

Tables of Holding Time and Preservation

Volatile Organics in Water					
<i>Parameter</i>	<i>Method</i>	<i>Holding Time</i>	<i>Min. Vol. (mL)</i>	<i>Container Type</i>	<i>Preservation</i>
GRO	8015B	14 days*	40	3 x 40 mL vials with Teflon lined septum caps	HCL, pH < 2, add 1000 mg ascorbic acid/L if residual chlorine present, 4 °C
TPH(g)/BTEX/MTBE	8015B (GRO), 8021B (BTEX/MTBE)	14 days*	40	3 x 40 mL vials with Teflon lined septum caps	HCL, pH < 2, add 1000 mg ascorbic acid/L if residual chlorine present, 4 °C
Purgeable Halocarbons/ Aromatics	8260B (8021B list)	14 days*	40	3 x 40 mL vials with Teflon lined septum caps	HCL, pH < 2, add 1000 mg ascorbic acid/L if residual chlorine present, 4 °C
VOCs (Volatile Organic Compounds)	8260B/624	14 days*	40	3 x 40 mL vials with Teflon lined septum caps	HCL, pH < 2, add 1000 mg ascorbic acid/L if residual chlorine present, 4 °C

Note: * 7 days without HCl

Volatile Organics in Soil					
<i>Parameter</i>	<i>Method</i>	<i>Holding Time</i>	<i>Min. Wt. (g)</i>	<i>Container Type</i>	<i>Preservation</i>
GRO	8015B	14 days	5	4 oz glass jar w/Teflon lid	4°C
GRO(EnCore)	5035/8015B	48 hours	(3) 5g/sample	(3) 5g EnCORE sampler	4°C
GRO (NaHSO ₄ preserved)	5035/8015B	14 days	(3) 5g/sample	2 pre-weighed NaHSO ₄ preserved VOA + 1 pre-weighed MeOH preserved VOA	4°C, NaHSO ₄ , MeOH
Purgeable Halocarbons/Aromatics	8260(8021B list)	14 days	5	4 oz glass jar w/Teflon lid	4°C
GRO/BTEX/MTBE	8015B/8021B	14 days	5	4 oz glass jar w/Teflon lid	4°C
TPH(g) (EnCORE)	5035/8015B (M)	48 hours	(3) 5g/sample	(3) 5g EnCORE sampler	4°C
TPH(g) (NaHSO ₄ & MeOH preserved)	5035/8015B (M)	14 days	(3) 5g/sample	2 pre-weighed NaHSO ₄ preserved VOA + 1 pre-weighed MeOH preserved VOA	4°C, NaHSO ₄ , MeOH
VOCs	8260B	14 days	5	4 oz glass jar w/Teflon lid	4°C
VOCs (EnCORE)	5035/8260B	48 hours	(3) 5g/sample	(3) 5g EnCORE sampler	4°C
VOCs (NaHSO ₄ & MeOH preserved)	5035/8260B	14 days	(3) 5g/sample	2 pre-weighed NaHSO ₄ preserved VOA + 1 pre-weighed MeOH preserved VOA	4°C, NaHSO ₄ , MeOH



Semivolatile Organics in Water					
Parameter	Method	Holding Time	Min. Vol. (mL)	Container Type	Preservation
DRO	8015B	7*	1000	1 L amber glass	4 °C**
Pesticides, Organochlorine	8081A/608	7*	1000	1 L amber glass	4 °C**
1.1 PCBs	8082/608	7*	1000	1 L amber glass	4 °C**
SVOCs (BNAs)	625/8270C	7*	1000	1 L amber glass	4 °C**
1,4-Dioxane	8270C Isotope Dilution	7*	1000	1 L amber glass	4 °C**
TPH (d)	8015B (M)	7*	1000	1 L amber glass	4 °C**
TPH-CC (C8-C40)	8015B (M)	7*	1000	1 L amber glass	4 °C**

Note: * 7 days for extraction, 40 days after extraction for analysis. ** If sampling from location where residual chlorine is present, samples have to be treated with sodium thiosulfate (Na₂S₂O₃)

Semivolatile Organics in Soil					
Parameter	Method	Holding Time	Min. Vol. (g)	Container Type	Preservation
DRO	EPA 8015B	14*	30	4 oz glass jar w/Teflon lid	4°C
PCBs	EPA 8082	14*	30	4 oz glass jar w/Teflon lid	4°C
Pesticides, Organochlorine	EPA 8081A	14*	30	4 oz glass jar w/Teflon lid	4°C
SVOCs (BNAs)	EPA 8270C	14*	30	4 oz glass jar w/Teflon lid	4°C
TPH(d)	EPA 8015B(M)	14*	15	4 oz glass jar w/Teflon lid	4°C
TPH-CC (C8-C40)	EPA 8015B(M)	14*	15	4 oz glass jar w/Teflon lid	4°C

Note: * 14 days for extraction, 40 days for analysis



General Chemistry Water					
Parameter	Method	Holding Time	Minimum Volume (mL)	Sample Volume & Container Type	Preservation
Acidity	SM 2310B	14 days	100	125 mL, 4oz plastic or glass	Cool, 4 °C
Alkalinity	SM 2320B	14 days	100	125 mL, 4oz plastic or glass	Cool, 4 °C
Ammonia	SM 4500-NH3C	28 days	100	500 mL, plastic or glass	Cool, 4 °C, H2SO4 to pH < 2
Biochemical Oxygen Demand	SM5210B	48 hours	300	1 L, plastic or glass	Cool, 4 °C
Bromide	300.0	28 days	50	125 mL, 4oz plastic	Cool, 4 °C
cBOD	SM5210B	48 hours	300	1 L, 32oz plastic	Cool, 4 °C
Chemical Oxygen Demand	410.4	28 days	50	125 mL, 4oz plastic	Cool, 4 °C, H2SO4 to pH < 2
Chloride	SM 4500-Cl- C, 300.0	28 days	50	125 mL, 4oz plastic	Cool, 4 °C
Chlorine, Free	SM4500CLG	15 mins	100	500 mL, plastic or glass	Cool, 4 °C
Chlorine, Total Residual	SM4500CLG	15 mins	100	500 mL, plastic or glass	Cool, 4 °C
Color	SM2120B	48 hours	100	250 mL, 8oz plastic or glass	Cool, 4 °C
Cyanide, Amenable	SM 4500-CN G	14 days	250	250 mL, 8oz plastic	Cool, 4 °C; if oxidizing agents present add 0.6 g of ascorbic acid per L; adjust pH > 12 with 10N NaOH.
Cyanide, Total	SM 4500-CN G 9014	14 days	250	250 mL, 8oz plastic	Cool, 4 °C; if oxidizing agents present add 0.6 g of ascorbic acid per L; adjust pH > 12 with 10N NaOH.
Flashpoint	1010	14 days	100	250 mL, 8oz plastic	None
Fluoride	SM 4500-F C, 300.0	28 days	50	250 mL, 8oz plastic	None
Hardness	SM2340 C SM2340B	6 months	100	125 mL, 4oz plastic or glass	HNO ₃ , pH < 2
Nitrate	300.0, SM 4500 NO3 E	48 Hours	50	125 mL, 4oz plastic or glass	Cool, 4 °C
Nitrate-Nitrite	SM 4500-NO3 E	28 days	50	125 mL, 4oz plastic or glass	Cool, 4 °C, H2SO4 to pH < 2
Nitrite	300.0; SM 4500-NO2 B	48 hours	50	125 mL, 4oz plastic or glass	Cool, 4 °C
Oil and Grease - HEM	1664	28 days	1000	32oz, glass	Cool, 4 °C, H2SO4 to pH < 2



General Chemistry Water (continued)					
Parameter	Method	Holding Time	Minimum Volume (mL)	Sample Volume & Container Type	Preservation
Oxygen, Dissolved	360.1, SM4500-O G	15 mins	50	250 mL, glass or BOD bottle	None
Perchlorate	314.0	28	50	125 ml HDPE	4°C
pH	SM 4500-H+ B	15 mins	50	125 mL, 4oz plastic or glass	None required
Phenolics	420.1	28 days	100	500 mL amber	Cool, 4 °C, H2SO4 to pH < 2
Phosphate,Ortho	300.0; 365.3; SM 4500-P E	48 hours	50	125 mL, 4oz plastic	Cool, 4 °C
Phosphorus, Total	365.3; SM4500-PE	28 days	100	125 mL, 4oz plastic	Cool, 4 °C, H2SO4 to pH < 2
Solids, Total (TS)	SM 2540 B	7 days	200	250 mL, 8oz plastic	Cool, 4 °C
Solids, Total Dissolved (TDS)	SM 2540 C	7 days	200	250 mL, 8oz plastic	Cool, 4 °C
Solids, Total Suspended (TSS)	SM 2540 D	7 days	200	250 mL, 8oz plastic	Cool, 4 °C
Solids, Settleable (SS)	SM 2540 F	48 hours	1000	1 L , 32oz plastic	Cool, 4 °C
Solids, Volatile (VS)	160.4	7 days	200	250 mL, 8oz plastic	Cool, 4 °C
Specific Conductance	120.1	24 hours	50	125 mL, 4oz plastic or glass	Cool, 4 °C
Sulfate	300.0	28 days	50	125 mL, 4oz plastic or glass	Cool, 4 °C
Sulfide, Dissolved	SM 4500-S-2 D	7 days	100	125 mL, Plastic	NaOH + AlCl3, flocculate + settle. Transfer liquid, preserve w/ zinc acetate, pH > 9. Cool, 4 °C
Sulfide, Total	SM 4500-S-2 D	7 days	100	500 mL, Plastic or Glass	Cool, 4 °C, add zinc acetate, pH > 9
Surfactants (MBAS)	SM 5540 C	48 hours	200	250 mL, 8oz plastic	Cool, 4 °C
Total Organic Carbon (TOC)	SM 5310B	28 days	40	40 mL VOA	Cool, 4 °C, H2SO4 to pH < 2
Total Organic Halides (TOX)	9020	28 days	200	500 mL, amber glass	Cool, 4 °C, H2SO4 to pH < 2
TRPH	1664	28 days	1000	1 L, glass	Cool, 4 °C, H2SO4 to pH < 2
Turbidity	180.1	48 Hours	50	125 mL, plastic or glass	Cool, 4 °C



General Chemistry Soil					
Parameter	Method	Holding Time	Minimum Weight (g)	Sample Volume & Container Type	Preservation
Alkalinity	310.1(M)	14 days	20	4 oz glass jar w/Teflon lid	4°C
Bromide	300.0(M)	28 days	10	4 oz glass jar w/Teflon lid	4°C
Chemical Oxygen Demand (COD)	410.4(M)	28 days	10	4 oz glass jar w/Teflon lid	4°C
Chloride	300.0(M)	28 days	10	4 oz glass jar w/Teflon lid	4°C
Chromium IV (Hexavalent Chromium)	7196A	21 days	10	4 oz glass jar w/Teflon lid	4°C
Cyanide, Amenable	9010B/9014	14 days	20	4 oz glass jar w/Teflon lid	4°C
Cyanide, Reactive	SW 846 Ch.7	14 days	10	4 oz glass jar w/Teflon lid	4°C
Cyanide, Total	9010B/9014	14 days	10	4 oz glass jar w/Teflon lid	4°C
Ignitability (Flashpoint)	1010	14 days	20	4 oz glass jar w/Teflon lid	4°C
Moisture Content	ASTM D2216	ASAP	10	4 oz glass jar w/Teflon lid	4°C
Nitrogen, Nitrate	300.0(M)	48 hours	10	4 oz glass jar w/Teflon lid	4°C
Nitrogen, Nitrite	300.0(M)	48 hours	10	4 oz glass jar w/Teflon lid	4°C
Oil and Grease (HEM)	1664(M)	28 days	30	4 oz glass jar w/Teflon lid	4°C
Perchlorate	314.0 (M)	28	50	125 ml HDPE	4°C
pH	9045C / 9040B	ASAP	10	4 oz glass jar w/Teflon lid	4°C
Phenolics, Total	420.1 (M)	28 days	20	4 oz glass jar w/Teflon lid	4°C
Phosphate, Ortho	300.0(M)	48 hours	10	4 oz glass jar w/Teflon lid	4°C
Phosphate, Total	365.3(M)	28 days	20	4 oz glass jar w/Teflon lid	4°C
Phosphorus, Total	365.3(M)	28 days	20	4 oz glass jar w/Teflon lid	4°C
Sulfate	300.0(M)	28 days	20	4 oz glass jar w/Teflon lid	4°C
Sulfide, Reactive	SW 846 Ch.7	7 days	20	4 oz glass jar w/Teflon lid	4°C
Sulfide, Total	9030B/EPA 376.2(M)	7 days	20	4 oz glass jar w/Teflon lid	4°C
Total Organic Carbon (TOC)	9060	28 days	2	4 oz glass jar w/Teflon lid	4°C
TRPH	1664SGT/HEM (M)	28 days	30	4 oz glass jar w/Teflon lid	4°C

Note: (M) indicates modification of the method



Metals in Water					
Parameter	Method	Holding Time	Minimum Volume (mL)	Sample Volume & Container Type	Preservation
Mercury	7470A/245.1	28 days	50	Minimum 250mL or 16oz plastic	HNO ₃ , pH < 2
ICP Metals, except Chromium VI & Mercury	6010B,200.7	6 months	50	250 mL, 16oz plastic	HNO ₃ , pH < 2
ICPMS Metals	6020/200.8	6 months	50	250 mL, 16oz plastic	HNO ₃ , pH < 2
Sodium	7770/SM 3111B	6 months	50	250 mL, 16oz plastic	HNO ₃ , pH < 2
Potassium	7610/ SM 3111B	6 months	50	250 mL, 16oz plastic	HNO ₃ , pH < 2
Hexavalent Chromium	7196A , 218.6/ 7199	24 hours	50	250 mL, 8oz plastic	Cool, 4 °C
Hexavalent Chromium	218.6	28 days	50	250 mL, 8oz plastic	Cool to 4°C, field filtered and adjusted to pH 9.3-9.7 with ammonium buffer solution

Note: Dissolved Metals must be filtered prior to preservation.

Metals in Soil					
Parameter	Method	Holding Time	Minimum Weight (g)	Sample Volume & Container Type	Preservation
Mercury	EPA 7471A	28 days	5	4 oz glass jar w/Teflon lid	4°C
ICP Metals	EPA 6010B	6 months	5	4 oz glass jar w/Teflon lid	4°C
ICP/MS Metals	EPA 6020	6 months	5	4 oz glass jar w/Teflon lid	4°C
Sodium	EPA 7770	6 months	5	4 oz glass jar w/Teflon lid	4°C
Potassium	EPA 7610	6 months	5	4 oz glass jar w/Teflon lid	4°C
Mercury	EPA 7471A	28 days	5	4 oz glass jar w/Teflon lid	4°C



TCLP						
Parameter	From: Field Collection To: TCLP Extraction	From: TCLP Extraction To: Preparative Extraction	From: Preparative Extraction To: Determinative Analysis	Sample Volume & Container Type	Total Elapsed Time	Preservation
Volatiles	14 days	NA	14 days	40mL VOA	28 days	None
Semivolatiles	14 days	7 days	40 days	32oz amber	61 days	None
Mercury	28 days	NA	28 days	16oz plastic	56 days	HNO ₃ , pH < 2
Metals, except Mercury	180 days	NA	180 days	16oz plastic	360 days	HNO ₃ , pH < 2

Microbiology						
Parameter	Matrix	Method	Holding Time	Minimum Volume (mL)	Sample Volume & Container Type	Preservation
Coliform: Total, Fecal, <i>E.coli</i>	Drinking Water	9223B	30 hrs	100	120 mL pre-sterilized plastic bottle	Cool, <10°C; 10% Na ₂ S ₂ O ₃
	Water/Wastewater		8 hrs			

