Australian Water Quality Centre
RAINWATER TESTING -FOR PRIVATE USE
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. Although water may appear clear on the day it is collected it may become contaminated in the following hour/day/week in a number of different ways, meaning by the time you get the result it may no longer reflect the quality of the water currently in the tank.

The AWQC, together with the Department of 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 Environmental Health Branch of the Department of Health about how to maintain a clean water supply than to have your water tested.

The Department of 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.health.sa.gov.au/pehs/topics/public-health-factsheets.htm and then select the required factsheet.

The AWQC however does offer two groups of tests should you choose to proceed. Results can be compared to the values contained in the Australian Drinking Water Guidelines-2004 (http://www.nhmrc.gov.au/publications/synopses/eh19syn.htm)

Microbiological tests

Water in rainwater tanks can sometimes be contaminated by micro-organisms from human or animal faeces. Bird and possum droppings are the most common. There are two tests that can be done (*E.coli* and Coliforms) to show if your tank has been contaminated in this way.

The most important part of the microbiological test is how the sample of water is collected. In order for the test to be accurate the samples need to be collected by **AWQC Sampling Staff only**. The samples are collected by first flaming the tap, collecting the water in a sterile bottle, refrigerating immediately and during transport and testing within 12 hours. Samples not meeting these requirements will not be analysed.

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 and salinity are also tested to provide an idea of the general water quality.

At least 1 litre of water is required to carry out these tests. The bottle must be rinsed at least three times with the rainwater before finally filling with the sample to be tested. If your rainwater is piped into the house collect the sample from an internal tap, if not, collect the sample from the tank directly.

To proceed with testing

♦If **only chemical testing** is required please return the application form with your labelled sample to the AWQC Customer Service Unit, Angas Street Loading Bay, 250 Victoria Square, Adelaide.

♦If **microbiological testing or both microbiological and chemical testing** is required return the application form to AWQC, Attn Customer Service Unit, PO Box 1751, Adelaide SA 5001 and we will contact you to arrange sampling.

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. You should satisfy yourself that any information you rely on from any source is appropriate for your own particular circumstances.

Result Interpretation and Further Information

Result interpretation and "Use of rainwater tanks" can be purchased from the South Australian Department of Health on 8226 7100.

Application Form for Testing of Rainwater – Intended for Private Use Only

Customer Name:

Address where results and account are to be sent:

Property/Address at which rainwater tank is located:

Phone: Fax:

Email:

Have you had testing performed by the AWQC previously?

(Please note an account establishment fee of $105 + GST applies to customers who have not had samples analysed within the last 5 years):

Signed: Date:

Please read the enclosed information sheet before completing this form

MICROBIOLOGICAL AND CHEMICAL TESTING

Please return this form to AWQC, Attn Customer Service Unit, PO Box 1751, Adelaide 5001 or by fax to 1300 883 171

We will send you a formal contract detailing the sampling date. The 2nd page (work acceptance form) of the contract must be returned to us before we proceed with testing.

Cost: Metropolitan Adelaide Areas: **$168.10** (excludes GST)

Non Metropolitan Adelaide areas: **$196.90** (excludes GST)

$110.40 (excludes GST) for each additional sample

For your information, analyses included in the above package are as follows:

Analysis	**Bottle Type**
E.coli	1 x Sterile 600ml PET Air gap-ice
Copper	1 x 355ml Acid Washed PET-no air gap-ice
Nickel	
Zinc	
Lead	
Iron	

Prices are valid until 30/6/11.

GUIDELINES for RAINWATER USED for HUMAN COMSUMPTION

Information extracted from the "Australian Drinking Water Guidelines, 2004".

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	No sample should contain any E.coli organisms.