



Analytical Methods Approved for Drinking Water Compliance Monitoring of Inorganic Contaminants and Other Inorganic Constituents

Analysis for the following inorganic contaminants and constituents shall be conducted in accordance with the methods in the following table, or their equivalent as determined by EPA. The methods are specified in 40 CFR 141.23 and Appendix A to Subpart C of Part 141. The monitoring requirements are specified in 40 CFR 141.23, 141.41, 141.86 – 141.88, and 141.135.

The CFR is the legal reference for approved methods and takes precedence over this table. The table should accurately reflect the analytical methods information published in 40 CFR 141.

Inorganic Contaminants:

Alkalinity

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D1067-92 B	ASTM International	<i>Standard Test Methods for Acidity or Alkalinity of Water: Electrometric or Color-Change Titration</i>	1992		ASTM International
D1067-02 B	ASTM International	<i>Standard Test Methods for Acidity or Alkalinity of Water: Electrometric or Color-Change Titration</i>	2002		ASTM International
D1067-06 B	ASTM International	<i>Standard Test Methods for Acidity or Alkalinity of Water: Electrometric or Color-Change Titration</i>	2006		ASTM International
D1067-11 B	ASTM International	<i>Standard Test Methods for Acidity or Alkalinity of Water: Electrometric or Color-Change Titration</i>	2011		ASTM International
D1067-16 B	ASTM International	<i>Standard Test Methods for Acidity or Alkalinity of Water: Electrometric or Color-Change Titration</i>	2016		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
2320 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
2320 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
2320 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
2320 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
2320 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
2320 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
2320 B-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods
I-1030-85	US Geological Survey	<i>In Methods for Determination of Inorganic Substances in Water and Fluvial Sediments, USGS Series: Techniques of Water-Resource Investigation Report; edited by Fishman, M.J. and Friedman, L.C.</i>	1989		USGS

Antimony

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D3697-92	ASTM International	<i>Standard Test Method for Antimony in Water</i>	1992		ASTM International
D3697-02	ASTM International	<i>Standard Test Method for Antimony in Water</i>	2002		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D3697-07	ASTM International	<i>Standard Test Method for Antimony in Water</i>	2007		ASTM International
D3697-12	ASTM International	<i>Standard Test Method for Antimony in Water</i>	2012		ASTM International
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.8, Rev. 5.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: Preconcentration may be required for direct analysis of antimony by Method 200.9	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i> Note: Preconcentration may be required for direct analysis of antimony by Method 3113 B unless multiple in-furnace depositions are made	1992		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i> Note: Preconcentration may be required for direct analysis of antimony by Method 3113 B unless multiple in-furnace depositions are made	1995		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i> Note: Preconcentration may be required for direct analysis of	2005		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		antimony by Method 3113 B unless multiple in-furnace depositions are made			
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i> Note: Preconcentration may be required for direct analysis of antimony by Method 3113 B unless multiple in-furnace depositions are made	2012		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i> Note: Preconcentration may be required for direct analysis of antimony by Method 3113 B unless multiple in-furnace depositions are made	2017		Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved. Note: Preconcentration may be required for direct analysis of antimony by Method 3113 B-99 unless multiple in-furnace depositions are made	1999		Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved. Note: Preconcentration may be required for direct analysis of antimony by Method 3113 B-04	2004		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		unless multiple in-furnace depositions are made			
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved. Note: Preconcentration may be required for direct analysis of antimony by Method 3113 B-10 unless multiple in-furnace depositions are made	2010		Standard Methods

Arsenic

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA's digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D2972-97 B	ASTM International	<i>Standard Test Methods for Arsenic in Water – Atomic Absorption, Hydride Generation</i>	1997		ASTM International
D2972-03 B	ASTM International	<i>Standard Test Methods for Arsenic in Water – Atomic Absorption, Hydride Generation</i>	2003		ASTM International
D2972-08 B	ASTM International	<i>Standard Test Methods for Arsenic in Water – Atomic Absorption, Hydride Generation</i>	2008		ASTM International
D2972-15 B	ASTM International	<i>Standard Test Methods for Arsenic in Water – Atomic Absorption, Hydride Generation</i>	2015		ASTM International
D2972-97 C	ASTM International	<i>Standard Test Methods for Arsenic in Water – Atomic Absorption, Graphite Furnace</i>	1997		ASTM International
D2972-03 C	ASTM International	<i>Standard Test Methods for Arsenic in Water – Atomic Absorption, Graphite Furnace</i>	2003		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D2972-08 C	ASTM International	<i>Standard Test Methods for Arsenic in Water – Atomic Absorption, Graphite Furnace</i>	2008		ASTM International
D2972-15 C	ASTM International	<i>Standard Test Methods for Arsenic in Water – Atomic Absorption, Graphite Furnace</i>	2015		ASTM International
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.8, Rev. 5.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: If ultrasonic nebulization is used in determination of arsenic by Method 200.8, the arsenic must be in the pentavalent state to provide uniform response. For direct analysis of arsenic by Method 200.8 using ultrasonic nebulization, samples and standards must contain one mg/L sodium hypochlorite.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3114 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3114 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3114 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3114 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3114 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2004		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2010		Standard Methods
3114 B-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods
3114 B-09	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2009		Standard Methods

Asbestos

Guidance on conducting asbestos analysis is described in Section V of *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173) available through EPA's digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
100.1	EPA	<i>Analytical Method for the Determination of Asbestos Fibers in Water</i>	September 1983	EPA/600/4-83-043	National Environmental Methods Index
100.2	EPA	<i>Determination of Asbestos Structures over 10 μm in Length in Drinking Water</i>	June 1994	EPA/600R-94/134	EPA/600R-94/134

Barium

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA's digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.7, Rev. 4.4	EPA	In <i>Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.8, Rev. 5.4	EPA	In <i>Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3111 D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3111 D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3111 D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3111 D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3111 D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3111 D-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2004		Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2010		Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods

Beryllium

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA's digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D3645-97 B	ASTM International	<i>Standard Test Methods for Beryllium in Water – Atomic Absorption, Graphite Furnace</i>	1997		ASTM International
D3645-03 B	ASTM International	<i>Standard Test Methods for Beryllium in Water – Atomic Absorption, Graphite Furnace</i>	2003		ASTM International
D3645-08 B	ASTM International	<i>Standard Test Methods for Beryllium in Water – Atomic Absorption, Graphite Furnace</i>	2008		ASTM International
D3645-15 B	ASTM International	<i>Standard Test Methods for Beryllium in Water – Atomic Absorption, Graphite Furnace</i>	2015		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.7, Rev. 4.4	EPA	In <i>Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.8, Rev. 5.4	EPA	In <i>Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	In <i>Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2004		Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the	2010		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to Subpart C of Part 141 are approved.			
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods

Cadmium

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA’s digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.7, Rev. 4.4	EPA	In <i>Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher. For direct analysis of cadmium by Method 200.7, sample preconcentration using pneumatic nebulization may be required to achieve lower detection limits.	May 1994	EPA/600/R-94/111	National Environmental Methods Index

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.8, Rev. 5.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to	2004		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
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3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2010		Standard Methods

Calcium

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA’s digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](http://www.epa.gov/epaosopr/nepis/)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D511-93 A	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water – Complexometric Titration</i>	1993		ASTM International
D511-03 A	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water – Complexometric Titration</i>	2003		ASTM International
D511-09 A	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water – Complexometric Titration</i>	2009		ASTM International
D511-14 A	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water – Complexometric Titration</i>	2014		ASTM International
D511-93 B	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water – Atomic Absorption</i>	1993		ASTM International
D511-03 B	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water – Atomic Absorption</i>	2003		ASTM International
D511-09 B	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water – Atomic Absorption</i>	2009		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D511-14 B	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water – Atomic Absorption</i>	2014		ASTM International
D6919-03	ASTM International	<i>Standard Test Method for Determination of Dissolved Alkali and Alkaline Earth Cations and Ammonium in Water and Wastewater by Ion Chromatography</i>	2003		ASTM International
D6919-09	ASTM International	<i>Standard Test Method for Determination of Dissolved Alkali and Alkaline Earth Cations and Ammonium in Water and Wastewater by Ion Chromatography</i>	2009		ASTM International
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.7, Rev. 4.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
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3500-Ca D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3500-Ca B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
3500-Ca B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3500-Ca B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3500-Ca B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3111 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3500-Ca B-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods

Chromium

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA's digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.7, Rev. 4.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined	May 1994	EPA/600/R-94/111	National Environmental Methods Index

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.			
200.8, Rev. 5.4	EPA	In <i>Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	In <i>Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2004		Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2010		Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods

Conductivity

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D1125-95 A	ASTM International	<i>Standard Test Methods for Electrical Conductivity and Resistivity of Water</i>	1995		ASTM International
D1125-14 A	ASTM International	<i>Standard Test Methods for Electrical Conductivity and Resistivity of Water</i>	2014		ASTM International
2510 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
2510 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
2510 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
2510 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
2510 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
2510 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
2510 B-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods

Copper

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA's digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D1688-95 A	ASTM International	<i>Standard Test Methods for Copper in Water – Atomic Absorption, Direct</i>	1995		ASTM International
D1688-02 A	ASTM International	<i>Standard Test Methods for Copper in Water – Atomic Absorption, Direct</i>	2002		ASTM International
D1688-07 A	ASTM International	<i>Standard Test Methods for Copper in Water – Atomic Absorption, Direct</i>	2007		ASTM International
D1688-12 A	ASTM International	<i>Standard Test Methods for Copper in Water – Atomic Absorption, Direct</i>	2012		ASTM International
D1688-95 C	ASTM International	<i>Standard Test Method for Copper in Water – Atomic Absorption, Graphite Furnace</i>	1995		ASTM International
D1688-02 C	ASTM International	<i>Standard Test Method for Copper in Water – Atomic Absorption, Graphite Furnace</i>	2002		ASTM International
D1688-07 C	ASTM International	<i>Standard Test Method for Copper in Water – Atomic Absorption, Graphite Furnace</i>	2007		ASTM International
D1688-12 C	ASTM International	<i>Standard Test Method for Copper in Water – Atomic Absorption, Graphite Furnace</i>	2012		ASTM International
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.7, Rev. 4.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.8, Rev. 5.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
Hach 8026, Rev. 1.2	Hach Company	<i>Spectrophotometric Measurement of Copper in Finished Drinking Water</i>	December 2015		Hach 8026, Rev. 1.2
Hach 10272, Rev. 1.2	Hach Company	<i>Spectrophotometric Measurement of Copper in Finished Drinking Water</i>	December 2015		Hach 10272, Rev. 1.2
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3111 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the	1999		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to Subpart C of Part 141 are approved.			
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2004		Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2010		Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods

Cyanide

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
ALPKEM	OIA-1677, DW	<i>Available Cyanide by Flow Injection, Ligand Exchange and Amperometry</i> Note: Sulfide levels below those detected using lead acetate paper may produce positive interference. Test samples using a more sensitive sulfide method.	January 2004	EPA-821-R-04-001	EPA-821-R-04-001
D2036-98 A	ASTM International	<i>Standard Test Methods for Cyanides in Water – Total Cyanides after Distillation</i>	1998		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D2036-06 A	ASTM International	<i>Standard Test Methods for Cyanides in Water – Total Cyanides after Distillation</i>	2006		ASTM International
D2036-98 B	ASTM International	<i>Standard Test Methods for Cyanides in Water – Cyanides Amenable to Chlorination by Difference</i>	1998		ASTM International
D2036-06 B	ASTM International	<i>Standard Test Methods for Cyanides in Water – Cyanides Amenable to Chlorination by Difference</i>	2006		ASTM International
D6888-04	ASTM International	<i>Standard Test Method for Available Cyanide with Ligand Displacement and Flow Injection Analysis (FIA) Utilizing Gas Separation and Amperometric Detection</i> Note: Sulfide levels below those detected using lead acetate paper may produce positive interference. Test samples using a more sensitive sulfide method.	2004		ASTM International
335.4, Rev. 1.0	EPA	<i>In Methods for the Determination of Inorganic Substances in Environmental Samples</i>	August 1993	EPA/600/R-93/100	National Environmental Methods Index
ME355.01	H & E Testing Laboratory	<i>Determination of Cyanide in Drinking Water by GC/MS Headspace</i>	May 26, 2009		ME355.01
Kelada-01, Rev. 1.2	Kelada	<i>Kelada Automated Test Methods for Total Cyanide, Acid Dissociable Cyanide, and Thiocyanate</i> Note: A 450-W UV lamp may be used in place of the 550-W lamp if it meets the method QC acceptance criteria. Similarly, flow cell configuration and flow conditions may be modified, provided the QC acceptance criteria are met.	August 2001	EPA 821-B-01-009	Kelada

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
QuikChem 10-204-00-1-X, Rev. 2.1	Lachat Instruments	<i>Digestion and Distillation of Total Cyanide in Drinking and Wastewaters using MICRO DIST and Determination of Cyanide by Flow Injection Analysis</i>	November 2000		QuikChem 10-204-00-1-X, Rev. 2.1
4500-CN ⁻ C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-CN ⁻ C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-CN ⁻ C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-CN ⁻ C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i> Note: MgCl ₂ <u>must</u> be included in the distillation	2005		Standard Methods
4500-CN ⁻ C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i> Note: MgCl ₂ <u>must</u> be included in the distillation	2012		Standard Methods
4500-CN ⁻ C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i> Note: MgCl ₂ <u>must</u> be included in the distillation	2017		Standard Methods
4500-CN ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-CN ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-CN ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-CN E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-CN E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-CN E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-CN F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-CN F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-CN F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-CN F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-CN F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-CN F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-CN G	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-CN G	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-CN G	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-CN G	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-CN- G	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-CN- G	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-CN- C-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved. Note: MgCl ₂ <u>must</u> be included in the distillation	1999		Standard Methods
4500-CN- E-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
4500-CN- F-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
4500-CN- G-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
I-3300-85	US Geological Survey	<i>In Methods for Determination of Inorganic Substances in Water and Fluvial Sediments, USGS Series: Techniques of Water-Resource Investigation Report; edited by Fishman, M.J. and Friedman, L.C.</i>	1989		USGS

Fluoride

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D1179-93 B	ASTM International	<i>Standard Test Methods for Fluoride in Water – Ion Selective Electrode</i>	1993		ASTM International
D1179-99 B	ASTM International	<i>Standard Test Methods for Fluoride in Water – Ion Selective Electrode</i>	1999		ASTM International
D1179-04 B	ASTM International	<i>Standard Test Methods for Fluoride in Water – Ion Selective Electrode</i>	2004		ASTM International
D1179-10 B	ASTM International	<i>Standard Test Methods for Fluoride in Water – Ion Selective Electrode</i>	2010		ASTM International
D1179-16 B	ASTM International	<i>Standard Test Methods for Fluoride in Water – Ion Selective Electrode</i>	2016		ASTM International
D4327-97	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	1997		ASTM International
D4327-03	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	2003		ASTM International
D4327-11	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	2011		ASTM International
129-71W	Bran + Luebbe	<i>Fluoride in Water and Wastewater</i>	December 1972		Seal Analytical
380-75WE	Bran + Luebbe	<i>Fluoride in Water and Wastewater</i>	February 1976		Seal Analytical
300.0, Rev. 2.1	EPA	<i>In Methods for the Determination of Inorganic Substances in Environmental Samples</i>	August 1993	EPA/600/R-93/100	National Environmental Methods Index
300.1, Rev. 1.0	EPA	<i>In Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Vol. 1</i>	August 2000	EPA 815-R-00-014	National Environmental Methods Index
Hach 10225, Rev. 2.0	Hach Company	<i>Hach Company SPADNS 2 (Arsenic-free) Fluoride Method 10225 –</i>	January 2011		Hach 10225, Rev. 2.0

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		<i>Spectrophotometric Measurement of Fluoride in Water and Wastewater</i>			
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-F- B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-F- B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-F- B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-F- B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-F- B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-F- B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-F C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-F C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-F C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-F C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-F C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-F C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-F D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-F D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-F D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-F D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-F D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-F D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-F E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-F E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-F E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-F E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-F E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-F E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4110 B-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods
4500-F B-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods
4500-F C-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods
4500-F D-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-F E-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods
D6508, Rev. 2	Waters Corp.	<i>Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices Using Capillary Ion Electrophoresis and Chromate Electrolyte</i>			Waters Corporation

Lead

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA’s digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D3559-96 D	ASTM International	<i>Standard Test Methods for Lead in Water – Atomic Absorption, Graphite Furnace</i>	1996		ASTM International
D3559-03 D	ASTM International	<i>Standard Test Methods for Lead in Water – Atomic Absorption, Graphite Furnace</i>	2003		ASTM International
D3559-08 D	ASTM International	<i>Standard Test Methods for Lead in Water – Atomic Absorption, Graphite Furnace</i>	2008		ASTM International
D3559-15 D	ASTM International	<i>Standard Test Methods for Lead in Water – Atomic Absorption, Graphite Furnace</i>	2015		ASTM International
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.8, Rev. 5.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.9, Rev. 2.2	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: Preconcentration may be required for direct analysis of lead by Method 200.9	May 1994	EPA/600/R-94/111	National Environmental Methods Index
Method 1001	Palintest Ltd. or Hach Company	<i>Lead in Drinking Water by Differential Pulse Anodic Stripping Voltammetry</i>	August 1999		Method 1001
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i> Note: Preconcentration may be required for direct analysis of lead by Method 3113 B unless multiple in-furnace depositions are made	1992		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i> Note: Preconcentration may be required for direct analysis of lead by Method 3113 B unless multiple in-furnace depositions are made	1995		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i> Note: Preconcentration may be required for direct analysis of lead by Method 3113 B unless multiple in-furnace depositions are made	2005		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i> Note: Preconcentration may be required for direct analysis of lead by Method 3113 B unless multiple in-furnace depositions are made	2012		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i> Note: Preconcentration may be required for direct analysis of lead by Method 3113 B unless multiple in-furnace depositions are made	2017		Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved. Note: Preconcentration may be required for direct analysis of lead by Method 3113 B-99 unless multiple in-furnace depositions are made	1999		Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved. Note: Preconcentration may be required for direct analysis of lead by Method 3113 B-04 unless multiple in-furnace depositions are made	2004		Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved. Note: Preconcentration may be required for direct analysis of lead by Method 3113 B-10 unless	2010		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		multiple in-furnace depositions are made			

Magnesium

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D511-93 A	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water: Complexometric Titration</i>	1993		ASTM International
D511-03 A	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water: Complexometric Titration</i>	2003		ASTM International
D511-09 A	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water: Complexometric Titration</i>	2009		ASTM International
D511-14 A	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water: Complexometric Titration</i>	2014		ASTM International
D511-93 B	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water: Atomic Absorption Spectrometry</i>	1993		ASTM International
D511-03 B	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water: Atomic Absorption Spectrometry</i>	2003		ASTM International
D511-09 B	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water: Atomic Absorption Spectrometry</i>	2009		ASTM International
D511-14 B	ASTM International	<i>Standard Test Methods for Calcium and Magnesium in Water: Atomic Absorption Spectrometry</i>	2014		ASTM International
D6919-03	ASTM International	<i>Standard Test Method for Determination of Dissolved Alkali and Alkaline Earth Cations and Ammonium in Water by Ion Chromatography</i>	2003		ASTM International
D6919-09	ASTM International	<i>Standard Test Method for Determination of Dissolved Alkali and Alkaline Earth Cations and</i>	2009		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		<i>Ammonium in Water by Ion Chromatography</i>			
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.7, Rev. 4.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3500-Mg E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3500-Mg E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3500-Mg B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
3500-Mg B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3500-Mg B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3500-Mg B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3111 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3500-Mg B-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the	1997		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to Subpart C of Part 141 are approved.			

Mercury

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D3223-97	ASTM International	<i>Standard Test Methods for Total Mercury in Water</i>	1997		ASTM International
D3223-02	ASTM International	<i>Standard Test Methods for Total Mercury in Water</i>	2002		ASTM International
D3223-12	ASTM International	<i>Standard Test Methods for Total Mercury in Water</i>	2012		ASTM International
200.8, Rev. 5.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
245.1, Rev. 3.0	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
245.2	EPA	<i>In Methods for Chemical Analysis of Water and Wastes</i>	March 1983	EPA/600/4-79/020	National Environmental Methods Index
3112 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3112 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3112 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3112 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3112 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3112 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits.	1999		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.			
3112 B-09	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2009		Standard Methods

Nickel

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA’s digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.7, Rev. 4.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.8, Rev. 5.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.			
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3111 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2004		Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the	2010		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to Subpart C of Part 141 are approved.			
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods

Nitrate

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D3867-90 A	ASTM International	<i>Standard Test Methods for Nitrate-Nitrite in Water</i>	1990		ASTM International
D3867-90 B	ASTM International	<i>Standard Test Methods for Nitrate-Nitrite in Water</i>	1990		ASTM International
D4327-97	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	1997		ASTM International
D4327-03	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	2003		ASTM International
D4327-11	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	2011		ASTM International
D6508-00	ASTM International	<i>Standard Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices using Capillary Ion Electrophoresis and Chromate Electrolyte</i>	2000		ASTM International
D6508-15	ASTM International	<i>Standard Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices using Capillary Ion Electrophoresis and Chromate Electrolyte</i>	2015		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
601	ATI Orion	<i>Standard Method of Test for Nitrate in Drinking Water</i>	July 1994		Thermo Scientific
300.0, Rev. 2.1	EPA	<i>In Methods for the Determination of Inorganic Substances in Environmental Samples</i>	August 1993	EPA/600/R-93/100	National Environmental Methods Index
300.1, Rev. 1.0	EPA	<i>In Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Vol. 1</i>	August 2000	EPA 815-R-00-014	National Environmental Methods Index
353.2, Rev. 2.0	EPA	<i>In Methods for the Determination of Inorganic Substances in Environmental Samples</i>	August 1993	EPA/600/R-93/100	National Environmental Methods Index
Hach 10206, Rev. 2.0	Hach Company	<i>Hach Company TNTplus™ 835/836 Nitrate Method 10206 – Spectrophotometric Measurement of Nitrate in Water and Wastewater</i>	January 2011		Hach 10206, Rev. 2.0
NECi Nitrate-Reductase Method, Rev. 2.0	Nitrate Elimination Company, Inc. (NECi)	<i>Method for Nitrate Reductase Nitrate-Nitrogen Analysis of Drinking Water</i>	February 2016		NECi, Rev. 2.0
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-NO ₃ ⁻ D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-NO ₃ ⁻ D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-NO ₃ ⁻ D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-NO ₃ ⁻ D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-NO ₃ ⁻ D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-NO ₃ ⁻ D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4110 B-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods
4500-NO ₃ ⁻ D-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods
4500-NO ₃ ⁻ E-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods
4500-NO ₃ ⁻ F-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the	2000		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to Subpart C of Part 141 are approved.			
Systea Easy (1-Reagent)	Systea Scientific LLC	<i>Systea Easy (1-Reagent) Nitrate Method</i>	February 4, 2009		Systea Easy (1-Reagent)
B-1011	Waters Corp.	<i>Waters Test Method for Determination of Nitrite/Nitrate in Water using Single Column Ion Chromatography</i>	August 1987		Waters Corporation

Nitrite

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D3867-90 A	ASTM International	<i>Standard Test Methods for Nitrate-Nitrite in Water</i>	1990		ASTM International
D3867-90 B	ASTM International	<i>Standard Test Methods for Nitrate-Nitrite in Water</i>	1990		ASTM International
D4327-97	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	1997		ASTM International
D4327-03	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	2003		ASTM International
D4327-11	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	2011		ASTM International
D6508-00	ASTM International	<i>Standard Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices using Capillary Ion Electrophoresis and Chromate Electrolyte</i>	2000		ASTM International
D6508-15	ASTM International	<i>Standard Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices using Capillary Ion Electrophoresis and Chromate Electrolyte</i>	2015		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
300.0, Rev. 2.1	EPA	<i>In Methods for the Determination of Inorganic Substances in Environmental Samples</i>	August 1993	EPA/600/R-93/100	National Environmental Methods Index
300.1, Rev. 1.0	EPA	<i>In Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Vol. 1</i>	August 2000	EPA 815-R-00-014	National Environmental Methods Index
353.2, Rev. 2.0	EPA	<i>In Methods for the Determination of Inorganic Substances in Environmental Samples</i>	August 1993	EPA/600/R-93/100	National Environmental Methods Index
NECi Nitrate-Reductase Method, Rev. 2.0	Nitrate Elimination Company, Inc. (NECi)	<i>Method for Nitrate Reductase Nitrate-Nitrogen Analysis of Drinking Water</i>	February 2016		NECi, Rev. 2.0
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-NO ₂ ⁻ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-NO ₂ ⁻ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-NO ₂ ⁻ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-NO ₂ ⁻ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-NO ₂ ⁻ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-NO ₂ ⁻ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-NO ₃ ⁻ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-NO ₃ ⁻ F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4110 B-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods
4500-NO ₂ ⁻ B-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods
4500-NO ₃ ⁻ E-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods
4500-NO ₃ ⁻ F-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods
Systema Easy (1-Reagent)	Systema Scientific LLC	<i>Systema Easy (1-Reagent) Nitrate Method</i>	February 4, 2009		Systema Easy (1-Reagent)
B-1011	Waters Corp.	<i>Waters Test Method for Determination of Nitrite/Nitrate in Water using Single Column Ion Chromatography</i>	August 1987		Waters Corporation

Orthophosphate

Unfiltered, no digestion or hydrolysis

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D4327-97	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	1997		ASTM International
D4327-03	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	2003		ASTM International
D4327-11	ASTM International	<i>Standard Test Method for Anions in Water by Suppressed Ion Chromatography</i>	2011		ASTM International
D6508-00	ASTM International	<i>Standard Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices using Capillary Ion Electrophoresis and Chromate Electrolyte</i>	2000		ASTM International
D6508-15	ASTM International	<i>Standard Test Method for Determination of Dissolved Inorganic Anions in Aqueous Matrices using Capillary Ion Electrophoresis and Chromate Electrolyte</i>	2015		ASTM International
D515-88 A	ASTM International	<i>Test Methods for Phosphorus in Water</i>	1988		ASTM International
300.0, Rev. 2.1	EPA	<i>In Methods for the Determination of Inorganic Substances in Environmental Samples</i>	August 1993	EPA/600/R-93/100	National Environmental Methods Index
300.1, Rev. 1.0	EPA	<i>In Methods for the Determination of Organic and Inorganic Compounds in Drinking Water, Vol. 1</i>	August 2000	EPA 815-R-00-014	National Environmental Methods Index
365.1, Rev. 2.0	EPA	<i>In Methods for the Determination of Inorganic Substances in Environmental Samples</i>	August 1993	EPA/600/R-93/100	National Environmental Methods Index

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4110 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-P E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-P E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-P E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-P E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-P E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-P E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-P F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-P F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-P F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-P F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-P F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-P F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4110 B-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods
4500-P E-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
4500-P F-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
Thermo Fisher Discrete Analyzer, Rev. 5	Thermo Fisher Scientific	<i>Thermo Fisher Scientific Orthophosphate Discrete Analyzer Method for Drinking Water</i>	2016		Thermo Fisher Orthophosphate Method, Rev. 5.0

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
I-1601-85	US Geological Survey	In <i>Methods for Determination of Inorganic Substances in Water and Fluvial Sediments</i> , USGS Series: Techniques of Water-Resource Investigation Report; edited by Fishman, M.J. and Friedman, L.C.	1989		USGS
I-2598-85	US Geological Survey	In <i>Methods for Determination of Inorganic Substances in Water and Fluvial Sediments</i> , USGS Series: Techniques of Water-Resource Investigation Report; edited by Fishman, M.J. and Friedman, L.C.	1989		USGS
I-2601-90	US Geological Survey	In <i>Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory; Determination of Inorganic and Organic Constituents in Water and Fluvial Sediments</i> , USGS Series: Open-file Report; edited by M.J. Fishman	1993		USGS

pH

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D1293-95	ASTM International	<i>Standard Test Methods for pH of Water</i>	1995		ASTM International
D1293-99	ASTM International	<i>Standard Test Methods for pH of Water</i>	1999		ASTM International
D1293-12	ASTM International	<i>Standard Test Methods for pH of Water</i>	2012		ASTM International
150.1	EPA	In <i>Methods for Chemical Analysis of Water and Wastes</i>	March 1983	EPA/600/4-79/020	National Environmental Methods Index
150.2	EPA	In <i>Methods for Chemical Analysis of Water and Wastes</i>	March 1983	EPA/600/4-79/020	National Environmental Methods Index
150.3	EPA	<i>Determination of pH in Drinking Water</i>	February 2017	EPA-815-B-17-001	EPA-815-B-17-001
4500-H ⁺ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater</i> , 18 th Edition	1992		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-H ⁺ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-H ⁺ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-H ⁺ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-H ⁺ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-H ⁺ B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-H ⁺ B-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods

Selenium

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA's digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D3859-98 A	ASTM International	<i>Standard Test Methods for Selenium in Water – Atomic Absorption, Hydride Generation</i>	1998		ASTM International
D3859-03 A	ASTM International	<i>Standard Test Methods for Selenium in Water – Atomic Absorption, Hydride Generation</i>	2003		ASTM International
D3859-08 A	ASTM International	<i>Standard Test Methods for Selenium in Water – Atomic Absorption, Hydride Generation</i>	2008		ASTM International

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D3859-15 A	ASTM International	<i>Standard Test Methods for Selenium in Water – Atomic Absorption, Hydride Generation</i>	2015		ASTM International
D3859-98 B	ASTM International	<i>Standard Test Methods for Selenium in Water – Atomic Absorption, Graphite Furnace</i>	1998		ASTM International
D3859-03 B	ASTM International	<i>Standard Test Methods for Selenium in Water – Atomic Absorption, Graphite Furnace</i>	2003		ASTM International
D3859-08 B	ASTM International	<i>Standard Test Methods for Selenium in Water – Atomic Absorption, Graphite Furnace</i>	2008		ASTM International
D3859-15 B	ASTM International	<i>Standard Test Methods for Selenium in Water – Atomic Absorption, Graphite Furnace</i>	2015		ASTM International
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.8, Rev. 5.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3113 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3114 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3114 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3114 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3114 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3114 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3113 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
3113 B-04	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2004		Standard Methods
3113 B-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the	2010		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		regulations or in Appendix A to Subpart C of Part 141 are approved.			
3114 B-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods
3114 B-09	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2009		Standard Methods

Silica

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D859-94	ASTM International	<i>Standard Test Method for Silica in Water</i>	1994		ASTM International
D859-00	ASTM International	<i>Standard Test Method for Silica in Water</i>	2000		ASTM International
D859-05	ASTM International	<i>Standard Test Method for Silica in Water</i>	2005		ASTM International
D859-10	ASTM International	<i>Standard Test Method for Silica in Water</i>	2010		ASTM International
D859-16	ASTM International	<i>Standard Test Method for Silica in Water</i>	2016		ASTM International
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.7, Rev. 4.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
		Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.			
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3120 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-Si D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-Si D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-Si E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-Si E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-Si F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
4500-Si F	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
4500-SiO ₂ C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-SiO ₂ C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-SiO ₂ C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-SiO ₂ C	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-SiO ₂ D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-SiO ₂ D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-SiO ₂ D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
4500-SiO ₂ D	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
4500-SiO ₂ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
4500-SiO ₂ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
4500-SiO ₂ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
4500-SiO ₂ E	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater</i> , 23 rd Edition	2017		Standard Methods
3120 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods
4500-SiO ₂ C-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods
4500-SiO ₂ D-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods
4500-SiO ₂ E-97	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1997		Standard Methods
I-1700-85	US Geological Survey	In <i>Methods for Determination of Inorganic Substances in Water and Fluvial Sediments</i> , USGS Series: Techniques of Water-Resource Investigation Report; edited by Fishman, M.J. and Friedman, L.C.	1989		USGS
I-2700-85	US Geological Survey	In <i>Methods for Determination of Inorganic Substances in Water and Fluvial Sediments</i> , USGS Series: Techniques of Water-Resource Investigation Report; edited by Fishman, M.J. and Friedman, L.C.	1989		USGS

Sodium

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA's digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](http://www.epa.gov/epa/600/R-94/173)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
D6919-03	ASTM International	<i>Standard Test Method for Determination of Dissolved Alkali and Alkaline Earth Cations and Ammonium in Water and Wastewater by Ion Chromatography</i>	2003		ASTM International
D6919-09	ASTM International	<i>Standard Test Method for Determination of Dissolved Alkali and Alkaline Earth Cations and Ammonium in Water and Wastewater by Ion Chromatography</i>	2009		ASTM International
200.5, Rev. 4.2	EPA	<i>Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma – Atomic Emission Spectrometry</i>	October 2003	EPA/600-R-06/115	EPA/600-R-06/115
200.7, Rev. 4.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: MDLs reported in Methods 200.7 and 200.9 were determined using a 2X preconcentration step during sample digestion; MDLs determined by direct analysis (i.e., no sample digestion) will be higher.	May 1994	EPA/600/R-94/111	National Environmental Methods Index
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
3111 B	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods
3111 B-99	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	1999		Standard Methods

Temperature

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
2550	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 18th Edition</i>	1992		Standard Methods
2550	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 19th Edition</i>	1995		Standard Methods
2550	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 20th Edition</i>	1998		Standard Methods
2550	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 21st Edition</i>	2005		Standard Methods
2550	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 22nd Edition</i>	2012		Standard Methods
2550	Standard Methods	<i>Standard Methods for the Examination of Water and Wastewater, 23rd Edition</i>	2017		Standard Methods

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
2550-00	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2000		Standard Methods
2550-10	Standard Methods Online	Online version. Approval year is designated by the last 2 digits. Only online versions cited in the regulations or in Appendix A to Subpart C of Part 141 are approved.	2010		Standard Methods

Thallium

Criteria for analyzing arsenic, barium, beryllium, cadmium, calcium, chromium, copper, lead, nickel, selenium, sodium and thallium with digestion or directly without digestion, and other analytical test procedures are contained in *Technical Notes on Drinking Water Methods* (EPA/600/R-94/173), available through EPA’s digital publications National Environmental Publications Internet Site ([EPA/600/R-94/173](#)).

Method	Organization	Reference Title	Date	EPA Publication Number	Source of Method
200.8, Rev. 5.4	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i>	May 1994	EPA/600/R-94/111	National Environmental Methods Index
200.9, Rev. 2.2	EPA	<i>In Methods for the Determination of Metals in Environmental Samples, Supplement I</i> Note: Preconcentration may be required for direct analysis of thallium by Method 200.9	May 1994	EPA/600/R-94/111	National Environmental Methods Index