

Featuring: Laboratories – From Sampling to Analyses

Ecowise Environmental has 11 NATA accredited laboratories across Australia with state of the art laboratory management systems, experienced staff and modern sophisticated equipment designed to produce quick accurate results. However even with the best intentions, equipment and staff, the result at the end is only as good as the sample collected. The key goals of sampling is to take a sample that is representative both at the time of sampling and at the laboratory and do not introduce contamination into the sample. Our laboratories have seen many weird, wonderful and creative sample containers from clients. When collecting water samples it is important to consider what you are trying to achieve with the testing. If you need to take a sample urgently and do not have time to arrange for sample bottles there are several things you can do.

What to do:

If your concerns are Microbiological, then the first thing to consider is that the sampling bottle is sterile. i.e. doesn't contain any living organisms such as bacteria. The best way to achieve this is to obtain a sterile bottle from a reliable source. This could be through your local testing Laboratory, Chemist, and local Council Offices. The next important issue is to make sure that you are taking a truly representative sample of the water. Make sure the tap surface is clean, run the water for enough time to flush out water that may have been sitting in pipes for a long time. If sampling from taps inside the house, remove the aerators from the taps, and try not to touch the metal immediately around the tap. Do not rinse the bottle prior to filling. Keep the sample cold during transport to the Laboratory, and try to get it to the Laboratory as quickly as possible. The sample should be delivered to the Laboratory within 24 hours. If you have time it is important to talk to someone at the Laboratory, who will advise you of correct procedures, and provide you with the most appropriate bottles. For water containing chlorine, a preservative must be added to the sample bottle.

To sterilise a bottle for Microbiological sampling:

- Rinse with boiling water – extreme care needs to be taken.
- Purchase a bottle of still water or mineral water and discard the contents and take your sample.

For most chemical analysis, samples need to be collected in clean plastic containers. It is advisable to rinse the container first. For some specific tests, it is necessary to add a preservative to the sample bottle to help maintain the sample integrity during shipment to the Laboratory. If you have time it is very important to talk to your Laboratory to determine what preservatives may be required; the Laboratory will supply the appropriate bottles with the preservative added to you.

For General Chemical Samples:

Use a Plastic Bottle that has contained mineral or bottled water. Make sure you rinse the bottle two – three times with your sample prior to filling.



These bottles have all been used before, and each contains potential contaminants, which could influence the results. If you have no choice but to use a contaminated bottle then the following must be carried out:

- Rinse the bottle well with hot water
- Rinse the bottle at least three times with the water being sampled.

Sampling Training Courses:

Ecowise Environmental has developed a comprehensive sampling course and has been involved in training staff from local councils and many government and private organisations who collect water samples for analysis. This course covers all aspects of sampling from, sample bottles, sampling equipment, sampling techniques, as well as Quality Assurance and Safety. The course is an excellent way for businesses to ensure that their staff are appropriately trained and equipped to be able to take representative samples.



The sampling course covers all types of water sampling, using a range of different sampling equipment. We have trained people from many backgrounds including:

- EPA inspectors
- Treatment Plant Operators
- Environmental Consultants
- Hydrographers
- Laboratory Staff
- Mining Staff

An exciting recent sampling course was held for the Office of Research Scientists at Kakadu where there is the added complication of keeping one eye out for crocodiles as you take the samples!

