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

<table>
<thead>
<tr>
<th>Scheme #</th>
<th>Opens</th>
<th>Closes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WS 294</td>
<td>Jan 11</td>
<td>Feb 25</td>
</tr>
<tr>
<td>WS 295</td>
<td>Feb 8</td>
<td>Mar 25</td>
</tr>
<tr>
<td>WS 296</td>
<td>Mar 8</td>
<td>Apr 22</td>
</tr>
<tr>
<td>WS 297</td>
<td>Apr 5</td>
<td>May 20</td>
</tr>
<tr>
<td>WS 298</td>
<td>May 10</td>
<td>Jun 24</td>
</tr>
<tr>
<td>WS 299</td>
<td>Jun 7</td>
<td>Jul 22</td>
</tr>
<tr>
<td>WS 300</td>
<td>Jul 12</td>
<td>Aug 26</td>
</tr>
<tr>
<td>WS 301</td>
<td>Aug 9</td>
<td>Sep 23</td>
</tr>
<tr>
<td>WS 302</td>
<td>Sep 7</td>
<td>Oct 22</td>
</tr>
<tr>
<td>WS 303</td>
<td>Oct 8</td>
<td>Nov 22</td>
</tr>
<tr>
<td>WS 304</td>
<td>Nov 5</td>
<td>Dec 20</td>
</tr>
<tr>
<td>WS 305</td>
<td>Dec 6</td>
<td>Jan 20, 2022</td>
</tr>
</tbody>
</table>

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

For the latest products and information, please visit us online at www.eraqc.com
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<th>CRM</th>
<th>PT</th>
<th>QR</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,4-Dioxane</td>
<td>689</td>
<td>272</td>
<td>689QR</td>
<td>27</td>
</tr>
<tr>
<td>Ammonia as N</td>
<td>1359</td>
<td>1319</td>
<td>1359QR</td>
<td>25</td>
</tr>
<tr>
<td>Carbamates/Carbamoxylxime Pesticides</td>
<td>707</td>
<td>846</td>
<td>707QR</td>
<td>28</td>
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<tr>
<td>Chloral Hydrate</td>
<td>676</td>
<td>853</td>
<td>676QR</td>
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</tr>
<tr>
<td>Chlordane</td>
<td>705</td>
<td>845</td>
<td>705QR</td>
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<td>Chlorinated Acid Herbicides</td>
<td>704</td>
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<td>30</td>
</tr>
<tr>
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<td>661</td>
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<td>26</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>980</td>
<td>900</td>
<td>980QR</td>
<td>26</td>
</tr>
<tr>
<td>Cyanide</td>
<td>983</td>
<td>556</td>
<td>983QR</td>
<td>25</td>
</tr>
<tr>
<td>Dioxin</td>
<td>663</td>
<td>857</td>
<td>663QR</td>
<td>30</td>
</tr>
<tr>
<td>EDB/DBCP/TCP</td>
<td>706</td>
<td>847</td>
<td>706QR</td>
<td>30</td>
</tr>
<tr>
<td>Gasoline Additives</td>
<td>909</td>
<td>905</td>
<td>909QR</td>
<td>27</td>
</tr>
<tr>
<td>Haloacetic Acids (HAA)</td>
<td>684</td>
<td>852</td>
<td>684QR</td>
<td>25</td>
</tr>
<tr>
<td>Halomethanes (THMs)</td>
<td>702</td>
<td>842</td>
<td>702QR</td>
<td>27</td>
</tr>
<tr>
<td>Hardness</td>
<td>693</td>
<td>555</td>
<td>693QR</td>
<td>24</td>
</tr>
<tr>
<td>Hexavalent Chromium</td>
<td>658</td>
<td>854</td>
<td>658QR</td>
<td>24</td>
</tr>
<tr>
<td>Inorganic Disinfection #1</td>
<td>5272</td>
<td>5270</td>
<td>5272QR</td>
<td>25</td>
</tr>
<tr>
<td>Inorganic Disinfection #2</td>
<td>5262</td>
<td>5260</td>
<td>5262QR</td>
<td>25</td>
</tr>
<tr>
<td>Inorganics</td>
<td>698</td>
<td>591</td>
<td>698QR</td>
<td>24</td>
</tr>
<tr>
<td>Low-Level 1,2,3-TCP</td>
<td>682</td>
<td>596</td>
<td>682QR</td>
<td>30</td>
</tr>
<tr>
<td>Mercury</td>
<td>666</td>
<td>551</td>
<td>666QR</td>
<td>24</td>
</tr>
<tr>
<td>Metals</td>
<td>697</td>
<td>590</td>
<td>697QR</td>
<td>24</td>
</tr>
</tbody>
</table>

**CRM:** A reference material characterized by a metrologically valid procedure for one or more specified properties, accompanied by a reference material certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability. A complete listing of ERA’s CRMs can be found on our Scope of Accreditation for general requirements for competence of reference material producers available at www.eraqc.com/AboutERA/Accreditations.

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

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

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

---

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

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #693</td>
<td>Cat. #555</td>
<td>Cat. #693QR</td>
<td></td>
</tr>
</tbody>
</table>

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

- Calcium: 30–90 mg/L
- Calcium hardness as CaCO₃: 75–225 mg/L
- Total hardness as CaCO₃: 83–307 mg/L
- Magnesium: 2–20 mg/L
- Sodium: 12–50 mg/L

### Inorganics

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #698</td>
<td>Cat. #591</td>
<td>Cat. #698QR</td>
<td></td>
</tr>
</tbody>
</table>

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 CaCO₃: 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

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #5152</td>
<td>Cat. #5150</td>
<td>Cat. #5152QR</td>
<td></td>
</tr>
</tbody>
</table>

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

---

## Trace Metals

### Metals

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #590</td>
<td>Cat. #697</td>
<td>Cat. #697QR</td>
<td></td>
</tr>
</tbody>
</table>

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: 10–100 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

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #566</td>
<td>Cat. #551</td>
<td>Cat. #666QR</td>
<td></td>
</tr>
</tbody>
</table>

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

### Hexavalent Chromium

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #854</td>
<td>Cat. #585</td>
<td>Cat. #858QR</td>
<td></td>
</tr>
</tbody>
</table>

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

- Hexavalent chromium: 5–50 µg/L

### Uranium

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #930</td>
<td>Cat. #585</td>
<td>Cat. #930QR</td>
<td></td>
</tr>
</tbody>
</table>

One 15 mL screw-cap vial yields up to 2 liters after dilution. Use with ICP-MS methods.

- Uranium: 3–104 µg/L

### Vanadium

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #660</td>
<td>Cat. #585</td>
<td>Cat. #660QR</td>
<td></td>
</tr>
</tbody>
</table>

One 15 mL screw-cap vial yields up to 2 liters after dilution. Designed to meet California ELAP requirements.

- Vanadium: 5–50 µg/L

---

Kyle Jordan
Account Manager
Years with Waters ERA: 1

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Disinfection By-Products

Chloral Hydrate

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #676</td>
<td>Cat. #853</td>
<td>Cat. #676QR</td>
</tr>
</tbody>
</table>

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.

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

Bromochloroacetic acid
Dibromoacetic acid
Monochloroacetic acid
Trichloroacetic acid

Haloacetic Acids (HAA)

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #684</td>
<td>Cat. #852</td>
<td>Cat. #684QR</td>
</tr>
</tbody>
</table>

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.

Inorganic Disinfection #1

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #5272</td>
<td>Cat. #5270</td>
<td>Cat. #5272QR</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #5262</td>
<td>Cat. #5260</td>
<td>Cat. #5262QR</td>
</tr>
</tbody>
</table>

One 24 mL screw-cap vial yields up to 4 liters after dilution.

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

Nutrients

Ammonia as N

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #1359</td>
<td>Cat. #1319</td>
<td>Cat. #1359QR</td>
</tr>
</tbody>
</table>

One 15 mL screw-cap vial yields up to 1 liter after dilution. Ammonia as N: .................................................. 0.1–1 mg/L

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

Nitrite

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #695</td>
<td>Cat. #594</td>
<td>Cat. #695QR</td>
</tr>
</tbody>
</table>

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

Nitrite as N: ............................................. 0.4–2 mg/L

o-Phosphate Nutrients

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #667</td>
<td>Cat. #558</td>
<td>Cat. #667QR</td>
</tr>
</tbody>
</table>

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

ortho-Phosphate as P: .................................. 0.5–5.5 mg/L

Miscellaneous Inorganic

Residual Chlorine

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #696</td>
<td>Cat. #593</td>
<td>Cat. #696QR</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>CRM</th>
<th>PT</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat. #983</td>
<td>Cat. #556</td>
<td>Cat. #983QR</td>
</tr>
</tbody>
</table>

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

Darren Sauer
Senior Customer Service Representative
Years with Waters ERA: 22

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

### Physical Property

#### Color

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>CRM Cat. #661</th>
<th>PT Cat. #859</th>
<th>QR Cat. #661QR</th>
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</thead>
<tbody>
<tr>
<td>One 125 mL whole-volume bottle is ready to analyze.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10–75 PC units</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

#### Corrosivity

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>CRM Cat. #980</th>
<th>PT Cat. #900</th>
<th>QR Cat. #980QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>One 500 mL whole-volume bottle is ready to analyze for corrosivity, calcium carbonate saturation, and Langelier Saturation Index.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrosivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-4 to +4 SI units</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Turbidity

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>CRM Cat. #699</th>
<th>PT Cat. #592</th>
<th>QR Cat. #699QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>One 15 mL screw-cap vial yields up to 1 liter after dilution. Use with nephelometric methods.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turbidity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5–8 NTU</td>
<td></td>
<td></td>
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</table>

#### UV 254 Absorbance

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>CRM Cat. #662</th>
<th>PT Cat. #904</th>
<th>QR Cat. #662QR</th>
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</thead>
<tbody>
<tr>
<td>One 15 mL screw-cap vial yields up to 1 liter after dilution.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UV 254 absorbance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.05–0.7 cm⁻¹</td>
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<td></td>
<td></td>
</tr>
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</table>

### Miscellaneous Inorganics

#### Organic Carbon

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>CRM Cat. #669</th>
<th>PT Cat. #557</th>
<th>QR Cat. #669QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>One 15 mL screw-cap vial yields up to 1 liter after dilution.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total organic carbon</td>
<td>1.3–13 mg/L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissolved organic carbon</td>
<td>1.3–13 mg/L</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Perchlorate

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>CRM Cat. #910</th>
<th>PT Cat. #903</th>
<th>QR Cat. #910QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>One 15 mL screw-cap vial yields up to 2 liters after dilution.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perchlorate</td>
<td>4–20 µg/L</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### pH

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>CRM Cat. #779</th>
<th>PT Cat. #552</th>
<th>QR Cat. #779QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>One 250 mL whole-volume bottle is ready to analyze.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>5–10 units</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Silica

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>CRM Cat. #785</th>
<th>PT Cat. #902</th>
<th>QR Cat. #785QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>One 60 mL poly bottle yields 1 liter after dilution.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silica as SiO₂</td>
<td>5–75 mg/L</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Surfactants-MBAS

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>CRM Cat. #784</th>
<th>PT Cat. #901</th>
<th>QR Cat. #784QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>One 15 mL screw-cap vial yields up to 2 liters after dilution.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surfactants-MBAS</td>
<td>0.1–1 mg/L</td>
<td></td>
<td></td>
</tr>
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Our stabilized turbidity calibration solutions give you an affordable alternative to costly turbidity consumables and deliver accurate results to help stretch your facility’s budget.

View our Turbidity Standards on page 101.
Volatile Organics

1,4-Dioxane

CRM Cat. #689  PT Cat. #272  B  QR Cat. #689QR

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

CRM Cat. #909  PT Cat. #905  Q  QR Cat. #909QR

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)  Methyl tert-butyl ether (MTBE)
Di-isopropyl ether (DIPE)  Trichlorofluoromethane  Trichlorotrifluoroethane (Freon® 113)

Halomethanes (THMs)

CRM Cat. #702  PT Cat. #842  M  QR Cat. #702QR

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 5–50 µg/L.

Bromodichloromethane  Chlorodibromomethane  Chloroform
Bromoform

Regulated Volatiles

CRM Cat. #703  PT Cat. #840  M  QR Cat. #703QR

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  Carbon tetrachloride  Chlorobenzene  1,2-Dichlorobenzene  1,4-Dichlorobenzene  1,2-Dichloroethane  1,1-Dichloroethylene
Cis-1,2-Dichloroethylene  Trans-1,2-Dichloroethylene  1,2-Dichloropropane  Ethylbenzene  Methylene chloride  Styrene  Tetra chloroethylene
Toluene  1,2,4-Trichlorobenzene  1,1,1-Trichloroethane  1,1,2-Trichloroethane  1,2,2-Trichloroethane  Vinyl chloride  Xylenes, total

Unregulated Volatiles

CRM Cat. #683  PT Cat. #841  M  QR Cat. #683QR

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  Dichlorodifluoromethane  Methyl tert-butyl ether (MTBE)
Bromochloromethane  U-1-Dichloroethane  Naphthalene
Bromomethane  L-3-Dichloropropane  n-Propylbenzene
n-Butylbenzene  2,2-Dichloropropane  1,1,2-Tetrachloroethane
sec-Butylbenzene  U-1-Dichloropropane  U-1,2,2-Tetrachloroethane
tert-Butylbenzene  cis-1,3-Dichloropropene  cis-1,2,3-Trichlorobenzene
Chloroethane  trans-1,3-Dichloropropene  1,2,3-Trichlorobenzene
Chloromethane  Fluorochloromethane  1,2,4-Trichlorobenzene
2-Chlorotoluene  Hexachlorobutadiene  1,2,4-Trimethylbenzene
4-Chlorotoluene  Isopropylbenzene  1,3,5-Trimethylbenzene

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)

### PFAS Drinking Water

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<tbody>
<tr>
<td>Cat. #735</td>
<td>Cat. #960</td>
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</table>

One 2 mL flame sealed ampule yields in excess of 1.5 L after dilution. Use with EPA method 537. The diluted standard will contain 6-8 analytes in each lot selected from the list below.

- 11-chloroheptafluoro-3-oxaundecane-1-sulfonic acid (TICl-PF3OUDS) 50–500 ng/L
- 9-chlorohexafluoro-3-oxoamine-1-sulfonic acid (9Cl-PF3ONS) 50–500 ng/L
- N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA) 50–500 ng/L
- 4,8-dioxo-3H-perfluorononanoic acid (DONA) 50–500 ng/L
- Hexafluoropropylene oxide dimer acid (HFPO-DA) 100–1000 ng/L
- N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA) 50–500 ng/L
- Perfluorobutanesulfonic acid (PFBS) 100–1000 ng/L
- Perfluorodecanoic acid (PFDA) 50–500 ng/L
- Perfluorobuta-3-methylacetic acid (PFHxMA) 50–500 ng/L
- Perfluorohexanesulfonic acid (PFHxS) 50–500 ng/L
- Perfluorohexanoic acid (PFHxA) 50–500 ng/L
- Perfluorononanoic acid (PFNA) 50–500 ng/L
- Perfluorooctanesulfonic acid (PFOS) 50–500 ng/L
- Perfluorooctanoic acid (PFOA) 50–500 ng/L
- Perfluorotetradecanoic acid (PFTDA) 50–500 ng/L
- Perfluorotridecanoic acid (PFTDa) 50–500 ng/L
- Perfluoroundecanoic acid (PFUnDA) 50–500 ng/L

### PFAS Ground Water & Surface Water

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<td>Cat. #929</td>
<td>Cat. #731QR</td>
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</table>

One 2 mL flame sealed ampule yields in excess of 1.5 L after dilution. Design is suitable for methods analyzing ground water or surface water. Use with LC/MS/MS techniques. The diluted standard will contain 6-12 analytes in each lot selected from the list below.

- 11-chloroheptafluoro-3-oxaundecane-1-sulfonic acid (TICl-PF3OUDS) 100–500 ng/L
- 9-chlorohexafluoro-3-oxoamine-1-sulfonic acid (9Cl-PF3ONS) 100–500 ng/L
- 4,8-dioxo-3H-perfluorononanoic acid (DONA) 100–500 ng/L
- N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA) 100–500 ng/L
- 1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (8:2 FTS) 100–500 ng/L
- 1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS) 100–500 ng/L
- 1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS) 100–500 ng/L
- Hexafluoropropylene oxide dimer acid (HFPO-DA) 100–500 ng/L
- N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA) 100–500 ng/L
- Perfluorobutanesulfonic acid (PFBS) 100–500 ng/L
- Perfluorobutanoic acid (PFBA) 100–500 ng/L
- Perfluorodecanoic acid (PFDS) 100–500 ng/L
- Perfluoroheptanoic acid (PFDA) 100–500 ng/L
- Perfluorodecanoic acid (PFDoA) 100–500 ng/L
- Perfluorobuta-3-methylacetic acid (PFHxMA) 100–500 ng/L
- Perfluorohexanesulfonic acid (PFHxS) 100–500 ng/L
- Perfluorohexanoic acid (PFHxA) 100–500 ng/L
- Perfluorononanoic acid (PFNA) 100–500 ng/L
- Perfluorooctanesulfonic acid (PFOS) 100–500 ng/L
- Perfluorooctanoic acid (PFOA) 100–500 ng/L
- Perfluorotetradecanoic acid (PFTDA) 100–500 ng/L
- Perfluorotridecanoic acid (PFTDa) 100–500 ng/L
- Perfluoroundecanoic acid (PFUnDA) 100–500 ng/L

### Pesticides

#### Pesticides

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<tr>
<th>CRM</th>
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<tr>
<td>Cat. #709</td>
<td>Cat. #850</td>
<td>Cat. #709QR</td>
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</table>

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. Each standard contains at least 14 analytes randomly selected from the list below at 0.2–20 µg/L.

- Alachlor
- Aldrin
- Aldrin epoxide (beta)
- Aldicarb sulfone
- Aldicarb
- Aldicarb sulfonate
- Aldicarb sulfoxide
- Baygon
- Atrazine
- Alachlor epoxide
- lindane (gamma-BHC)
- Butachlor
- Metoxychlor
- Dieldrin
- Methiocarb
- Endrin
- Metolachlor
- Metribuzin
- Hexachlorobenzene
- Thiobencarb
- Hexachlorocyclopentadiene
- Trifluralin
- Lindane (gamma-BHC)
- Prometon
- Propachlor
- Simazine
- N-ethyl perfluorooctanesulfonamide (NEtFOSAA)
- 4,8-dioxa-3H-perfluorononanoic acid (DONA)
- 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUDS)
- 1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2 FTS)
- 1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid (6:2 FTS)

#### Carbamate/Carbamoyloxime Pesticides

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<tr>
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<td>Cat. #846</td>
<td>Cat. #707QR</td>
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</table>

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
- Carbophenothion
- Methiocarb
- Methomyl
- Oxamyl
- Carbofuran
- 3-Hydroxycarbophenothion
- Methomyl
- Oxamyl
- Methoxychlor
- Toxaphene

#### Chlordane

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</table>

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.

- Aldicarb
- Carbophenothion
- Methiocarb
- Methomyl
- Oxamyl
- Toxaphene

#### Toxaphene

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</table>

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.

For the latest products and information, please visit us online at www.eraqc.com
PFASs have long been a contaminant of concern for environmental waters, but they are now emerging in food safety concerns. Laboratories are seeking fast and sensitive solutions to rapidly detect these pollutants in surface, ground, and waste waters to help target remediation efforts and prevent food chain contamination.

Waters offers robust analytical solutions to meet advisory levels for legacy and emerging PFASs:

- LC-MS/MS to reach detection limits in the low-to-sub ng/L range
- SPE sample preparation that allows for sample enrichment to increase sensitivity
- Large volume direct injection method to speed up analysis time
- Employ dependable solutions for POPs and chemical contaminant analysis.

Learn more at www.waters.com/environmental
Pesticides (continued)

**EDB/DBCP/TCP**

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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.

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

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

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<td>Cat. #682</td>
<td>Cat. #596</td>
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</table>

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.

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

**Semivolatile Organics**

**Dioxin**

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<td>Cat. #857</td>
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<td>Cat. #683QR</td>
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</table>

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**

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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 arorclor identification and quantification using EPA Methods 505, 508, 508.1, or other applicable method. Includes an arorclor randomly selected from the list below at 0.5–5 µg/L as decachlorobiphenyl.

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

**Chlorinated Acid Herbicides**

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<td>Cat. #704</td>
<td>Cat. #851</td>
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<td>Cat. #704QR</td>
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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  
-Bentazon  
-Chloramben  
-2,4-D  
-2,4-DB  
-Dacthal diacid (DCPA)  
-Dalapon  
-Dicamba  
-3,5-Dichlorobenzoic acid  
-Dichlorprop  
-Dinoseb  
-4-Nitrophenol  
-Pentachlorophenol  
-Picloram  
-2,4,5-T  
-2,4,5-TP (silvex)

**Semivolatiles #1**

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<td>Cat. #690</td>
<td>Cat. #848</td>
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<td>Cat. #690QR</td>
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</table>

One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 506, 525, 555, 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.

-Benzo(a)pyrene  
-Benzo(b)flouranthene  
-Benzo(k)flouranthene  
-Benzo(g,h,i)perylene  
-Naphthalene  
-Pyrene

**Semivolatiles #2 Herbicides**

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<td>Cat. #691</td>
<td>Cat. #849</td>
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<td>Cat. #691QR</td>
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</table>

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  
-Endothall  
-Glyphosate  
-Paraquat

**Herbicides**

**Chlorinated Acid Herbicides**

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

**Semivolatiles #1**

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<td>M</td>
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One 2 mL flame-sealed ampule yields up to 2 liters after dilution. Use with EPA Methods 506, 525, 555, 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.

-Benzo(a)pyrene  
-Benzo(b)flouranthene  
-Benzo(k)flouranthene  
-Benzo(g,h,i)perylene  
-Naphthalene  
-Pyrene

**Semivolatiles #2 Herbicides**

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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  
-Endothall  
-Glyphosate  
-Paraquat

**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.
The analysis of dioxins is particularly demanding due to encountered low-level regulatory exposure limits and complex sample matrices. Waters provides LC-MS/MS and GC-MS/MS systems for the detection and quantification of dioxins and related compounds at ultra-trace levels. Combined with our analytical standards & reagents, proficiency testing (ERA), column and sample preparation products, and data management software, these solutions are designed to:

- Increase accuracy
- Enhance sensitivity
- Accelerate throughput
- Ensure compliance

Employ dependable solutions for POPs and chemical contaminant analysis.

Learn more at www.waters.com/environmental