

Water sampling collection frequently asked questions

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Aseptic sampling

Q. What is aseptic sampling?

A. Aseptic techniques are a variety of practices adopted to prevent contamination of samples by one's own actions during sampling. Examples include:

- not smoking while collecting samples
- washing hands using hand sanitiser or antimicrobial soap
- sterilising sampling spigots/taps by flaming when required
- storing wastewater/reclaimed water samples in a separate esky to samples collected from drinking water supplies
- disinfecting potable hydrant upstands used for sampling
- not placing sample bottles on the ground or unclean surfaces
- checking plastic sample bottles and lids for splits or cracks
- being aware that it may be necessary to sample in a particular order when collecting more than one sample. For example, a bucket used to collect a sample from a waste stabilisation pond which will be transferred into a sample bottle can potentially be a source of cross-contamination. If possible, it is preferable to sample using a bottle attached to an extension pole. If this is not possible, sampling should be executed by working from downstream sites to upstream sites at the treatment plant and decontaminating the bucket before taking each sample.

A sample bottle is considered to be contaminated if the internal surfaces of the lid or bottle are touched by the sampler or come into contact with any objects, surfaces or contaminants (e.g. airborne dust). Your fingers and hands and all surfaces/objects are not sterile and have microorganisms on them. Always carry spare sample bottles required for microbiological monitoring just in case one is accidentally contaminated and needs to be discarded. Spare bottles should also be carried for other types of monitoring as it is preferable and is easier to use a new bottle rather than rinsing a bottle to decontaminate it.

Bacteriological monitoring, protozoological monitoring

Q. Can I use the bottles used for physical/general chemical sampling for bacteriological sampling?

A. No. The bottles used for bacteriological sampling are pre-dosed with sodium thiosulfate. Only bottles that are dosed with sodium thiosulfate are to be used when undertaking microbiological monitoring. In most cases the bottles are pre-dosed in the laboratory.

Q. I have to collect a bacteriological sample and physical/general chemical sample and/or metals sample. What order do I collect them in?

A. Collect any microbiological sample including a bacteriological sample last. These samples require the sampling point to be flamed using a gas burner. Flaming the sampling point immediately before collecting physical/general chemical samples and/or metals samples is not to be done as it can potentially influence the results. Typically a spike in the metals results is observed.

Q. I've dropped the lid of a bacteriological sample bottle on the ground. Should I use the sample bottle?

A. No. Use a new bottle including lid. The dropped lid is contaminated. Do not pick the dropped lid up until after you have collected the sample using the new bottle. Wash your hands with hand sanitiser or antimicrobial soap and dry your hands after picking up the dropped lid. If you drop an opened or unopened sample bottle do the same. The same applies to any sample bottles used for microbiological sampling.

Chilling/refrigeration

Q. I find that the frozen ice bricks melt very quickly? What can I do?

A. If you are regularly collecting samples and they are transported in a vehicle you should consider installing a portable fridge. If your vehicle is not equipped with a portable fridge, then carry samples that are required to be kept cool within an Esky in the cabin of the vehicle. Ideally you should eventually install a portable fridge.

Cryptosporidium, Giardia

Q. I've purchased two 10 L plastic containers. How do I sterilise them?

A. Add approximately one litre of boiled water to the 10 L container, secure the cap and shake ensuring contact with the container's internal surfaces. Do this twice for each container.

Q. Where can I obtain sodium thiosulfate to add to the 10 L containers?

A. WCL-DA can provide sodium thiosulfate. Telephone ahead prior to requiring.

Nutrients

Q. I have to collect a low level nutrients sample but don't have the correct sample bottles from AWQC. Can I use other bottles?

A. No.

Physical and general chemical monitoring

Q. Can I use the bottles used for bacteriological sampling for physical/general chemical sampling?

A. No. The bottles used for bacteriological sampling are pre-dosed with sodium thiosulfate which will affect the analysis results. Any bottles used for microbiological samples that are pre-dosed with a preservative or neutralising chemical must not be used for physical/general chemical sampling.

Q. I've run out of bottles used for wastewater/reclaimed water physical/general chemical sampling. Can I use the spare bottles I have for drinking water/potable water sampling?

A. Yes. However, make sure you write "Wastewater Sample" or "Reclaimed Water Sample" as appropriate on the bottle in black text. For samples belonging to Remote Operations add a red sticker to the exterior of the bottle.

Q. I have to collect a bacteriological sample and physical/general chemical sample and/or metals sample. What order do I collect them in?

A. Collect any microbiological sample including a bacteriological sample last. These samples require the sampling point to be flamed using a gas burner. Flaming the sampling point immediately before collecting physical/general chemical samples and/or metals samples is not to be done as it will influence the results.

Q. I've dropped the lid of a physical/chemical sample bottle on the ground. Can I use the sample bottle?

A. Yes but the lid is contaminated. Rinse the lid three times. If you drop an opened or unopened sample bottle do the same and rinse it three times. Preferably, just use a new bottle.

Sterilising sampling spigots, taps, portable hydrant upstands etc.

Q. I have to collect a bacteriological sample and physical/general chemical sample and/or metals sample. What order do I collect them in?

A. Collect any microbiological sample including a bacteriological sample last. These samples require the sampling point to be flamed using a gas burner where this is possible. Flaming the sampling point immediately before collecting physical/general chemical samples and/or metals samples is not to be done as it can potentially influence the results. Typically a spike in the metals results is observed.

Q. I'm connecting a portable hydrant upstand to a below ground hydrant. How do I sterilise the hydrant upstand?

A. It is impractical to flame the whole hydrant upstand. Sampling spigots and taps are suitable for flaming. The internal surfaces of the hydrant upstand are to be disinfected immediately before it is used using a weak sodium hypochlorite solution. Flush the hydrant upstand thoroughly after connecting to the hydrant.

WCL-DA operating hours

Q. I've collected a physical/general chemical sample on a Friday. Should I send them to the laboratory by courier/drop them off today or wait until Monday?

A. Do not wait until Monday. These samples requiring the full suite of analytes have a maximum holding time of 48 hours. Telephone the laboratory to advise them of incoming samples.

WML-DA and WML-AS operating hours

Q. I've collected a bacteriological sample on a Friday. Should I send it to the laboratory by courier/drop them off today or wait until Monday?

A. Do not wait until Monday. These samples have a maximum holding time of 24 hours but it is preferable to have them arrive at the laboratory in less than six hours. Telephone the laboratory to advise them of incoming samples. It is always preferable to collect bacteriological samples that will be analysed at WML-DA or WML- AS on a Monday, Tuesday or Wednesday. This avoids the need for weekend laboratory work and enables reporting of any urgent results to Power and Water during normal business hours when the results are for major/minor centres or indigenous communities.