Technical Note

Sample holding times and preservation

Inorganics Parameters in Water

Analyte	Bottle type	Preservation	Storage	Maximum storage recommended	Regulatory Limits	Lab holding times (Minimum)
Alkalinity, acidity	UP	Unpreserved	≤ 6°C	24 hours	14 days	4 weeks
BOD	BOD	Unpreserved	≤ 6°C	6 hours	48 hours	2 weeks frozen
Bromide	UP	Unpreserved	none	28 days	28 days	4 weeks
Chloride	UP	Unpreserved	none	28 days	28 days	4 weeks
Chlorine/Chloramines	UP	Unpreserved	≤ 6°C	0.25 hours	Analyse immediately	4 weeks
Chlorophyll A	Chlora	Opaque Bottle	≤ 6°C, protect from light	24-48 hours	N/A	4 weeks
Chromium VI	C100	Sodium hydroxide preserved	≤ 6°C pH>12	28 days	28 days	4 weeks
COD	S100	Sulphuric acid preserved	≤ 6°C pH < 2	7 days	28 days	4 weeks
Colour	UP	Unpreserved	≤ 6°C	24 hours	24 hours	4 weeks
Conductivity	UP	Unpreserved	≤ 6°C	28 days	28 days	4 weeks
Cyanide	C100	Sodium hydroxide preserved	≤ 6°C pH>12	24 hours if sulphide present	14 days	4 weeks
Fluoride	UP	Unpreserved	none	28 days	28 days	4 weeks
Metals (excl. CrVI) – total & total recoverable & field filtered soluble	N100 or FN100	Nitric acid preserved	pH < 2	6 months	6 months	4 weeks
Metals – lab filtered for soluble	UPTE100	Unpreserved	≤ 6°C	6 months	Filter ASAP 6 months	4 weeks
Nitrogen - Ammonia	UP	Unpreserved	≤ 6°C	7 days	ASAP 28 days	4 weeks
Nitrogen - Nitrate & Nitrite	UP	Unpreserved	≤ 6°C	ASAP	48 hours	4 weeks
Nitrogen - TKN	S100	Sulphuric acid preserved	≤ 6°CpH < 2	7 days	28 days	4 weeks
Oxyhalides - chlorite	EDA100	Ethylene diamine preserved	≤ 6°C	24 hours	24 hours	4 weeks

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Oxyhalides – chlorate & bromate	EDA100	Ethylene diamine preserved	≤ 6°C	1 week	1 week	4 weeks
pH	UP	Unpreserved	≤ 6°C	0.25 hours	Immediate	4 weeks
Phosphorus - dissolved reactive	UP	Unpreserved	≤ 6°C	48 hours	Filter ASAP 48 hours	4 weeks
Phosphorus - total	UP	Unpreserved	≤ 6°C pH < 2	28 days	28 days	4 weeks
Silica	UP	Unpreserved	none	28 days	28 days	4 weeks
Sulphate	UP	Unpreserved	none	28 days	28 days	4 weeks
Sulphide	Z100	Zinc acetate pH>12	≤ 6°C	28 days	7 days	4 weeks
Sulphite	E250	EDTA preserved	≤ 6°C	ASAP	2 days	4 weeks
Suspended solids & Total dissolved solids	UP1L	Unpreserved	≤ 6°C	7 days	24 hours	4 weeks
Total solids	UP1L	Unpreserved	≤ 6°C	2 7 days	7 days	4 weeks
Turbidity	UP	Unpreserved	≤ 6°C	24 hours	48 hours	4 weeks

Note: Holding times have been taken from APHA "Standard methods for the Examination of Water and Wastewater", (Online Edition) except for Sulphite and Oxyhalides which are from AS/NZS 5667.1:1998 Pages 31 – 42.

Bacterial Parameters in Water

Analyte	Bottle type	Preservation	Storage	Maximum storage recommended	Regulatory Limits	Lab holding times (Minimum)
Total & Faecal Coliforms	Ster	Thiosulphate for chlorinated samples or Unpreserved	4°C	Analyse immediately	24 hours	Nil
E.coli	Ster	Thiosulphate for chlorinated samples or Unpreserved	4°C	Analyse immediately	24 hours	Nil
Enterococci	Ster	Thiosulphate for chlorinated samples or Unpreserved	4°C	Analyse immediately	24 hours	Ni

Note: Holding times have been taken from APHA "Standard methods for the Examination of Water and Wastewater" (Online Edition)

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Organic Parameters in Water

Analyte	Bottle type	Preservation	Storage	Holding Time	Lab holding times
Acid herbicides	Org500	Unpreserved	≤ 4°C	7 days until extraction, 40 days after extraction	4 weeks
Acrylamide	Org500	Unpreserved	≤ 4°C	7 days until extraction, 40 days after extraction	4 weeks
Alkyl quats DDAC/IPBC	Org500	Unpreserved	≤ 4°C	7 days until extraction, 40 days after extraction	4 weeks
BTEX	VOC40 (x2)	Ascorbic acid	≤ 4°C	14 days	4 weeks
Carbon – total/dissolved	TOC125	Unpreserved	≤ 4°C	28 days	4 weeks
Formaldehyde	Org500	Unpreserved	≤ 4°C	3 days	4 weeks
Gases in groundwater (ethane, methane, ethene)	GGW40 (x2)	Sulphuric acid preserved	≤ 4°C	14 days	4 weeks
Geosmin	Org500	Unpreserved	≤ 4°C	3 days	4 weeks
Glyphosate	UP	Unpreserved	≤ 4°C	7 days until extraction, 40 days after extraction	4 weeks
Halogenated Acetic Acids HAA	HAA120	Ammonium chloride	≤ 4°C	14 days until extraction, 21 days after extraction	4 weeks
Halogenated Volatile Disinfection By-products & Chlorinated solvents HVDB/THM	HVDB40 (x2)	Buffer/Ammonium chloride	≤ 4°C	14 days until extraction, 14 days after extraction	4 weeks
Oil & Grease	OAG	Sulphuric acid preserved	≤ 4°C	28 days	All used in analysis
Organochlorine, Organonitrogen & Organophosphorus Pesticides	Org500	Unpreserved	≤ 4°C	7 days until extraction, 40 days after extraction	4 weeks
Phenols - total	UP	Sulphuric acid preserved	≤ 4°C	28 days until extraction, 2 days after extraction	4 weeks
Phenols - individual	Org500	Unpreserved	≤ 4°C	7 days until extraction, 40 days after extraction	4 weeks
Polychlorinated Biphenyls / PCB	Org500	Unpreserved	≤ 4°C	none	4 weeks

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Polyaromatic hydrocarbons / PAH	Org500	Unpreserved	≤ 4°C	7 days until extraction, 40 days after extraction	4 weeks
Paraquat/Diaquat	UP	Unpreserved	≤ 4°C	7 days until extraction, 40 days after extraction	4 weeks
Semi-volatile Organic Compounds / SVOC	Org500	Unpreserved	≤ 4°C	7 days until extraction, 40 days after extraction	4 weeks
Total Petroleum Hydrocarbons / TPH	TPH250 & VOC40 (x2)	Sulphuric acid preserved	≤ 4°C	7 days until extraction, 40 days after extraction	4 weeks
Volatile Fatty Acids / VFA	UPfrz	Unpreserved	Freeze <0°C	14 days	4 weeks
Volatile Organic Compounds / VOC	VOC40 (x2)	Ascorbic acid	≤ 4°C	14 days	4 weeks

Note: Holding times have been taken from APHA "Standard methods for the Examination of Water and Wastewater" (Online Edition) or relevant EPA SW-846 methods.

Inorganic and Organic Parameters in Soil

Anatlye	Bottle Type	Container Used	Storage	Holding Time	Lab holding time
Metals & Minerals	P	Psoil250	≤ 4°C	6 months	3 weeks ≤ 4°C & 5 weeks ambient
Nutrients	P	Psoil250	≤ 4°C	5 days	3 weeks ≤ 4°C & 5 weeks ambient
Polychlorinated Buphenyls (PCBs)	Glass	Gsoil300	≤ 4°C	None	3 weeks ≤ 4°C & 5 weeks ambient
Polyaromatic hydrocarbons / PAH	Glass	Gsoil300	≤ 4°C	14 days until extraction, 40 days after extraction	3 weeks ≤ 4°C & 5 weeks ambient
Semi-volatile Organic Compounds / SVOC	Glass	Gsoil300	≤ 4°C	14 days until extraction, 40 days after extraction	3 weeks ≤ 4°C & 5 weeks ambient
Volatile Organic Compounds / VOC (includes BTEX & TPH)	Glass	Gsoil300	≤ 4°C	14 days	3 weeks ≤ 4°C & 5 weeks ambient

Note: Holding times have been taken from EPA SW-846 methods.

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