

# SAMPLE HANDLING GUIDE

## Inorganic and Conventional Parameters

Parameters	EPA Method*	Container	Recommended Quantity (mL)	Preservative	Holding Time
Acidity	305.1	P,G	100	4°C	14 days
Alkalinity	310.1, 310.2	P,G	100	4°C	14 days
Ammonia	350.1, 350.2, 350.3	P,G	500	4°C, H <sub>2</sub> SO <sub>4</sub> to pH <2	28 days
Biochemical Oxygen Demand (BOD)	405.1, SM 5210	P,G	1000	4°C	48 hours
Boron	200.7, 212.3	P, PTFE, Quartz	200	HN <sub>3</sub> to pH <2	6 months
Bromide	300.0, 320.1, 9056, 9211	P,G	200	None	28 days
Chemical Oxygen Demand (COD)	410.1, 410.2, 410.3, 410.4, Hach 8000	P,G	100	4°C H <sub>2</sub> SO <sub>4</sub> to pH <2	28 days
Chloride	300.0, 325.1, 325.2, 325.3, 9056, 9212, 9250/51, 9253	P,G	200	None	28 days
Chlorine, Residual	330.1, 330.2, 330.3, 330.4, 330.5	P,G	200	None	Immediately
Chromium VI	218.4, 7195, 7196, 7197, 7198, 7199	P,G	250	4°C	24 hours
Coliform, Fecal/Total	SM 9221, 9222	P,G (sterile)	100	4°C	6 hours
Color	110.1, 110.2, 110.3	P,G	100	4°C	48 hours
Cyanide	335.2, 335.3, 9010, 9012, 9013, 9213	P,G	1000	4°C, ascorbic acid, NaOH to pH > 12	14 days
Fluoride	300.0, 340.1, 340.2, 340.3, 9056, 9214	P	500	None	28 days
Hardness	130.1, 130.2	P,G	100	HN <sub>3</sub> or H <sub>2</sub> SO <sub>4</sub> to pH < 2	6 months
Iodide	345.1	P,G	200	4°C	24 hours
Metals	6010, 200, 7000 series	P,G	500	HN <sub>3</sub> to pH < 2	6 months
Mercury	245.1, 245.2, 7470, 7471, 7472	P,G	500	HN <sub>3</sub> to pH < 2	28 days
Nitrogen, Kjeldahl (TKN)	351.1, 351.2, 351.3, 351.4	P,G	500	4°C, H <sub>2</sub> SO <sub>4</sub> to pH < 2	28 days
Nitrate	300.0, 352.1, 9056, 9210	P,G	100	4°C	48 hours
Nitrite	300.0, 354.1, 9056	P,G	100	4°C	48 hours
Nitrate + Nitrite	353.1, 353.2, 353.3	P,G	200	4°C, H <sub>2</sub> SO <sub>4</sub> to pH < 2	28 days
Oil and Grease	413.1, 1664, 9070	G	1000	4°C, H <sub>2</sub> SO <sub>4</sub> or HCl to pH < 2	28 days
Phenols	420.1, 420.2, 9065, 9066, 9067	G	1000	4°C, H <sub>2</sub> SO <sub>4</sub> to pH < 2	28 days
Phosphorus, Total	365.1, 365.2, 365.3, 365.4, 6010	P,G	200	4°C, H <sub>2</sub> SO <sub>4</sub> to pH < 2	28 days
Phosphate, Ortho	300.0, 365.1, 365.2, 365.3	P,G	200	4°C	48 hours
pH	150.1, 9040, 9045	P,G	100	None	Immediately
Radiochemistry Alpha, Beta, Radium Tritium Radon I-131	900 & 9000 series	P G (amber) G P, G	2000 100 3 x 40 1000	HN <sub>3</sub> to pH < 2 None None NaOH to pH>8	6 months 6 months 4 days 16 days
Silica	370.1, 200.7, SM1311D	P, PTFE, Quartz	100	4°C	28 days
Solids, Dissolved (TDS)	160.1	P,G	100	4°C	7 days
Solids, Suspended (TSS)	160.2	P,G	500	4°C	7 days
Solids, Volatile (TVS)	160.4	P,G	100	4°C	7 days
Solids, Total (TS)	160.3	P,G	100	4°C	7 days

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Specific Conductance	120.1, 9050	P,G	100	4°C	28 days
Sulfate	300.0, 375.1, 375.3, 375.4, 9035/36, 9038, 9056	P,G	200	4°C	28 days
Sulfide	376.1, 376.2, 9030, 9031, 9215	P,G	500	4°C, Zn acetate, NaOH to pH > 9	7 days
Sulfite	377.1	P,G	200	None	Immediately
Surfactants (MBAS)	425.1	P,G	250	4°C	48 hours
Total Organic Carbon (TOC)	415.1, 415.2, 9060	P,G	100	4°C, H <sub>2</sub> SO <sub>4</sub> or H <sub>3</sub> PO <sub>4</sub> to pH < 2	28 days
Total Organic Halides (TOX)	9020	G-TLC (amber)	100	4°C, H <sub>2</sub> SO <sub>4</sub> to pH < 2	28 days
Total Petroleum Hydrocarbon (TPH)	418.1, 1664, 8440	G-TLC	1000	4°C, H <sub>2</sub> SO <sub>4</sub> or HCl to pH < 2	28 days
Turbidity	180.1	P,G	100	4°C	48 hours

### Organic Parameters

Parameters	EPA Method*	Container	Minimum Quantity (mL)	Preservative	Holding Time
Purgeable Halocarbons	601, 8021	G-TLS	2 x 40	4°C	14 days
Purgeable Aromatics	602, 8021	G-TLS	2 x 40	4°C, HCl to pH < 2	14 days
Volatile Organics	524, 624, 8260, CLP	G-TLS	2 x 40	4°C, H <sub>2</sub> SO <sub>4</sub> , HCl or NaHSO <sub>4</sub> to pH < 2	14 days 10 days for CLP
Pesticides (Organochlorine or Organophosphorous) and PCBs	608, 8081, 8082, 8141	G-TLC (amber)	1000	4°C, pH 5-8	7/40 days
Chlorinated Herbicides	615, 8151	G-TLC (amber)	1000	4°C	7/40 days
Semivolatile Organics (BNA), Polynuclear Aromatics	525, 625, 8270, 8310, CLP	G-TLC (amber)	1000	4°C	7/40 days 5/35 days for CLP

### TCLP Parameters

Parameters	Holding Time from Collection to TCLP Extraction (days)	Holding Time from TCLP Extraction to Preparative Extraction (days)	Holding Time from TCLP/Preparative Extraction to Analysis (days)	Total Elapsed Time (days)
Volatiles	14	Not Applicable	14	28
Semivolatiles	14	7	40	61
Mercury	28	Not Applicable	28	56
Metals	180	Not Applicable	180	360

References: 40CFR Part 136 Tables IA, IB, IC, ID & IE and Table II, and others.

\*The methods listed are for typical EPA references, except for SM, which refers to Standard Methods for the Examination of Water and Wastewater (18th Edition).

For bacteriological and organic parameters, add sodium thiosulfate if residual chlorine is present. Soil samples should be collected in 4-8 oz glass containers with a Teflon®-lined cap or Encores and preserved at 4°C. No preservative required for waste samples except 4°C for volatiles. Teflon® is a registered trademark of E.I. du Pont.

#### Acronym Definitions:

<b>P</b>	Polyethylene	<b>G-TLS</b>	Glass with Teflon®-lined septum
<b>G</b>	Glass	<b>PTFE</b>	Fluoropolymer Resin / Teflon®
<b>G-TLC</b>	Glass with Teflon®-lined cap	<b>CLP</b>	EPA Contract Laboratory Program

