



ALS RECOMMENDED HOLDING TIMES AND PRESERVATIONS FOR WATER

Parameter	Container	Preservation	Holding Time	Reference
GENERAL INORGANICS				
Acidity / Alkalinity	Plastic	No preservation (natural)	14 days	APHA Table 1060:1
Ammonia Nitrogen	Option 1	H ₂ SO ₄ to pH<2	28 days	APHA Table 1060:1
	Option 2	No preservation (natural)	1 day	APHA Table 1060:1
Anions General: Chloride, Sulphate, Fluoride, Bromide	Plastic	No preservation (natural)	28 days	APHA Table 1060:1
BOD	Plastic	No preservation (natural)	2 days	APHA Table 1060:1
Cations & Hardness: Calcium, Magnesium, Sodium, Potassium	Option 1	HNO ₃ to pH<2	28 days (All)	AS/NZS 5667.1:1998
	Option 2	No preservation (natural)	7 days (Ca, Mg, Hardness) 28 days (Na, K)	AS/NZS 5667.1:1998
Carbon Total Organic (TOC)	Glass	H ₂ SO ₄ to pH<2	28 days	APHA Table 1060:1
Chlorophyll a	Plastic (Opaque)	Store in dark	2 days	APHA Table 1060:1
		Filter – store filtrate frozen in foil	28 days	
Chromium Hexavalent (VI)	Plastic	NaOH	28 days	USEPA 1669
COD	Plastic	H ₂ SO ₄ to pH<2	28 days	APHA Table 1060:1
Colour	Plastic	No preservation (natural)	2 days	APHA Table 1060:1
Conductivity (EC)	Plastic	No preservation (natural)	28 days	APHA Table 1060:1
Cyanide	Plastic (Opaque)	NaOH to pH>12 (1)	14 days	APHA 1060:1
Ferrous Iron (Fe ²⁺)	Plastic	HCl to pH<2. (ZH), Field filter ⁽²⁾	7 days	ISO 5667-3:2003
Mercury	Option 1	HNO ₃ to pH<2 (2)	28 days	APHA Table 1060:1
	Option 2	No preservation (natural) – lab acidify upon receipt in <14 days (2)	28 days	USEPA 200.8
Metals General	Option 1	HNO ₃ to pH<2 (2)	6 months	APHA Table 1060:1
	Option 2	No preservation (natural) – lab acidify upon receipt in <14 days (2)	6 months	USEPA 200.8
Nitrate Nitrogen	Plastic	No preservation (natural)	2 days	APHA Table 1060:1
Nitrite Nitrogen	Plastic	No preservation (natural)	2 days	APHA Table 1060:1
Nitrogen – Oxidised Nitrogen (NO _x)	Plastic	H ₂ SO ₄ to pH<2	28 days	APHA Table 1060:1/ AS/NZS 5667.1:1998
		No preservation (natural)	2 days	
Nitrogen – Total	Plastic	H ₂ SO ₄ to pH<2	28 days	APHA Table 1060:1
Oil & Grease	Glass	NaHSO ₄ or H ₂ SO ₄ to pH<2	28 days	APHA Table 1060:1
pH	Plastic	No preservation (natural)	6 hours	AS/NZS 5667.1:1998
Phenols – Total	Plastic or Glass	H ₂ SO ₄ to pH<2	28 days	APHA Table 1060:1
Phosphorus – Reactive	Plastic	No preservation (natural)	2 days	APHA Table 1060:1
Phosphorus – Total	Plastic	H ₂ SO ₄ to pH<2	28 days	AS/NZS 5667.1:1998
Solids (TS, TSS, TDS)	Plastic	No preservation (natural)	7 days	APHA Table 1060:1
Surfactants (NIS, MBAS)	Glass	No preservation (natural)	2 days	AS/NZS 5667.1:1998
Silica	Plastic	No preservation (natural)	28 days	APHA Table 1060:1
Sulphide	Plastic	Zn Acetate/NaOH	7 days	AS/NZS 5667.1:1998
Sulphite	Plastic	EDTA/Zn Acetate	2 days	AS/NZS 5667.1:1998
TKN (Total Kjeldahl Nitrogen)	Plastic	H ₂ SO ₄ to pH<2, Chill	28 days	APHA Table 1060:1
Turbidity	Plastic	Store in dark, Chill	2 days	APHA Table 1060:1

NOTES

(1) When samples are suspected of containing Sulphide, a Sulphide Pre-treatment bottle (containing Lead Acetate) should be used to remove Sulphide prior to decanting into the 'Cyanide' bottle

(2) Dissolved Metals and Ferrous Iron should be field filtered using a 0.45µm filter prior to placing in the container

MICROBIOLOGICAL TESTS

Parameter	Container	Preservation	Holding Time	Reference
General Microbiological Tests (e.g. Faecal coliforms, E-coli, HPC etc.)	Plastic (sterile)	No preservation (natural) OR Na ₂ S ₂ O ₃ if chlorinated water source	1 day	APHA 9060B

ORGANICS – SEMIVOLATILE COMPOUNDS (SVOC)

Parameter	Container	Preservation	Holding Time	Reference
General Semi-Volatile Organic Compounds (SVOC)	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA SW846 2007
Carbamates	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA 632
Chlorinated Hydrocarbons (Semi-Volatile)	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA SW846 2007
Dioxins	Glass	Amber Glass Bottle with Teflon Lined Lid	1 year	USEPA 1613.B
Glyphosate	Glass	Amber Glass Bottle with Teflon Lined Lid	14 days	USEPA 547
Herbicides (Phenoxy Acid)	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA SW846 2007
Organochlorine Pesticides	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA SW846 2007
Organophosphorus Pesticides	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA SW846 2007
Petroleum Hydrocarbons (C ₁₀ -C ₄₀)	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA SW846 2007
Phenols and Phthalate Esters	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA SW846 2007
Polyaromatic Hydrocarbons (PAHs)	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA SW846 2007
Poly Chlorinated Biphenyls	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA SW846 2007
Tributyl Tin (TBT)	Glass	Amber Glass Bottle with Teflon Lined Lid	7 days ⁽³⁾	USEPA SW846 2007

NOTES

(3) Samples can also be extracted within 7 days and the resulting extracts analysed within 40 days

ORGANICS – VOLATILE COMPOUNDS (VOC)

Parameter	Container	Preservation	Holding Time	Reference
General Volatile Organic Compounds (VOC)	2 x Glass Vial ⁽⁴⁾	H ₂ SO ₄ or NaHSO ₄ to pH<2	14 days	USEPA SW846 2007
BTEX & TPH Hydrocarbons (C ₆ -C ₁₀)	2 x Glass Vial ⁽⁴⁾	H ₂ SO ₄ or NaHSO ₄ to pH<2	14 days	USEPA SW846 2007
Monocyclic Aromatics (MAHs)	2 x Glass Vial ⁽⁴⁾	H ₂ SO ₄ or NaHSO ₄ to pH<2	14 days	USEPA SW846 2007
Trihalomethanes (THMs)	2 x Glass Vial ⁽⁴⁾	H ₂ SO ₄ or NaHSO ₄ to pH<2	14 days	USEPA SW846 2007

NOTES

(4) 40mL amber glass vial with a Teflon lined septum – zero headspace

Asia Locations

- China – Shanghai, Beijing, Wuhan Chongqing
- Hong Kong
- Indonesia – Bogor
- Malaysia – Kuala Lumpur, Johor Bahru, Kota Kinabalu, Melaka
- Singapore
- Taiwan – Taipei
- Thailand – Bangkok, Rayong, Chiang Mai, Pathumthani