



Water Standards

ISO 9001:2015 Registered • ISO/IEC 17025:2005 Accredited • ISO 17034:2016 Accredited

Water Standards

We offer standards designed to be used in laboratory performance evaluation, quality control, and method development when conducting drinking water, wastewater, soil, or hazardous waste analysis. Included in this category are solutions designed to simulate natural or polluted water.

Wastewater Standards			
Components	Concentration*	Matrix	Part #
Mercury**	0.001 µg/mL	10% HNO ₃ + Tr HF	CWW-TM-A
Antimony, Arsenic, Beryllium, Cadmium, Selenium, Silver, Thallium	0.010 µg/mL		
Aluminum, Barium, Boron, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Strontium, Vanadium, Zinc	0.050 µg/mL		
Mercury**	0.005 µg/mL	10% HNO ₃ + Tr HF	CWW-TM-B
Antimony, Arsenic, Beryllium, Cadmium, Selenium, Silver, Thallium	0.050 µg/mL		
Aluminum, Barium, Boron, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Strontium, Vanadium, Zinc	0.200 µg/mL		
Mercury**	0.010 µg/mL	10% HNO ₃ + Tr HF	CWW-TM-C
Antimony, Arsenic, Beryllium, Cadmium, Selenium, Silver, Thallium	0.150 µg/mL		
Aluminum, Barium, Boron, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Strontium, Vanadium, Zinc	0.500 µg/mL		
Mercury**	0.020 µg/mL	10% HNO ₃ + Tr HF	CWW-TM-D
Antimony, Arsenic, Beryllium, Cadmium, Selenium, Silver, Thallium	0.250 µg/mL		
Aluminum, Barium, Boron, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Strontium, Vanadium, Zinc	1 µg/mL		
Mercury**	0.001 µg/mL	10% HNO ₃ + Tr HF	CWW-TM-E
Antimony, Arsenic, Beryllium, Selenium, Silver, Thallium	0.005 µg/mL		
Aluminum, Barium, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Strontium, Vanadium, Zinc	0.025 µg/mL		
Arsenic, Beryllium, Cadmium, Selenium	0.005 µg/mL	10% HNO ₃ + Tr HF	CWW-TM-F
Mercury**	0.020 µg/mL		
Aluminum, Cobalt, Iron, Manganese, Molybdenum, Strontium, Thallium, Vanadium	0.025 µg/mL		
Antimony, Silver	0.250 µg/mL		
Barium, Boron, Chromium, Copper, Lead, Nickel, Zinc	1 µg/mL		
Antimony, Mercury**, Silver, Thallium	0.005 µg/mL	10% HNO ₃ + Tr HF	CWW-TM-G
Barium, Boron, Chromium, Copper, Lead, Zinc	0.025 µg/mL		
Arsenic, Beryllium, Cadmium, Nickel, Selenium	0.250 µg/mL		
Aluminum, Cobalt, Iron, Manganese, Molybdenum, Strontium, Vanadium	1 µg/mL		
Mercury**	0.001 µg/mL	10% HNO ₃ + Tr HF	CWW-TM-H
Beryllium, Silver	0.020 µg/mL		
Selenium	0.050 µg/mL		
Aluminum, Arsenic, Barium, Cadmium, Manganese, Molybdenum, Strontium	0.100 µg/mL		
Antimony	0.200 µg/mL		
Boron, Iron, Thallium	0.250 µg/mL		
Chromium, Cobalt, Copper, Lead, Nickel, Vanadium, Zinc	0.500 µg/mL		

* Concentrations found when each 10 mL sample is diluted to one liter.

** The concentration of mercury cannot be guaranteed for any extended period of time due to the nature of the element.

Wastewater Standards - Trace Metals

Components	Concentration	Matrix	Volume	Part #		
Silver	2 µg/L	2% HNO ₃ + Tr HF	100 mL	CRM-TMDW-100		
Tellurium	3 µg/L					
Antimony, Bismuth, Cadmium, Rubidium, Selenium, Thallium, Uranium	10 µg/L					
Beryllium, Chromium, Copper, Lithium	20 µg/L					
Cobalt	25 µg/L					
Vanadium	30 µg/L					
Lead, Manganese	40 µg/L					
Barium	50 µg/L					
Nickel	60 µg/L				250 mL	CRM-TMDW-250
Zinc	70 µg/L					
Arsenic	80 µg/L				500 mL	CRM-TMDW-500
Iron, Molybdenum	100 µg/L					
Aluminum	120 µg/L					
Strontium	250 µg/L					
Potassium	2,500 µg/L					
Sodium	6,000 µg/L					
Magnesium	9,000 µg/L					
Calcium	35,000 µg/L					
Silver	2 µg/L	2% HNO ₃ + Tr HF	100 mL	CRM-TMDW-A-100		
Cadmium, Thallium	10 µg/L					
Selenium	11 µg/L					
Beryllium, Lithium	15 µg/L					
Chromium, Copper, Lead	20 µg/L					
Cobalt	25 µg/L					
Vanadium	35 µg/L					
Manganese	40 µg/L					
Antimony, Arsenic	55 µg/L				250 mL	CRM-TMDW-A-250
Nickel	60 µg/L					
Zinc	75 µg/L				500 mL	CRM-TMDW-A-500
Iron	90 µg/L					
Molybdenum	110 µg/L					
Aluminum	125 µg/L					
Boron	150 µg/L					
Strontium	300 µg/L					
Barium	500 µg/L					
Sodium	2,300 µg/L					
Potassium	2,500 µg/L					
Magnesium	8,000 µg/L					
Calcium	31,000 µg/L					

Wastewater Standards - Trace Metals (cont'd)

Components	Concentration	Matrix	Volume	Part #		
Silver	2 µg/L	2% HNO ₃ + Tr HF	100 mL	CRM-TMDW-B-100		
Arsenic, Cadmium, Thallium	10 µg/L					
Selenium	11 µg/L					
Beryllium, Lithium	15 µg/L					
Chromium, Copper, Lead	20 µg/L					
Cobalt	25 µg/L					
Vanadium	35 µg/L					
Manganese	40 µg/L					
Antimony	55 µg/L					
Nickel	60 µg/L				250 mL	CRM-TMDW-B-250
Zinc	75 µg/L					
Iron	90 µg/L				500 mL	CRM-TMDW-B-500
Molybdenum	110 µg/L					
Aluminum	125 µg/L					
Boron	150 µg/L					
Strontium	300 µg/L					
Barium	500 µg/L					
Potassium	2,500 µg/L					
Magnesium	8,000 µg/L					
Sodium	22,000 µg/L					
Calcium	31,000 µg/L					

Wastewater Standards - Nutrient Solutions

Components	Concentration*	Matrix	Volume	Part #
Nitrogen from NH ₄ Cl	1 µg/mL	H ₂ O	10 mL	CWW-N-A
Nitrogen from NaNO ₂ + NaNO ₃				
Phosphorus from Na ₂ HPO ₄				
Nitrogen from NH ₄ Cl	15 µg/mL	H ₂ O	10 mL	CWW-N-B
Nitrogen from NaNO ₂ + NaNO ₃				
Phosphorus from Na ₂ HPO ₄				
Nitrogen from NH ₄ Cl	25 µg/mL	H ₂ O	10 mL	CWW-N-C
Nitrogen from NaNO ₂ + NaNO ₃				
Phosphorus from Na ₂ HPO ₄				
Nitrogen from NH ₄ Cl	10 µg/mL	H ₂ O	10 mL	CWW-N-C
Nitrogen from NaNO ₂ + NaNO ₃				
Phosphorus from Na ₂ HPO ₄				

Wastewater Standards - Cyanide Solutions

Components	Concentration**	Matrix	Volume	Part #
Complex Cyanide	0.1 µg/mL	0.5% KOH	10 mL	CWW-CN-B
Free Cyanide				
Total Cyanide				
Complex Cyanide	0.5 µg/mL	0.5% KOH	10 mL	CWW-CN-C
Free Cyanide				
Total Cyanide				
Complex Cyanide	0.02 µg/mL	0.5% KOH	10 mL	CWW-CN-D
Free Cyanide				
Total Cyanide				
Complex Cyanide	0.35 µg/mL	0.5% KOH	10 mL	CWW-CN-F
Free Cyanide				
Total Cyanide				
Complex Cyanide	0.7 µg/mL	0.5% KOH	10 mL	CWW-CN-F
Free Cyanide				
Total Cyanide				

* Concentrations found when each 10 mL sample is diluted to one liter.

** Concentrations found when each 10 mL sample is diluted to two liters.

Wastewater Standards - Demand Solutions

Component	Concentration*	Matrix	Volume	Part #
Total Organic Carbon	1 µg/mL	H ₂ O	5 mL	CWW-TOC-A
Total Organic Carbon	10 µg/mL	H ₂ O	5 mL	CWW-TOC-B
Total Organic Carbon	20 µg/mL	H ₂ O	5 mL	CWW-TOC-C
Total Organic Carbon	30 µg/mL	H ₂ O	5 mL	CWW-TOC-D
Total Organic Carbon	40 µg/mL	H ₂ O	5 mL	CWW-TOC-E
Total Organic Carbon	50 µg/mL	H ₂ O	5 mL	CWW-TOC-F
Total Organic Carbon	100 µg/mL	H ₂ O	5 mL	CWW-TOC-G

Primary Drinking Water Metals

Components		Concentration	Matrix	Volume	Part #
Solution A	Silver	10 µg/mL	2% HNO ₃ + Tr HF	100 mL	DWPS-100
	Barium, Cadmium, Selenium	50 µg/mL		250 mL	DWPS-250
	Arsenic, Chromium, Lead	100 µg/mL		500 mL	DWPS-500
Solution B	Mercury	20 µg/mL	5% HNO ₃		

Secondary Drinking Water Metals

Components		Concentration	Matrix	Volume	Part #
Copper, Manganese, Zinc		50 µg/mL	2% HNO ₃	100 mL	DWSS-100
				250 mL	DWSS-250
Iron		100 µg/mL		500 mL	DWSS-500

Simulated Rain Water

Components	Concentration**	pH @ 25° C	Specific Conductance @ 25° C	Matrix	Volume	Part #
Ammonium	0.1 mg/L	4.3	26 µS/cm	H ₂ O	5 each x 50 mL	SR-1-250
Calcium	0.01 mg/L					
Chloride	0.25 mg/L					
Flouride, Potassium	0.05 mg/L					
Magnesium	0.02 mg/L					
Nitrate	0.5 mg/L					
Sodium	0.2 mg/L					
Sulfate	2.5 mg/L					
Ammonium, Chloride	1 mg/L	3.6	130 µS/cm	H ₂ O	5 each x 50 mL	SR-2-250
Calcium	0.05 mg/L					
Flouride, Potassium	0.1 mg/L					
Magnesium	0.05 mg/L					
Nitrate	7 mg/L					
Sodium	0.4 mg/L					
Sulfate	11 mg/L					

* Concentrations found when each 5 mL sample is diluted to one liter.

** Concentrations are the targeted values for each level.

Simulated Sea Water

Components		Concentration	Matrix	Volume	Part #
Primary Components	Silicon	4 mg/kg	2% HNO ₃	100 mL	CRM-SW-100
	Boron	5 mg/kg			
	Strontium	12 mg/kg			
	Carbon	30 mg/kg			
	Potassium	380 mg/kg			
	Calcium	400 mg/kg			
	Sulfur	900 mg/kg			
	Magnesium	1,250 mg/kg			
	Sodium	10,500 mg/kg			
	Chloride	19,000 mg/kg			
Trace Components	Gold	0.000006 mg/kg	2% HNO ₃	250 mL	CRM-SW-250
	Mercury	0.00003 mg/kg			
	Scandium	0.00004 mg/kg			
	Cadmium, Nickel	0.0001 mg/kg			
	Chromium, Silver, Vanadium	0.0003 mg/kg			
	Selenium	0.0004 mg/kg			
	Molybdenum	0.0005 mg/kg			
	Uranium	0.0015 mg/kg			
	Lead	0.004 mg/kg			
	Zinc	0.005 mg/kg			
	Copper, Manganese	0.01 mg/kg			
	Arsenic, Iron	0.02 mg/kg			
	Barium, Iodide	0.05 mg/kg			
	Lithium, Phosphorus	0.1 mg/kg			
	Rubidium	0.2 mg/kg			
	Aluminum	0.5 mg/kg			

