

SAMPLE COLLECTION and STORAGE REQUIREMENTS

This table serves as a guide only. Please refer to appropriate regulations where required.

Method No: SOP-301

Revision No: 1.0

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WATER SAMPLE(S)

Effective Date: May 10, 2002

Approved By: Andy Schmidtmeier

CONVENTIONALS / METALS

Parameter	Volume (mL)		Container Type	Precautions	Preservation	Maximum Storage Times (Hold Time - Days)
	Preferred	Minimum				
Acidity	250	50	C/G, PET, PP or HDPE	-protect from light	none	1 day
Alkalinity (@pH 4.5)	250	50	C/G, PET, PP or HDPE	-protect from light	none	1 day
Ammonia	500	300	C/G, PET, PP or HDPE	-avoid metallic foil	(i) none (ii) H ₂ SO ₄ to pH <2	(i) 3 days (MISA) (ii) 10 days (MISA)
Antimony (Sb)	50	25	C/G, PET, PP or HDPE	-avoid metallic foil	HNO ₃ to pH <2	30 days (MISA)
Anions (Cl, SO ₄)	100	50	C/G, PET, PP or HDPE	-avoid metallic foil	none	30 days (MISA)
Arsenic (As)	50	25	C/G, PET, PP or HDPE	-avoid metallic foil	HNO ₃ to pH <2	30 days (MISA)
BOD ₅	500	250	C/G, PET, PP or HDPE	-avoid metallic foil -protect from light	none	4 days (MISA)
CBOD ₅	500	250	C/G, PET, PP or HDPE	-avoid metallic foil -protect from light	none	4 days (MISA)
Chromium VI	50	25	C/G + Teflon lined cap	-no metallic foil or paper	none	5 days (MISA)
COD	50	25	C/G, PET, PP or HDPE	-protect from light -avoid metallic foil	(i) none (ii) H ₂ SO ₄ to pH <2	(i) 4 days (MISA) (ii) 30 days (MISA)
Conductivity	200	100	C/G, PET, PP or HDPE	-avoid metallic foil	none	4 days (MISA)
Cyanide (Total)	500	300	C/G, PET, PP or HDPE	-avoid metallic foil	NaOH to pH > 12	7 days (MISA)
Cyanide (Free)	500	300	C/G, PET, PP or HDPE	-avoid metallic foil	NaOH to pH > 12	7 days
Dissolved Oxygen (DO)	500	250	C/G, PET, PP or HDPE	-avoid metallic foil -no headspace -protect from light	none	< 1 hour
DOC	250	100	C/G, PET, PP or HDPE	-protect from light -avoid metallic foil	(i) none (ii) H ₂ SO ₄ to pH <2	(i) 3 days (MISA) (ii) 10 days (MISA)
Elemental Charact'n	1,000	500	C/G, PET, PP or HDPE	-avoid metallic foil	HNO ₃ to pH <2	30 days (MISA)
Fluoride	100	50	C/G, PET, PP or HDPE	-avoid metallic foil	none	30 days (MISA)
Hardness (Titration)	100	50	C/G, PET, PP or HDPE	-avoid metallic foil	none	30 days
Hardness (Calculated)	100	50	C/G, PET, PP or HDPE	-avoid metallic foil	none	30 days
Mercury (Hg)	200	100	C/G + Teflon lined cap	-avoid metallic foil	K ₂ Cr ₂ O ₇ /HNO ₃ to pH <2	7 days (MISA)
Metals Scan (ICP)	100	50	PET, PP, or HPDE	-avoid metallic foil	HNO ₃ to pH <2	30 days (MISA)
Nitrate + Nitrite	100	50	C/G, PET, PP or HDPE	-avoid metallic foil	none	5 days (MISA)
Oil & Grease (DCM Extractables)	1000	500	C/G + Foil lined cap (or Teflon lined cap)	-avoid amber glass -avoid plastics contact	(i) none (ii) HCl to pH <2	(i) 7 days (MISA) (ii) 30 days (MISA)
Oil & Grease (n-C6 Extractables)	1000	500	C/G + Foil lined cap (or Teflon lined cap)	-avoid amber glass -avoid plastics contact	(i) none (ii) HCl to pH <2	(i) 7 days (MISA) (ii) 30 days (MISA)
ORP	200	100	C/G, PET, PP or HDPE	-avoid metallic foil -no headspace	none	< 1 hour

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Legend:

A/G = Amber Glass (bottle)	C/G = Clear Glass (bottle)	HDPE = High Density Polyethylene (bottle)
PET = Polyethylene Terephthalate (bottle)	PP = Polypropylene (bottle)	TLSC = Teflon Lined Septum Cap (vial)
WMTL = Wide Mouth Teflon Lined (jar)	NA = Not Available	MISA = Municipal / Industrial Strategy for Abatement (January 1999)

Notes:

- (1) - **ALL SAMPLES SHOULD BE STORED AT ~ 4 °C AT ALL TIMES.**
- (2) - Samples with more than one test *with similar preservation requirements*, may share a sample container as long as there is sufficient volume to cover minimum volumes for all tests required. Please use a sample container which will provide sufficient sample volume when multiple tests are required.
- (3) - Please ensure samples are transported as quickly as possible to the laboratory to ensure Maximum Storage Times can be met.
- (4) - Maximum Storage Times may differ depending on required protocol.



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CONVENTIONALS / METALS (continued)

Parameter	Volume (mL)		Container Type	Precautions	Preservation	Maximum Storage Times (Hold Time - Days)
	Preferred	Minimum				
Phenolics (4-AAP)	100	50	C/G + Teflon lined cap	-avoid metallic foil	H ₂ SO ₄ to pH <2	30 days (MISA)
pH	100	50	C/G, PET, PP or HDPE	-avoid metallic foil	none	4 days (MISA)
Residual Chlorine	100	50	A/G + Teflon lined cap	-no headspace -protect from light	none	< 1 hour (MISA)
Selenium (Se)	50	25	C/G, PET, PP or HDPE	-avoid metallic foil	HNO ₃ to pH <2	30 days (MISA)
Sulphide	200	100	C/G, PET, PP or HDPE	----	2N ZnAc / 5% Na ₂ CO ₃ to pH > 10	7 days (MISA)
TKN	100	50	C/G, PET, PP or HDPE	-avoid metallic foil	(i) none (ii) H ₂ SO ₄ to pH <2	(i) 3 days (MISA) (ii) 10 days (MISA)
TOC	100	50	C/G, PET, PP or HDPE	-protect from light -avoid metallic foil	(i) none (ii) H ₂ SO ₄ to pH <2	(i) 3 days (MISA) (ii) 10 days (MISA)
Total Phosphorus	100	50	C/G, PET, PP or HDPE	-avoid metallic foil	(i) none (ii) H ₂ SO ₄ to pH <2	(i) 14 days (MISA) (ii) 30 days (MISA)
TSS	500	50	C/G, PET, PP or HDPE	-avoid metallic foil	none	7 days (MISA)
TDS	500	50	C/G, PET, PP or HDPE	-avoid metallic foil	none	7 days (MISA)
TS	500	50	C/G, PET, PP or HDPE	-avoid metallic foil	none	7 days
Turbidity	100	50	C/G, PET, PP or HDPE	----	none	1 day
VSS	1000	300	C/G, PET, PP or HDPE	-avoid metallic foil	none	7 days (MISA)

Toxicity Characteristics Leaching Procedure

Note: For aqueous TCLP samples with < 0.5 wt. % DRY Solids

Parameter	Volume (mL)		Container Type	Precautions	Preservation	Maximum Storage Times (Hold Time - Days)
	Preferred	Minimum				
TCLP - Metals / Anions	500	250	C/G, PET, PP or HDPE	-avoid metallic foil	none	NA
TCLP - VOCs	3x40mL	2x40mL	40 mL C/G TLSC x 3	-no headspace -protect from light	none	extraction within 7 days
TCLP - Semi-Volatiles	2x1,000	1,000	A/G + Teflon lined cap	-protect from light -avoid metallic foil -avoid plastics contact	none	NA

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ORGANICS

Parameter	Volume (mL)		Container Type	Precautions	Preservation	Maximum Storage Times (Hold Time - Days)
	Preferred	Minimum				
BTEXS	3x40mL	2x40mL	40 mL C/G TLSC x 3	-no headspace -protect from light	(i) none (ii) Na ₂ S ₂ O ₃	(i) 7 days (MISA) (ii) 14 days (MISA)
Volatiles (VOCs)	3x40mL	2x40mL	40 mL C/G TLSC x 3	-no headspace -protect from light	(i) none (ii) Na ₂ S ₂ O ₃	(i) 7 days (MISA) (ii) 14 days (MISA)
Volatiles (Water Soluble)	60	60	40 mL C/G TLSC x 3	-no headspace -protect from light	(i) none (ii) Na ₂ S ₂ O ₃	(i) 7 days (MISA) (ii) 14 days (MISA)
Extractables (Base Neutral) (PAHs)	2x1,000	1,000	A/G + Teflon lined cap	-protect from light -avoid plastics contact	none	30 days (MISA)
Extractables (Acid) (Phenolics)	2x1,000	1,000	A/G + Teflon lined cap	-protect from light -avoid metallic foil -avoid plastics contact	none	30 days (MISA)
Extractables (Neutral- Chlorinated)	2x1,000	1,000	A/G + Teflon lined cap	-protect from light -avoid plastics contact	none	30 days (MISA)
Semi-Volatiles	2x1,000	1,000	A/G + Teflon lined cap	-protect from light -avoid metallic foil -avoid plastics contact	none	30 days
TPH (C6 - C10) (Purgeable Hydrocarbons)	3x40mL	2x40mL	40 mL C/G TLSC x 3	-no headspace -protect from light	none	7 Days
TPH (C10 - C50) ("Ext." Cold Extractables)	2x1,000	1,000	A/G + Teflon lined cap	----	none	14 Days
TPH (C32+) ("Hot" Extractables)	1,000	500	A/G + Teflon lined cap	-avoid plastics contact	none	14 Days
PCBs	2x1,000	1,000	A/G + Teflon lined cap	-avoid plastics contact	none	30 days (MISA)
Pesticides / Herbicides	2x1,000	1,000	A/G + Teflon lined cap	-protect from light	none	28 days
Dioxins & Furans	4x1,000	1,000	A/G + Teflon lined cap	-avoid plastics contact	none	30 days (MISA)
Open Characterization - Volatiles	3x40mL	2x40mL	40 mL C/G TLSC x 3	-no headspace -protect from light -avoid plastics contact	none	7 days
Open Characterization - Extractables	3x1,000	2x1,000	A/G + Teflon lined cap	-avoid metallic foil -avoid plastics contact	none	30 days (MISA)
Glycols	60	60	C/G + Teflon lined cap	-avoid plastics contact	none	NA
Formaldehyde	500	100	C/G + Teflon lined cap	-avoid plastics contact	none	NA

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SOIL / SOLID SAMPLE(S)

Parameter	Mass (grams)		Container Type	Precautions	Preservation	Maximum Storage Times (Hold Time - Days)
	Preferred	Minimum				
Ammonia	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
Anions	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
Conductivity	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
Cyanide	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
DOC	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
Metals (ICP)	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
As, Se, Sb	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
Chromium VI	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
Mercury, Hg	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
Oil & Grease (DCM Extractables)	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	28 days
Phenolics (4-AAP)	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
pH (1:1)	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
Total Phosphorus	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
TOC	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
TKN	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	NA
TCLPs (Reg 558)	500	200	PET or C/G	strive for homogeneity	none	NA
BTEXS	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	14 days
Volatiles (VOCs)	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	14 days
Semi-Volatiles	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	28 days
PAHs	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	28 days
PCBs	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	28 days
TPH (C ₆ -C ₁₀)	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	7 days
TPH (C ₁₀ - C ₅₄) ("Ext." Cold Extractables)	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	14 days
TPH (C ₃₂₊) ("Hot" Extractables)	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	14 days
Pesticides / Herbicides	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	28 days
Dioxins & Furans	100	50	60 mL C/G WM TL jar	strive for homogeneity	none	28 days

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