

TRACE METALS

SAMPLING CONTAINERS & HOLDING TIMES

Parameter	Matrix	Prep Method	Analytical Method	Holding Time ²	Minimum Volume	Water Sampling	
						Container	Preservative ³
Cations	Water	EPA 3010	EPA 6010	6 mo	100 mL	250mL P	HNO ₃
		EPA 200.7	EPA 200.7	6 mo	100 mL	250mL P	HNO ₃
		EPA 200.8	EPA 6020	6 mo	100 mL	250mL P	HNO ₃
		EPA 200.8	EPA 200.8	6 mo	100 mL	250mL P	HNO ₃
	Soil	EPA 3050	EPA 6010	6 mo	2 g		
		EPA 3050	EPA 6020	6 mo	2 g		
ICP Metals	Water	EPA 3010	EPA 6010	6 mo	100 mL	250mL P	HNO ₃
		EPA 200.7	EPA 200.7	6 mo	100 mL	250mL P	HNO ₃
	Soil	EPA 3050	EPA 6010	6 mo	2 g		
ICP-MS Metals	Water	EPA 200.8	EPA 6020	6 mo	100 mL	250mL P	HNO ₃
		EPA 200.8	EPA 200.8	6 mo	100 mL	250mL P	HNO ₃
	Soil	EPA 3050	EPA 6020	6 mo	2 g		
Hexavalent Chromium	Water	METHOD ¹	EPA 7196A	24 hr	100 mL	500 mL P	None
		METHOD ¹	EPA 7199	24 hr	50 mL	250 mL P	None
	Soil	METHOD ¹	EPA 7196A	30 days	40 g		
Lead	Water	EPA 3010	EPA 6010	6 mo	100 mL	250mL P	HNO ₃
		EPA 200.7	EPA 200.7	6 mo	100 mL	250mL P	HNO ₃
		EPA 200.8	EPA 6020	6 mo	100 mL	250mL P	HNO ₃
		EPA 200.8	EPA 200.8	6 mo	100 mL	250mL P	HNO ₃
	Soil	EPA 3050	EPA 6010	6 mo	2 g		
		EPA 3050	EPA 6020	6 mo	2 g		
Lead in High Volume Air Filters	Air	METHOD ¹	EPA 7420	NS	Varies		
Mercury	Water	METHOD ¹	EPA 7470	28 days	100 mL	250mL P	HNO ₃
		METHOD ¹	EPA 245.1	28 days	100 mL	250mL P	HNO ₃
	Soil	METHOD ¹	EPA 7471	28 days	0.5 g		
Organic Lead	Water	CA LUFT ¹	CA LUFT ¹	14 days	100 mL	500mL G	None
	Soil	CA LUFT ¹	CA LUFT ¹	14 days	50 g		
Priority Pollutant Metals	Water	EPA 3010/ Method ¹	EPA 6010/ 7470	6 mo/ 28d ⁴	100 mL	500mL P	HNO ₃
		EPA 200.8/ Method ¹	EPA 6020/ 7470	6 mo/ 28d ⁴	100 mL	500mL P	HNO ₃

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Priority Pollutant Metals	Soil	EPA 3050/ Method ¹	EPA 6010/ 7471	6 mo/ 28d ⁴	5 g		
		EPA 3050/ Method ¹	EPA 6020/ 7471	6 mo/ 28d ⁴	5 g		
RCRA (8) Metals	Water	EPA 3010/ Method ¹	6010/ 6020/ 7470	6 mo/ 28d ⁴	100 mL	500mL P	HNO ₃
	Soil	EPA 3050/ Method ¹	6010/ 6020/ 7471	6 mo/ 28d ⁴	5 g		
STLC Extraction for CA-W.E.T.	Soil	CCR T22-66261	6010/ 6020/ 7470	6 mo/ 28d ⁴	50 g		
SPLP Extraction for Metals	Soil	EPA 1312	6010/ 6020/ 7470	6 mo/ 28d ⁴	100 g ⁵		
TCLP Extraction for Metals	Soil	EPA 1311	6010/ 6020/ 7470	6 mo/ 28d ⁴	100 g ⁵		
TCLP Extraction for SVOC	Soil	EPA 1311	Various	14 days	100 g ⁵		
TCLP-ZHE Extraction for VOC	Soil	EPA 1311	Various	14 days	25 g		
CA Title 22 Metals (CAM 17)	Water	EPA 3010/ Method ¹	EPA 6010/ 7400	6 mo/ 28d ⁴	100 mL	500mL P	HNO ₃
		EPA 200.8/ Method ¹	EPA 6020/ 7400	6 mo/ 28d ⁴	100 mL	500mL P	HNO ₃
	Soil	EPA 3050/ Method ¹	EPA 6010/ 7400	6 mo/ 28d ⁴	5 g		
		EPA 3050/ Method ¹	EPA 6020/ 7400	6 mo/ 28d ⁴	5 g		
Tributyl Tin ("Organotin")	Water	EPA 3520	GC/ FPD	NS	1 L	1L G	None
	Soil	EPA 3550	GC/ FPD	NS	10 g		

Notes:

- "Method" indicates that the prep method is an integral part of the referenced analytical method.
"NS" indicates that no holding time is specified in the regulations.
- Holding time specified in 40CFR136 Table 2 (Clean Water Act/ NPDES 2012) and SW-846 Table 2-36 (1996)
Requires submission of two polyethylene bottles, one preserved with HCl and one with HNO₃.
- Samples should be kept at ≤ 6⁰C from time of collection until analysis. Containers can be supplied by C&T.
HCL: Hydrochloric Acid to pH < 2
HNO₃: Nitric Acid to pH < 2
H₂SO₄: Sulfuric Acid to pH < 2
NaOH: Sodium Hydroxide to pH > 12
ZnAc: Zinc Acetate
- 28 day holding time for Mercury; 6 month holding time for all ICP and ICP-MS metals.
- 100g minimum for TCLP or SPLP Extraction. 50g required for each analysis.

Legend:

- mg/L milligrams per liter (ppm)
 µg/L micrograms per liter (ppb)
 mg/Kg milligrams per kilogram (ppm)
 µg/Kg micrograms per kilogram (ppb)
 VOA 40mL Amber VOA Vial
 G Amber Glass
 P Polyethylene