

## Sampling and Bottle Types

### COLLECTION AND PRESERVATION OF WATER SAMPLES

THESE INSTRUCTIONS ARE A GUIDE AND ARE NOT INTENDED TO REPLACE DETAILED ADVICE FROM LABORATORY STAFF. SAMPLE REQUIREMENTS FOR TESTS NOT LISTED SHOULD BE DISCUSSED WITH LABORATORY STAFF PRIOR TO COLLECTION

#### SAMPLE COLLECTION:

- All samples must be labelled and delivered to the lab with a completed sample submission form.
- Complete label details with waterproof pen before collecting sample.
- Wear disposable vinyl gloves if possible.
- Always use bottles appropriate to the tests required.
- Collect sample directly into sample bottle if possible. If not, collect in a sampling container and transfer immediately to the sample container.
- If the bottle contains a preservative, do not rinse or overfill the bottle
- Take spare bottles.
- Submit to laboratory for analysis as soon as possible after collection. Keep samples cool (eg in an eski) during transit if possible. Eskis and freezer bricks are available for loan if required.
- Further information on sampling can be found in *AS/NZS 5667.1:1998 Water Quality – Sampling Part 1: Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples* or other suitable guidelines or documents based on the standard.

*Do not smoke during sampling operations. Do not risk loss of preservatives by over filling containers.*

<b>General</b> <i>Note: Whilst these bottles are labelled as 'general' they are not universally suitable for all analyses.</i>	<b>Analytes:</b> pH, Conductivity, Alkalinity, Acidity, Solids (Total, Suspended, Dissolved, Volatile, Fixed), NPOC, dNPOC, Anions (Bromide, Chloride, Fluoride, Sulphate), Colour, Turbidity, Chemical Oxygen Demand (COD), AOX, Silica, PFAS (separate bottle required). Chlorophyll a: An additional, separate 1L jerry is required for this analyte.
<b>Label and Container:</b>	Blue labelled Plastic Bottle.
<b>Filling instructions (no preservation):</b>	Fill container completely to exclude air for Alkalinity and Acidity. Keep cool. Do not freeze. Return to laboratory same day as sample collection.
<b>pre- preserved containers:</b>	<b>NaOH pre-preserved containers:</b> Cyanide, Sulphide, Chromium VI <b>EDTA pre-preserved containers:</b> Sulphite, Thiosulphate
<b>Nutrients</b>	<b>Analytes</b> Dissolved: Nitrate, Nitrite, Ammonia, Phosphorus-Dissolved Reactive Total: Nitrogen-Total, Nitrogen-Total Kjeldahl, Phosphorus-Total
<b>Label and Container:</b>	Green labelled Plastic Bottle
<b>Filling and preservation:</b>	Dissolved nutrients: Filter through 0.45µm filter at time of collection into a 50mL plastic tube, then freeze. <b>**FILTRATION KITS ARE AVAILABLE FROM THE LAB**</b> Total nutrients: Collect in 250mL bottle, freeze. <b>**NOTE DO NOT FILTER**</b>
<b>Algal</b>	Identification and Enumeration of Marine and Freshwater species.
<b>Label and Container:</b>	Purple labelled 375mL or 500mL plastic jar.
<b>Filling and preservation:</b>	Fill container to shoulder. Keep cool. To preserve samples: add Lugols preservative immediately after filling. Unpreserved samples are required to be submitted on the same day as collection.

<b>Metals:</b>	<b>Analytes:</b> ie Cadmium, Copper, Lead, etc. including Mercury; Hardness
<b>Label and Container:</b>	Red labelled Plastic Jar
<b>Filling and preservation:</b>	For 'Dissolved' analytes filter on site*. *Seek advice from laboratory staff before filtering or acidifying samples.
<b>Organic Compounds:</b>	<p><b>Groups of Analytes:</b>  <b>Pesticides/Herbicides:</b> (eg Organochlorine &amp; Organophosphate Pesticides including DDT, Chlordane, Dieldrin etc, Atrazine, Simazine, Glyphosate etc)  <b>PAHs</b> (eg Napthalene, Benzo(a)pyrene etc and other Polycyclic Aromatic Hydrocarbons)  <b>Phenols</b> (eg Phenol, Chlorophenol, Nitrophenol etc)</p> <hr/> <p><b>TPH, TRH (&gt;C10):</b> Petroleum hydrocarbons</p> <hr/> <p><b>PCB:</b> Polychlorinated Biphenyls (Aroclors)</p> <hr/> <p><b>Microcystins:</b> (Cyanobacterial Toxin)</p> <hr/> <p><b>Volatile Fatty Acids (VFAs), Haloacetic Acids, Formaldehyde, Acrylamide, Dithiocarbamates, Alcohols &amp; Glycols</b> Small 200mL Amber</p>
<b>Label and Container:</b>	Yellow labelled Amber 1L Glass Bottles. ***DO NOT USE PLASTIC CONTAINERS*** *** One 1L bottle required for each set of tests as sectioned above***
<b>Filling and preservation:</b>	Do not rinse bottles with sample.
<b>Volatile Organic Compounds (VOCs)</b>	<p><b>Groups of Analytes:</b>  <b>VOCs:</b> eg: Trihalomethanes – bottle includes ascorbic acid preservative</p> <hr/> <p><b>vTRH:</b> C6-C10 (includes BTEXN: Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene) – no preservative</p> <hr/> <p><b>Formaldehyde, Acetone</b> – needs 2 x unpreserved HSVs or 1 x 200mL amber</p>
<b>Label and Container:</b>	Small White-labelled glass headspace vial (HSV). Ascorbic acid preservative required for treated drinking water samples. One bottle required for each set of tests as sectioned above.
<b>Filling and preservation:</b>	Fill completely to exclude air. Do not rinse bottle with sample.
<b>Oil and Grease</b>	
<b>Label and Container:</b>	Orange labelled. Glass 1L, wide neck. Yellow labelled amber glass may be substituted.
<b>Filling Instruction:</b>	Do not rinse bottles with sample. Leave headspace of ~ 2 cm depth.

<b>Other Analytes</b>	<b>Biochemical Oxygen Demand (BOD<sub>5</sub>):</b> Black Labelled 1L Bottle. Submit for analysis on same day as collection. Do not freeze.
	<b>Dissolved Oxygen:</b> Glass DO bottles. Fill completely, excluding all air.
	<b>Endotoxins:</b> Blue capped 50mL plastic tube. Use aseptic technique when sampling (seek advice if unsure). Submit for analysis on same day as collection or freeze.
	<b>Shellfish Biotoxins:</b> Yellow labelled plastic jar. Submit shucked samples for analysis on same day as collection or freeze.

<b>SOIL</b>	<b>Analytes: All Analyses</b>
<b>Container:</b>	Glass Jar, 250mL or 500 mL. 500 mL required when sample is very wet or multiple analytes are required.
<b>Label:</b>	White
<b>Filling and preservation:</b>	Cap the jar immediately following sampling, ensuring the PTFE liner is in place. Keep chilled. Do not freeze.