

Australian Water Quality Centre
RESIDENTIAL RAINWATER TESTING – HUMAN CONSUMPTION
Information Sheet

Rainwater, as it falls on house roofs, is largely free of contamination, either bacterial or chemical. During collection and storage however, there is a potential for this to change. Rainwater tanks are not as secure as drinking water provided to households by SA Water. Because of this many people are concerned about the quality of their rainwater, especially when it is to be used for drinking or cooking. The Department of Health however do not recommend routine testing of rainwater collected in domestic tanks. Public water supplies are tested frequently but it is not feasible for private owners to constantly test their rainwater.

The AWQC, together with SA Health recommend that if you have a general concern about the quality of your rainwater (rather than a specific cause for concern) it is better to follow tips provided by the Scientific Services Branch of SA Health about how to maintain a clean water supply than to have your water tested.

SA Health can be contacted by phone on 8226 7100, fax 8226 7102, mail PO Box 6, Rundle Mall Adelaide 5000 or on the web at

<http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/protecting+public+health/water+quality/rainwater>.

The AWQC however does offer a group of tests should you choose to proceed.

Microbiological tests

Water in rainwater tanks can sometimes be contaminated by micro-organisms from human or animal faeces. Bird and possum faeces are the most common. The micro-organism tested (*E.coli*) will provide you with an indication if your rainwater has been contaminated in this way.

Due to the strict sampling requirements for microbiological analysis, it is **recommended** these water samples be collected by **AWQC Field Services Officers only**. This process typically involves flaming the source tap (*please notify AWQC if the tap is not suitable for flaming*), taking the sample in a sterile bottle leaving an air gap, chilling the sample, and importantly, ensuring the sample arrives at the laboratory within 24 hours of collection. **Samples not meeting these requirements may deem the sample unsuitable and therefore accuracy of results cannot be guaranteed.**

Chemical tests

Chemical contaminants can be present in airborne dust. Sources include car exhaust fumes and agricultural/industrial chemical emissions. Lead based paints or flashing used on some older roofs may also flake off. All these contaminants can be washed from roofs into rainwater tanks. The common chemical contaminants in rainwater are iron, lead, zinc and copper. Acidity or pH are also tested to provide an idea of the general water quality.

The AWQC offers a package (see table below) of microbiological and chemical testing **designed for private rainwater tanks**; please refer to application form for further details on requesting the services of AWQC. The analyses included in the below have been developed in consultation with SA Health. If you wish to collect the samples yourself, AWQC can provide the appropriate bottles and instructions.

Analysis	Bottle Type
E.coli	1 x Sterile 300ml Plastic, with air gap, kept chilled (delivered within 24 hours of collection)
pH	1 x 250mL Plastic, with no air gap, kept chilled
Copper, Iron, Lead, Nickel, Zinc	1 x HDPE RO rinsed bottle, kept chilled

To proceed with testing

Please return the application form by email customerservice@awqc.com.au, fax 1300 883 171 or post to AWQC, Attn Customer Service Unit, PO Box 1751, Adelaide SA 5001 and we will send you a formal Customer Service Request with a proposed sample date (unfortunately we cannot provide an accurate time of collection). **The 2nd page (work acceptance form) of the Customer Service Request must be completed and returned before testing can commence or if the Customer Service Request is emailed, an emailed response confirming you wish to proceed is sufficient.**

Important disclaimer

While all advice and recommendations are made in good faith, the AWQC does not accept any liability or responsibility for the actions taken by an individual as a result of information provided. Results provided reflect water quality at the time of sample collection.

Result Interpretation

For result interpretation, please contact the SA Health's Scientific Services on 08 8226 7100.

Results can also be compared to the values contained in the Australian Drinking Water Guidelines-2011 (<https://www.nhmrc.gov.au/guidelines-publications/eh52>)

Further information

If you would like any further information with regards to the testing of your rainwater or any other testing, please contact AWQC's Customer Service unit on email customerservice@awqc.com.au or telephone 1300 653 366.



Application Form for Residential Rainwater testing – Human Consumption

Date:

First Name:

Surname:

Property/Address at which rainwater tank is located:

Address where results and account are to be sent (If different)

Phone:

Fax:

Email:

Have you had testing performed by the AWQC previously? Yes / No

Please circle your testing preference in the table below to highlight if you would like collection by an AWQC field Services Officer

	AWQC Collect	Customer Collect
Metropolitan Adelaide	\$221 + gst	\$148.2 + gst
Non Metropolitan Adelaide	\$256.10 + gst	\$148.2 + gst

(If an AWQC field Officer is collecting, ensure the area is safe and a suitable tap is available)

Pricing above is for one sample only, please contact AWQC (customerservice@awqc.com.au or telephone 1300 653 366) for pricing on additional samples. **Prices are valid until 30/6/2022**

This application form can be returned by email: customerservice@awqc.com.au, fax 1300 883 171 or post to AWQC, Attn, Customer Service Unit, PO box 1751, Adelaide SA 5001.

Once we receive your application we will send you a formal Customer Service Request with a proposed sample date (unfortunately we cannot provide a precise time of collection). **To begin the work, we require the 2nd page (work acceptance section) of the Customer Service Request to be completed and returned before testing can commence. If the Customer Service Request was emailed, a response to the email confirming you wish to proceed will be sufficient.**

GUIDELINES for RAINWATER USED for HUMAN COMSUMPTION

Information extracted from the "Australian Drinking Water Guidelines, 2011".

Characteristic	Guideline Values		Issues	Comments
	Health	Aesthetic		
Chemistry:				
Copper	2 mg/L	1 mg/L	Taste Staining Health	From corrosion of pipes/fittings by soft, low pH water. Taste threshold 3 mg/L. High concentrations colour water blue-green. >1 mg/L may stain fittings. >2 mg/L can cause ill effects in some people.
Lead	0.01 mg/L		Health	Occurs in water via dissolution from natural sources or household plumbing containing lead (e.g. pipes, solder).
Iron		0.3 mg/L	Taste Staining	Occurs naturally in water, usually <1mg/L, but up to 100mg/L in oxygen depleted groundwater. Taste threshold 0.3mg/L. High concentrations stain laundry and fittings.
Zinc		3 mg/L	Taste	Usually from corrosion of galvanised pipes/fittings and brasses. Natural concentrations generally <0.01 mg/L. Taste problems >3 mg/L.
Nickel	0.02 mg/L		Health	Drinking water generally contains very low concentrations of nickel. Long term exposure may result in toxic effects to the kidneys. Nickel is known to be a common skin allergen and can cause dermatitis particularly in younger women.
Microbiological:				
E.coli	0/100mL		Health	Sample should NOT contain any E.coli.