL HDPE vial. <i>Replaces CSTD 74612</i>	15101	Ships in 5 business days
<b>Accuracy/Precision/Verification Set</b> Includes (1) Verification Blank, (1) 0.5 mg/L C NIST Sucrose in 40 mL glass vials, and (1) 25.0 µS/cm Conductivity standard in 30 mL HDPE vial. <i>Replaces CSTD 74402</i>	15104	Ships in 5 business days
<b>Linearity Set</b> 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
<b>Single-Point Calibration Set - TOC Only</b> 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
<b>Accuracy/Precision/Verification Set - TOC Only</b> 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
<b>Single-Point Calibration/Verification Set - TOC Only</b> 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

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		
Sets - USP/EP	Cat. #	Availability
<b>USP/EP Bulk Water System Suitability Set</b> 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>For use with AJ multi N/C pharma or UV HS and IL500</i>	18000	Ships in 1 business day
<b>Sets - USP</b> 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
<b>Sets - JP</b> 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
<b>Sets - Low-Level System Suitability</b> 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

Calibration & Cleaning Validation		
Kits	Cat. #	Availability
<b>Cleaning Validation Kit</b> 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
<b>Full TOC Calibration Kit</b> 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
<b>Limited TOC Calibration Kit</b> 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

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.

# 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

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.	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 Rs, and (1) 8.0 mg/L USP 1,4-Benzoquinone Rss 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.	18000J	Ships in 5 business days

## Calibration & Validation

Kits	Cat. #	Availability
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
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 <sub>3</sub> , (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

*Aurora is a registered trademark of Xylem, Incorporated.*

## Consumables

Kits	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.

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# DRINKING WATER STANDARDS & CONSUMABLES

From Your Trusted Environmental Partner

Turbidity and total organic carbon (TOC) are two key indicators in the measurement of water quality. Whether it is environmental testing or municipal drinking water testing, accurate measurement of turbidity and TOC help ensure compliance with government regulations and are essential components of water treatment.

Ensure reliable water analyses.

Learn more at

[eraqc.com/processwater-products](http://eraqc.com/processwater-products)

# 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

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.	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 Rs, and (1) 8.0 mg/L USP 1,4-Benzoquinone Rss 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.	18000J	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 40 mL vials.	18040	Ships in 5 business days

## 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

## Consumables

Kits	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.

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# 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		
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.	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 Rs, and (1) 8.0 mg/L USP 1,4-Benzoquinone Rss 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.	18000J	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 40 mL vials.	18040	Ships in 5 business days

Calibration & Validation		
Kits	Cat. #	Availability
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
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 IC NIST NaHCO <sub>3</sub> , (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
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 IC NIST NaHCO <sub>3</sub> , (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
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 IC/L NaHCO <sub>3</sub> , (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.

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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

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# 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 <sup>2</sup> (25/pack)	30028	Call for delivery
25 cm <sup>2</sup> (25/pack)	30029	Call for delivery
100 cm <sup>2</sup> (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 (CO<sub>2</sub>). 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 <sub>3</sub>	40 mL	15990	Ships in 1 business day
1.0 mg/L IC from NIST NaHCO <sub>3</sub>	40 mL	16000	Ships in 1 business day
5.0 mg/L IC from NIST NaHCO <sub>3</sub>	40 mL	16300	Ships in 1 business day
10.0 mg/L IC from NIST NaHCO <sub>3</sub>	40 mL	16600	Ships in 1 business day
25.0 mg/L IC from NIST NaHCO <sub>3</sub>	40 mL	16900	Ships in 1 business day
50.0 mg/L IC from NIST NaHCO <sub>3</sub>	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
<b>Conductivity Validation Kit – Multiple Use</b> Includes (1) 25 µS/cm, (1) 100 µS/cm, (1) 146.93 µS/cm (Solution D), and (1) Reagent Blank for use with Solution D in 500 mL HDPE bottles.	02900	Ships in 5 business days
<b>Solution 25 Test Kit</b> Includes (1) 25 µS/cm standard in a 500 mL HDPE bottle and (5) pre-cleaned 125 mL HDPE wide-mouth bottles.	01100	Ships in 1 business day
<b>Solution 25 Test Kit</b> Includes (1) 25 µS/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 µS/cm (500 mL)	01300	Ships in 5 business days
25 µS/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 µS/cm (125 mL)	02600	Ships in 5 business days
100 µS/cm (250 mL)	02250	Ships in 5 business days
100 µS/cm in (500 mL)	02500	Ships in 5 business days
100 µS/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 µS/cm solution. All Solution D products include an associated Reference Blank.

	Cat. #	Availability
Solution D at 146.93 µS/cm (1 Liter)	01700	Ships in 5 business days
Solution D at 146.93 µS/cm (500 mL)	01800	Ships in 5 business days
Solution D at 146.93 µS/cm (125 mL)	01900	Ships in 5 business days
<b>Solution D Test Kit (1 Liter)</b> Includes (1) Solution D, (1) Reference Blank, and (20) pre-cleaned 125 mL wide-mouth HDPE containers.	01500	Ships in 5 business days
<b>Solution D Test Kit (500 mL)</b> 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.



# WATERS ERA GLOBAL DISTRIBUTORS AND SALES PARTNERS

Waters ERA currently serves customers in more than 80 countries through an extensive network of knowledgeable distributors and sales partners. Please visit [eraqc.com/globalpartners](http://eraqc.com/globalpartners) to find the name of an authorized distributor in your area or country. Click on the Global Sales Partner link in the About Waters ERA pull down menu. You may also request distributor information by sending an e-mail to [ERA\\_Europe\\_Sales@waters.com](mailto:ERA_Europe_Sales@waters.com) in Europe or [era\\_info@waters.com](mailto:era_info@waters.com) in the U.S. and the rest of the world. See our website for all of our best-in-class partners across the world.



## 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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011	Aluminum - 1000 mg/L, 125 mL	77
013	Arsenic - 1000 mg/L, 125 mL	77
015	Beryllium - 1000 mg/L, 125 mL	77
018	Calcium - 1000 mg/L, 125 mL	77
019	Chromium VI (hexavalent) - 1000 mg/L, 125 mL	77
020	Total Chromium - 1000 mg/L, 125 mL	77
021	Cobalt - 1000 mg/L, 125 mL	77
022	Copper - 1000 mg/L, 125 mL	77
023	Iron - 1000 mg/L, 125 mL	77
024	Lead - 1000 mg/L, 125 mL	77
025	Magnesium - 1000 mg/L, 125 mL	77
026	Manganese - 1000 mg/L, 125 mL	77
027	Mercury - 1000 mg/L, 125 mL	77
028	Molybdenum - 1000 mg/L, 125 mL	77
029	Nickel - 1000 mg/L, 125 mL	77
030	Potassium - 1000 mg/L, 125 mL	77
031	Selenium - 1000 mg/L, 125 mL	77
032	Silicon - 1000 mg/L, 125 mL	77
033	Silver - 1000 mg/L, 125 mL	77
034	Sodium - 1000 mg/L, 125 mL	77
035	Strontium - 1000 mg/L, 125 mL	77
036	Thallium - 1000 mg/L, 125 mL	77
037	Tin - 1000 mg/L, 125 mL	77
038	Titanium - 1000 mg/L, 125 mL	77
039	Vanadium - 1000 mg/L, 125 mL	77
040	Zinc - 1000 mg/L, 125 mL	77
042	Chemical Oxygen Demand (COD) - 1000 mg/L, 125 mL	76
043	Total Kjeldahl-Nitrogen (TKN) - 1000 mg/L, 125 mL	76
044	Ammonia as Ammonia (NH <sub>3</sub> ) - 1000 mg/L, 125 mL	76
045	Ammonia as Nitrogen (N) - 1000 mg/L, 125 mL	76
046	Bromide - 1000 mg/L, 125 mL	76
047	Chloride - 1000 mg/L, 125 mL	76
048	Cyanide (free) - 1000 mg/L, 125 mL	76
049	Complex Cyanide - 1000 mg/L, 125 mL	76
050	Fluoride - 1000 mg/L, 125 mL	76
051	Nitrate as Nitrate (NO <sub>3</sub> ) - 1000 mg/L, 125 mL	76
052	Nitrate as Nitrogen (N) - 1000 mg/L, 125 mL	76
053	Nitrite as Nitrogen (N) - 1000 mg/L, 125 mL	76
057	Metals & Cyanide Blank Soil	43
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060	Phosphate as Phosphate (PO <sub>4</sub> ) - 1000 mg/L, 125 mL	76
061	Phosphate as Phosphorous (P) - 1000 mg/L, 125 mL	76
062	Sulfate - 1000 mg/L, 125 mL	76
063	Phosphorus - 1000 mg/L, 125 mL	77
064	Silica - 1000 mg/L, 125 mL	77
065	Bromate - 1000 mg/L, 125 mL	76
066	Chlorate - 1000 mg/L, 125 mL	76
067	Chlorite - 1000 mg/L, 125 mL	76
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077	Massachusetts Ground Water Enterococci	34
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080	Potable Water Coliform Microbe	34
081	Enterococci	34
083	Wastewater Coliforms	34
083A	Wastewater Coliform Microbe - 9221	34
084	Heterotrophic Plate Count	34
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085QR	Potable Water Coliform Microbe (Only available as QR)	34
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128	pH 4 Pt - cs of 6	78
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135	pH 10 Pt	78
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141	pH 4, 7, 10 Pt - cs of 6	78
160	Metals in Sewage Sludge	38
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212	Dissolved Oxygen	13
213	Dissolved Oxygen	13
213QR	Dissolved Oxygen	13
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244	Sulfite	13
271	Glycols in Water	16
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401	Glycols in Water	16
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402	1,4-Dioxane	14
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404	PFAS - Non Potable Water	15
404QR	PFAS - Non Potable Water	15
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463	Glycols in Soil	41
464	New Jersey EPH in Soil	50
465	PFAS in Soil	41
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470QR	Alaska BTEX in Soil (Only available as QR)	49
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477	Texas High-Level Fuels (TPH) in Water	49
478	Texas Low-Level Fuels (TPH) in Soil	49
479	Texas High-Level Fuels (TPH) in Soil	49
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482	Massachusetts EPH in Water	50
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501	Total Residual Chlorine (TRC)	14
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504	Oil & Grease	11
505	Simple Nutrients	10
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506	Minerals	10
506QR	Minerals	10
507	Hardness	10
507QR	Minerals	10
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515	Total Phenolics (4-AAP)	13
515QR	Total Phenolics (4-AAP)	13
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541	Cyanide in Soil	39
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567	Massachusetts EPH in Water	50
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568	Massachusetts VPH in Soil	50
568QR	Massachusetts VPH in Soil	50
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569QR	Massachusetts EPH in Soil	50
570	Total Petroleum Hydrocarbons (TPH) in Soil #1	40
571	Total Petroleum Hydrocarbons (TPH) in Soil #2	40
572QR	Total Petroleum Hydrocarbons (TPH) in Soil #2 (Only available as QR)	40
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574	Mercury	12
576	Wastewater Coliform Microbe	34
576A	Wastewater Coliform Microbe - 9221	34
577	pH	14
578	Demand	12
579	Complex Nutrients	10
580	Hardness	10
581	Minerals	10
582	1 Liter Boston Round Oil & Grease	11
582	1 Liter Oil & Grease	11
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587	Total Residual Chlorine (TRC)	14
588	Cyanide & Phenol	13
589	Total Phenolics (4-AAP)	13
590	Metals	24
591	Inorganics	24
592	Turbidity	26
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595	Source Water Microbe	34
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630	Gasoline Range Organics (GRO) in Soil	39
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635	Alaska GRO in Soil	49
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645	Alaska GRO in Water	49
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647	Alaska DRO in Water	49
648	Wisconsin Diesel Range Organics (DRO) in Water	50
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662	UV 254 Absorbance	26
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663	Dioxin	30
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665	Organophosphorus Pesticides (OPP)	17
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730	TCLP Volatiles	40
730QR	TCLP Volatiles	40
732	TCLP Organochlorine Pesticides	40
732QR	TCLP Organochlorine Pesticides	40
733	PFAS in Drinking Water	28
733QR	PFAS in Drinking Water	28
734S	PCBs in Water	15
734SQR	PCBs in Water	15
737	TCLP Semivolatiles	40
737QR	TCLP Semivolatiles	40
739	Simple Nutrients	18
740	Trace Metals	18
741	Complex Nutrients	18
743	Demand	18
750	Iodine-131	60
750QR	Iodine-131	60
751	Naturals	60
751QR	Naturals	60
752	Tritium	60
752QR	Tritium	60
757	Strontium-89/90	60
757QR	Strontium-89/90	60
758	Gamma Emitters	60
758QR	Gamma Emitters	60
759	Gross Alpha/Beta	60
759QR	Gross Alpha/Beta	60
760	BTEX & MTBE in Water	14
760QR	BTEX & MTBE in Water	14
761	BTEX & MTBE in Soil	40
761QR	BTEX & MTBE in Soil	40

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762QR	Gasoline Range Organics (GRO) in Water	15
763	Gasoline Range Organics (GRO) in Soil	39
763QR	Gasoline Range Organics (GRO) in Soil	39
764	Diesel Range Organics (DRO) in Water	16
764QR	Diesel Range Organics (DRO) in Water	16
765	Diesel Range Organics (DRO) in Soil	41
765QR	Diesel Range Organics (DRO) in Soil	41
769	Bromide	14
769QR	Bromide	14
770	Nitrite	10
770QR	Nitrite	10
772	Wisconsin Diesel Range Organics (DRO) in Water	50
772QR	Wisconsin Diesel Range Organics (DRO) in Water	50
773	Wisconsin Gasoline Range Organics (GRO/PVOC) in Water	50
773QR	Wisconsin Gasoline Range Organics (GRO/PVOC) in Water	50
775	Silica	13
775QR	Silica	13
776	Surfactants-MBAS	13
776QR	Surfactants-MBAS	13
777	Turbidity	13
777QR	Turbidity	13
779	pH	26
779QR	pH	26
784	Surfactants-MBAS	26
784QR	Surfactants-MBAS	26
785	Silica	26
785QR	Silica	26
786AQR	Wastewater Coliform Microbe - 9221	34
786QR	Wastewater Coliform Microbe	34
787QR	Enterococci	34
794	Texas Low-Level Fuels (TPH) in Water	49
794QR	Texas Low-Level Fuels (TPH) in Water	49
795	Texas High-Level Fuels (TPH) in Water	49
795QR	Texas High-Level Fuels (TPH) in Water	49
796	Texas Low-Level Fuels (TPH) in Soil	49
796QR	Texas Low-Level Fuels (TPH) in Soil	49
797	Texas High-Level Fuels (TPH) in Soil	49
797QR	Texas High-Level Fuels (TPH) in Soil	49
798	Arizona TPH in Soil	49
798QR	Arizona TPH in Soil	49
800	Air Filter Radionuclides	62
801	Air Filter Gross Alpha/Beta	62
802	Soil Radionuclides	62
803	Vegetation Radionuclides	62
804	Water Radionuclides	63

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806	Water Tritium	63
807	Strontium-89/91	60
808	Gamma Emitters	60
809	Gross Alpha/Beta	60
810	Iodine-131	60
811	Naturals	60
812	Tritium	60
817	PCBs in Oil	42
820	PCBs in Oil - 1242 Low	42
821	PCBs in Oil - 1242 High	42
822	PCBs in Oil - 1254 Low	42
823	PCBs in Oil - 1254 High	42
824	PCBs in Oil - 1260 Low	42
825	PCBs in Oil - 1260 High	42
826	PCBs in Oil - 1248 Low	42
827	PCBs in Oil - 1248 High	42
829	Chlorinated Acid Herbicides	15
830	Volatiles	14
831	Organochlorine Pesticides	17
832S	PCBs in Water	15
833	Base/Neutrals	16
834	Acids	16
835S	PCBs in Oil	15
836	Low-Level PAHs	16
837	Chlordane	17
838	Toxaphene	17
839	PCBs as Decachlorobiphenyl	30
840	Regulated Volatiles	27
841	Unregulated Volatiles	27
842	Halomethanes (THMs)	27
844	Toxaphene	28
845	Chlordane	28
846	Carbamate/Carbamoyloxime Pesticides	28
847	EDB/DBCP/TCP	30
848	Semivolatiles #1	30
849	Semivolatiles #2 Herbicides	30
850	Pesticides	28
851	Chlorinated Acid Herbicides	30
852	Haloacetic Acids (HAA)	25
853	Chloral Hydrate	25
854	Hexavalent Chromium	24
856	Vanadium	24
857	Dioxin	30
858	Uranium	24
859C	Color	26
860	PCBs in Water Standards - Aroclor 1016	15
861	PCBs in Water Standards - Aroclor 1221	15
862	PCBs in Water Standards - Aroclor 1232	15
863	PCBs in Water Standards - Aroclor 1242	15
864	PCBs in Water Standards - Aroclor 1248	15
865	PCBs in Water Standards - Aroclor 1254	15
866	PCBs in Water Standards - Aroclor 1260	15
867	Oil & Grease (O&G) in Soil	39
869	Nutrients in Soil	39
870	Ready-to-Use VOAs in Soil	40

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873	Anions in Soil	39
874	Ignitability/Flash Point	38
875	Corrosivity/pH in Soil	38
876	Hexavalent Chromium in Soil	38
878	Organophosphorus Pesticides (OPP) in Soil	43
879	Carbamate Pesticides in Soil	43
880	Enterococci	34
881	Low-Level Total Residual Chlorine (TRC)	14
882C	Color	13
883	Settleable Solids	10
884	Volatile Solids	10
885	Acidity	13
886	Boron	14
887	Bromide	14
888	Nitrite	10
890	Silica	13
891	Sulfide	13
892	Surfactants-MBAS	13
893	Turbidity	13
895	Total Organic Halides (TOX)	13
896	Low-Level Mercury	12
898	Hexavalent Chromium	12
899	Carbamate Pesticides	17
900	Corrosivity	26
901	Surfactants-MBAS	26
902	Silica	26
903	Perchlorate	26
904	UV 254 Absorbance	26
905	Gasoline Additives	27
908	Carbamate Pesticides	17
908QR	Carbamate Pesticides	17
909	Gasoline Additives	27
909QR	Gasoline Additives	27
910	Perchlorate	26
910QR	Perchlorate	26
911	Settleable Solids	10
911QR	Settleable Solids	10
913	Volatile Solids	10
913QR	Volatile Solids	10
914	Corrosivity/pH in Soil	38
914QR	Corrosivity/pH in Soil	38
915	Acidity	13
915QR	Acidity	13
917	Low-Level Total Residual Chlorine (TRC)	14
917QR	Low-Level Total Residual Chlorine (TRC)	14
919	Boron	14
919QR	Boron	14
920	Nitroaromatics & Nitramines in Soil	41
920QR	Nitroaromatics & Nitramines in Soil	41
921	Hexavalent Chromium in Soil	38
921QR	Hexavalent Chromium in Soil	38
924	Ready-to-Use VOAs in Soil	40
924QR	Ready-to-Use VOAs in Soil	40
925	Organophosphorus Pesticide (OPP) in Soil	43
925QR	Organophosphorus Pesticide (OPP) in Soil	43

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928	Glycols in Soil	41
928QR	Glycols in Soil	41
929	PFAS Ground Water & Surface Water	28
930	Uranium	24
930QR	Uranium	24
931	Low-Level Mercury	12
931QR	Low-Level Mercury	12
932	Low-Level Nitroaromatics & Nitramines	16
934	Organophosphorus Pesticides (OPP)	17
935	Heterotrophic Plate Count	34
960	PFAS Drinking Water	28
974	Chemical Oxygen Demand (COD) - 1000 mg/L, 500 mL	76
975	MBAS/LAS Surfactants - 1000 mg/L	76
976	Total Organic Halides (TOX) - 1000 mg/L, 2 mL	76
977	pH	14
977QR	pH	14
978	Total Organic Carbon (TOC) - 1000 mg/L, 500 mL	76
979	Ignitability/Flash Point	38
979QR	Ignitability/Flash Point	38
980	Corrosivity	26
980QR	Corrosivity	26
981	Ion Chromatography	77
982	Phenol - 1000 mg/L, 500 mL	76
983	Cyanide	25
983QR	Cyanide	25
984	Hexavalent Chromium	12
984QR	Hexavalent Chromium	12
985	Ammonia as Nitrogen (N) - 1000 mg/L, 500 mL	76
986	Ammonia as Ammonia (NH <sub>3</sub> ) - 1000 mg/L, 500 mL	76
987	Bromide - 1000 mg/L, 500 mL	76
988	Chloride - 1000 mg/L, 500 mL	76
989	Fluoride - 1000 mg/L, 500 mL	76
990	Nitrite as Nitrogen (N) - 1000 mg/L, 500 mL	76
991	Nitrate as Nitrogen (N) - 1000 mg/L, 500 mL	76
992	Nitrate as Nitrate (NO <sub>3</sub> ) - 1000 mg/L, 500 mL	76
993	Phosphate as Phosphorous (P) - 1000 mg/L, 500 mL	76
994	Phosphate as Phosphate (PO <sub>4</sub> ) - 1000 mg/L, 500 mL	76
995	Sulfate - 1000 mg/L, 500 mL	76
996	Total Kjeldahl-Nitrogen (TKN) - 1000 mg/L, 500 mL	76
997	Cyanide (free) - 1000 mg/L, 500 mL	76
998	Complex Cyanide - 1000 mg/L, 500 mL	76
999	Sulfide 1000 mg/L, 10 mL	76
1000	Volatiles in Gas Cylinder	54
1001	Volatiles on Sorbent	54
1010	Semivolatiles on Polyurethane Foam	55
1011	Organochlorine Pesticides on Polyurethane Foam	55

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1013	PAHs on Polyurethane Foam	55
1014	Aldehydes & Ketones on Sorbent	55
1025	Metals on Filter Paper	56
1026	Metals in Impinger Solution	56
1027	Mercury on Filter Paper	56
1028	Mercury in Impinger Solution	56
1029	Lead on Filter Paper	56
1030	Lead in Impinger Solution	56
1031	Chromium on Filter Paper	56
1032	Hexavalent Chromium in Impinger Solution	56
1040	Hydrogen Halides & Halogens in Impinger Solution	57
1041	Fluoride in Impinger Solution	57
1042	Nitrogen Oxide in Impinger Solution	57
1043	Sulfur Dioxide in Impinger Solution	57
1044	Sulfuric Acid & Sulfur Dioxide in Impinger Solution	57
1045	Ammonia in Impinger Solution	57
1050	Particulate Matter on Filter Paper	57
1051	Particulate Matter in Impinger Solution	57
1070C	Color	13
1070CQR	Color	13
1100	Volatiles in Gas Cylinder	54
1100QR	Volatiles in Gas Cylinder	54
1101	Volatiles on Sorbent	54
1101QR	Volatiles on Sorbent	54
1110	Semivolatiles on Polyurethane Foam	55
1110QR	Semivolatiles on Polyurethane Foam	55
1111	Organochlorine Pesticides on Polyurethane Foam	55
1111QR	Organochlorine Pesticides on Polyurethane Foam	55
1112	PCBs on Polyurethane Foam	55
1112QR	PCBs on Polyurethane Foam	55
1113	PAHs on Polyurethane Foam	55
1113QR	PAHs on Polyurethane Foam	55
1114	Aldehydes & Ketones on Sorbent	55
1114QR	Aldehydes & Ketones on Sorbent	55
1125	Metals on Filter Paper	56
1125QR	Metals on Filter Paper	56
1126	Metals in Impinger Solution	56
1126QR	Metals in Impinger Solution	56
1127	Mercury on Filter Paper	56
1127QR	Mercury on Filter Paper	56
1128	Mercury in Impinger Solution	56
1128QR	Mercury in Impinger Solution	56
1129	Lead on Filter Paper	56
1129QR	Lead on Filter Paper	56
1130	Lead in Impinger Solution	56
1130QR	Lead in Impinger Solution	56
1131	Chromium on Filter Paper	56
1131QR	Chromium on Filter Paper	56
1132	Hexavalent Chromium in Impinger Solution	56
1132QR	Hexavalent Chromium in Impinger Solution	56

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1140	Hydrogen Halides & Halogens in Impinger Solution	57
1140QR	Hydrogen Halides & Halogens in Impinger Solution	57
1141	Fluoride in Impinger Solution	57
1141QR	Fluoride in Impinger Solution	57
1142	Nitrogen Oxide in Impinger Solution	57
1142QR	Nitrogen Oxide in Impinger Solution	57
1143	Sulfur Dioxide in Impinger Solution	57
1143QR	Sulfur Dioxide in Impinger Solution	57
1144	Sulfuric Acid & Sulfur Dioxide in Impinger Solution	57
1144QR	Sulfuric Acid & Sulfur Dioxide in Impinger Solution	57
1145	Ammonia in Impinger Solution	57
1145QR	Ammonia in Impinger Solution	57
1150	Particulate Matter on Filter Paper	57
1150QR	Particulate Matter on Filter Paper	57
1151	Particulate Matter in Impinger Solution	57
1151QR	Particulate Matter in Impinger Solution	57
1240	Simple Nutrients	68
1241	Complex Nutrients in Hard Water	68
1242	Demand	66
1243	Solids Concentrate	67
1244	Metals	67
1248	Hexavalent Chromium	67
1249	Common Inorganics	66
1255	PCB Congeners	69
1319	Ammonia as N	25
1341	Mercury	67

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1345	Cyanide	66
1346	Common Inorganics in Hard Water	66
1347	Common Inorganics in Soft Water	66
1348	Simple Nutrients in Hard Water	68
1349	Simple Nutrients in Soft Water	68
1354	Demand	66
1355	High Solids	67
1358	Chlorine	66
1359	Ammonia as N	25
1359QR	Ammonia as N	25
1370	Volatiles	68
1500	Perchlorate	13
1501	Perchlorate	13
1501QR	Perchlorate	13
4013	QC Plus - Demand	19
4023	QC Plus - Nutrients	19
4030	Solids Concentrate	10
4032	Solids Concentrate	10
4032QR	Solids Concentrate	10
4033	QC Plus - Solids	20
4053	QC Plus - Minerals	19
4063	QC Plus - pH	19
4083	QC Plus - Total Phenolics	20
4093	QC Plus - Total Cyanide	20
4103	QC Plus - Total Residual Chlorine	20
4120	Oil & Grease Concentrate	11
4122	Oil & Grease Concentrate	11
4122QR	Oil & Grease Concentrate	11
4123	QC Plus - Oil & Grease	19
4183	QC Plus - Hexavalent Chromium	19
4400	Uranium	12
4402	Uranium	12
4402QR	Uranium	12

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4423	QC Plus - Fluoride	19
4450	Volatile Aromatics	14
4452	Volatile Aromatics	14
4452QR	Volatile Aromatics	14
4880	PAH-GC & GCMS	16
4882	PAH-GC & GCMS	16
4882QR	PAH-GC & GCMS	16
4990	Lithium	12
4992	Lithium	12
4992QR	Lithium	12
5150	Solids Concentrate	24
5152	Solids Concentrate	24
5152QR	Solids Concentrate	24
5260	Inorganic Disinfection #2	25
5262	Inorganic Disinfection #2	25
5262QR	Inorganic Disinfection #2	25
5270	Inorganic Disinfection #1	25
5272	Inorganic Disinfection #1	25
5272QR	Inorganic Disinfection #1	25
20080	Replacement Lamp	101
78102	Ammonium as NH <sub>4</sub> - 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 T00600	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 T00600	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 T00600	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 T00600	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 T00600	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 T00600	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

<b>A</b>	4-AAP	4 - Aminoantiprene
	A2LA	American Association for Laboratory Accreditation
	AE	Air & emissions
<b>B</b>	BCH	Benzene hexachloride
	BOD	Biochemical oxygen demand
	BTEX	Benzene, toluene, ethylbenzene, and xylenes
<b>C</b>	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

<b>D</b>	DBCP	Dibromochloropropane
	DI	Deionized
<b>E</b>	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
<b>F</b>	FAQ	Frequently asked question
	FID	Flame ionization detector
	FoPT	Field of Proficiency Testing

## G - I

<b>G</b>	GC	Gas chromatography
<b>H</b>	HCH	Hexachlorocyclohexane
	HEM	Hexane extractable material
	HMX	Nitroamine high explosive
	HPC	Heterotrophic plate count
	HPLC	High performance liquid chromatography
<b>I</b>	IC	Ion chromatography
	ICP	Inductively coupled plasma
	IR	Infrared
	ISE	Ion selective electrode
	ISO	International Organization for Standardization

## L - N

<b>L</b>	LAS	Linear alkylbenzene sulphonates
	LIMS	Laboratory information management system
<b>M</b>	MBAS	Methylene blue active substances
	MCPA	2-methyl-4-chlorophenoxyacetic acid
	MCPD	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

<b>N</b>	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

<b>O</b>	OES	Optical emission spectrometry
<b>P</b>	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
<b>Q</b>	QC	Quality control
	QR	QuiK Response

## R - T

<b>R</b>	RCRA	Resource Conservation and Recovery Act
	RDX	Research department explosive (an explosive nitroamine)
	RM	Reference material
	RTU	Ready-to-use
<b>S</b>	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
<b>T</b>	TCDD	Tetrachlorodibenzo-p-dioxin
	TCLP	Toxicity characteristic leaching procedure
	TCP	Trichloropropane
	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

<b>U</b>	UCMR	Unregulated contaminant monitoring rule
	UKAS	United Kingdom Accreditation Service
	µmhos	Micromhos (measure of electrical conductivity of a solution)
	UPLC	Ultra performance liquid chromatography
<b>V</b>	VOA	Volatile organic analysis
	VOC	Volatile organic compounds
<b>W</b>	WP	Water pollution
	WS	Water supply
	WWTP	Wastewater treatment plant
<b>Z</b>	Z-score	Statistical measurement of a score's relationship to the mean in a group of scores



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