

## Torrent Laboratory Guide to Sample Volume, Container, Preservation and Hold Time - Water/Soil/Sediment

Inorganic Parameters - Water	Minimum Volume	Container Type	Preservation & Storage	Holding Time (Sample Extract)
Acidity / Alkalinity	100 mL	P or G	4°C	14 d
Ammonia	100 mL	P or G	4°C, H <sub>2</sub> SO <sub>4</sub> <sup>(2,3,9)</sup>	28 d
Ammonia – low level	100 mL	P or G	4°C	24 hrs
Bacteriological Tests	250 mL	G Sterile	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	24 hrs
BOD	500 mL	P or G	4°C	48 hrs
Chloride or Sulfate	100 mL	P or G	4°C	28 d
Chromium IV	100 mL	P or G	4°C	24 hrs
COD	50 mL	P or G	H <sub>2</sub> SO <sub>4</sub> <sup>(2,3,9)</sup>	28 d
Color	50 mL	P or G	4°C	48 hrs
Conductivity	100 mL	P or G	4°C	28 d
Cyanide, Total and Amenable	250 mL	P or G	4°C, NaOH, Dark <sup>(4,5,7)</sup>	14 d
Dissolved Oxygen	100 mL	G N/Hd Space	Dark	8 hrs
Fluoride	100 mL	P	4°C	28 d
Hardness	100 mL	P or G	HNO <sub>3</sub> <sup>(6,7,8)</sup>	6 m
Metals, Dissolved	100 mL	P or G	Filter prior to HNO <sub>3</sub> <sup>(6,7,8)</sup>	6 m (after Filtration)
Metals, Total	100 mL	P or G	HNO <sub>3</sub> <sup>(7)</sup>	6 m
Mercury	100 mL	P or G	HNO <sub>3</sub> <sup>(7)</sup>	28 d
Nitrate or Nitrite	100 mL	P or G	4°C	48 hrs
Nitrate + Nitrite (N+N)	100 mL	P or G	4°C/H <sub>2</sub> SO <sub>4</sub> <sup>(2,3,9)</sup>	48hrs/28 d
Perchlorate	100 mL	P or G	4°C	28 d
pH	50 mL	P or G	4°C	upon receipt
Phenols (4AAP, colorimetric)	100 mL	P or G	H <sub>2</sub> SO <sub>4</sub> <sup>(2,3,9)</sup>	28 d
Phosphate	100 mL	P or G	4°C	48 hrs
Phosphorus, Total	100 mL	P or G	H <sub>2</sub> SO <sub>4</sub> <sup>(2,3,9)</sup>	28 d
Residual Chlorine	100 mL	P or G	4°C	upon receipt
Solids (TDS / TSS)	250 mL	P or G	4°C	7 d
Sulfide	100 mL	P or G	ZnAcetate & NaOH	7 d
Sulfide, Dissolved	100 mL	G N/Hd Space	4°C	upon receipt
Surfactants	500 mL	P or G	4°C	48 hrs
TKN / Organic N	100 mL	P or G	H <sub>2</sub> SO <sub>4</sub> <sup>(2,3,9)</sup>	28 d
TOC	100 mL	G	H <sub>2</sub> SO <sub>4</sub> <sup>(2,3,9)</sup>	28 d
Turbidity	100 mL	P or G	4°C, Dark	48 hrs
<b>Organic Parameters - Water</b>	<b>Minimum Volume</b>	<b>Container Type</b>	<b>Preservation &amp; Storage</b>	<b>Holding Time (Sample Extract)</b>
Volatile Organics VOC, BETX, VPH (Gas), MTBE, Oxys	4 x40 mL	G Vial, Teflon Cap	No Headspace <sup>(1)</sup> HCl or H <sub>2</sub> SO <sub>4</sub>	7- 14 d
<b>Semi-Volatile (Extractable) Organics:</b>				
Phenolics (Chlorinated & Non-Chlorinated)	1000 mL	AG, Teflon Cap	4°C <sup>(1,9)</sup>	7d /40 d
Extractable Petroleum Hydrocarbons (TEPH)	1000 mL	AG, Teflon Cap	4°C <sup>(9)</sup>	7d /40 d
Chlorinated Herbicides	1000 mL	AG, Teflon Cap	4°C <sup>(1,9)</sup>	7d /40 d
Oil & Grease (Total or Mineral)	1000 mL <sup>(9)</sup>	AG, Teflon Cap	HCl or H <sub>2</sub> SO <sub>4</sub> <sup>(2,9)</sup>	28 d /40 d
Organochlorine Pesticides (OCP)	1000 mL	AG, Teflon Cap	4°C <sup>(1,9)</sup>	7d /40 d
Organophosphorous Pesticides (OPP)	1000 mL	AG, Teflon Cap	NaOH or H <sub>2</sub> SO <sub>4</sub> <sup>(3)</sup>	7d /40 d
Hydrocarbons (PAH/PNA)	1000 mL <sup>(9,11)</sup>	AG, Teflon Cap	4°C <sup>(1,9)</sup> , Dark	7d /40 d
Polychlorinated Biphenyls (PCB)	1000 mL	AG, Teflon Cap	4°C <sup>(1,9)</sup>	7d /40 d
Dioxins / Furans	1000 mL	AG, Teflon Cap	4°C <sup>(1,9,10)</sup> , Dark	30 d / 45 d
<b>Inorganic parameters - Soil/Sediment</b>	<b>Minimum Volume</b>	<b>Container Type</b>	<b>Preservation &amp; Storage</b>	<b>Holding Time (Sample Extract)</b>
Anions	100 g	G,P,Sleeve	4°C	28 d
Asbestos	10 g	G,P,Sleeve	4°C	14 d
Chromium, Hexavalent	100 g	G,P,Sleeve	4°C	28 d / 24 hrs
Cyanide	100 g	G,P,Sleeve	4°C	14 d
Mercury	100 g	G,P,Sleeve	4°C	28 d
Metals	100 g	G,P,Sleeve	4°C	6 m
Moisture	100 g	G,P,Sleeve	4°C	7 d
Nitrogen, Total	100 g	G,P,Sleeve	4°C	28 d / 48 hrs
Particle Size	250 g	G,P,Sleeve	4°C	6 m
Perchlorate	100 g	G,P,Sleeve	4°C	28 d
Sulfide, Total	100 g	G,P,Sleeve	4°C	7 d
STLC (CA WET)	200 g	G,P,Sleeve	4°C	6 m / 40 d
TCLP	200 g	G,P,Sleeve	4°C	6 m / 40 d
TOC	10 g	G,P,Sleeve	4°C	14 d
<b>Organic parameters - Soil/Sediment</b>	<b>Minimum Volume</b>	<b>Container Type</b>	<b>Preservation &amp; Storage</b>	<b>Holding Time (Sample Extract)</b>
Volatile Organics (All)	100 g	Sleeve, Tef. Lid	4°C, No Headspace	14 d / 40 d
Semi-Volatile Organics (All)	100 g	Sleeve, Tef. Lid	4°C	14 d / 40 d
Oil & Grease (Total or Mineral)	100 g	Sleeve, Tef. Lid	4°C	28 d / 40 d
TCLP-ZHE (Volatiles)	100 g	Sleeve, Tef. Lid	4°C	14 d / 40 d
TCLP- Semi-Volatiles	200 g	Sleeve, Tef. Lid	4°C	14 d / 40 d
STLC-Semi-Volatiles	200 g	Sleeve, Tef. Lid	4°C	14 d / 40 d

<sup>1</sup> For samples where free chlorine might be present, EPA recommends preservation with 80mg Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>/L sample.

<sup>2</sup> Adjust samples to pH<2 with specified acid.

<sup>3</sup> Adjust samples to pH 6-8 using NaOH or H<sub>2</sub>SO<sub>4</sub>

<sup>4</sup> If oxidizing agents (eg. Chlorine) present add 0.1g NaAsO<sub>2</sub> /L.

<sup>5</sup> For samples where sulfide may be present, analyze immediately or pre-treat with PbCO<sub>3</sub>

<sup>6</sup> Analyze immediately if not preserved

<sup>7</sup> Adjust samples to pH>12 with NaOH

<sup>8</sup> If sample is preserved, NO<sub>2</sub> and NO<sub>3</sub> can not be speciated

<sup>9</sup> Full volumes needed for analysis, field duplicates recommended

<sup>10</sup> If sample has pH>9, adjust to pH7-9 with H<sub>2</sub>SO<sub>4</sub>