

## Commercial/community-based rainwater quality testing

Community-based drinking water supplies require a higher level of management than private rainwater tank supplies. As drinking water is defined as a food under the *Food Act 2001*, it must be provided to consumers in a 'safe' manner that is unlikely to cause physical harm through consumption.

### Rainwater quality testing

Rainwater used for any commercial purpose (such as a food premise) or for community based-supplies (such as hospitals, schools, caravan parks) requires routine testing to ensure that the water is suitable for drinking. Regular testing should form part of a documented risk management plan for the water supply.

### Microbial hazards

Rainwater collected and stored in a tank will contain a range of microorganisms. While most of these will be harmless, the safety of rainwater will depend on excluding or minimising the presence of pathogenic organisms introduced into the water through faecal contamination.

Faecal contamination of rainwater tanks is usually due to bird and small animal droppings washed in from the roof catchment area or directly into the tank itself in the case of poorly maintained tanks.

Other potential sources of contamination include dead animals and insects either in gutters or in the tank itself.

Rainwater collected in an underground tank that is not fully sealed or protected against ground run-off may become contaminated with microorganisms associated with human and animal excreta.

As a general rule, rainwater supplied to the public for drinking or food preparation should undergo microbiological testing (*E. coli*) on a monthly basis. Testing frequency can be variable depending of factors such as disinfection method (if any) and results of previous samples taken. For example, a rainwater system supplying a small community such as a school should be sampled for microbiological quality monthly.

If a UV disinfection system is installed the testing frequency can be reduced to every three months. If results indicate that the rainwater is consistently free of *E. coli*, changing the testing regime to once every six months may be appropriate.

It is recommended that advice is sought from your local Council Environmental Health Officer or the Department of Health in determining adequate testing regimes.

### Chemical hazards

Sources of chemical hazards can be divided into two types:

- those arising from off-site sources beyond the control of the owner/resident, including urban traffic, industrial emissions and poor agricultural practices
- those arising from on-site sources in the immediate vicinity of the tank and controllable by the owner/resident such as materials



# Water Quality Fact Sheet

used in the construction of the roof, gutters, piping and tank and flues from wood heaters

If a commercial or community-based supply is located in an area subject to agricultural or industrial emissions or high levels of urban traffic, chemical testing may also be warranted.

## Undertaking testing

The Australian Water Quality Centre (AWQC) can undertake a range of microbiological and chemical testing of rainwater. For further information including costs, please contact the AWQC on 1300 65 33 66. Other water testing facilities can be found under 'Analysts' in the Yellow Pages®.

Results should be compared to the values contained in the Australian Drinking Water Guidelines 2004 which are available at:

[www.nhmrc.gov.au/publications/synopses/eh19syn.htm](http://www.nhmrc.gov.au/publications/synopses/eh19syn.htm)

## ***E. coli* should not be detected in a minimum 100 mL sample of drinking water.**

The detection of *E. coli* indicates that maintenance is inadequate and requires investigation. The rainwater tank should be chlorinated prior to further use.

If chlorination is not an immediate option, an alternative source of water should be used for drinking and food preparation or the rainwater should be boiled prior to use.

## Further information

- SA Health Drought webpage to access a range of rain water related resources:  
[www.health.sa.gov.au/pehs/topics/drought-package.htm](http://www.health.sa.gov.au/pehs/topics/drought-package.htm)
- Refer to 'Guidance on the use of rainwater tanks' by enHealth Council for more information at:  
[http://enhealth.nphp.gov.au/council/pubs/pdf/rainwater\\_tanks.pdf](http://enhealth.nphp.gov.au/council/pubs/pdf/rainwater_tanks.pdf)
- Contact your local Council Environmental Health Officer
- Contact Environmental Health, SA Health (details below).

## Contact

Environmental Health  
Public Health  
SA Health

1st floor, Citi Centre Building  
11 Hindmarsh Square  
Adelaide SA 5000

PO Box 6, Rundle Mall  
Adelaide SA 5000

Tel 08 8226 7100  
Fax 08 8226 7102

ABN 97 643 356 590

Email: [public.health@health.sa.gov.au](mailto:public.health@health.sa.gov.au)

Web: [www.health.sa.gov.au/pehs/environmental-health-index.htm](http://www.health.sa.gov.au/pehs/environmental-health-index.htm)

© Department of Health,  
Government of South Australia.  
All rights reserved.

Last revised October 2006

