



Rainwater tanks: Maintenance and water care

In Australia where water is scarce, our limited rainfall is too valuable to waste.

Rainwater is generally safe to drink but collecting a good, clean supply depends on “*low* maintenance — not *no* maintenance”.

A valuable free resource

Rainwater can provide a free and renewable supply of natural, soft, clear and odourless water for a range of purposes including drinking, food preparation, washing, bathing, laundry, toilet flushing and gardening.

Rainwater is a useful addition to mains water for many households. However, in some areas rainwater is the primary source of water for all household purposes.

Is rainwater safe to drink?

Generally rainwater is safe to drink.

If the rainwater is clear, has little taste or smell and is from a well-maintained system, it is probably safe and unlikely to cause any illness for most users.

Disinfecting the water before consumption should be considered for those who are immuno-compromised such as the very young or very old, cancer patients, people with diabetes, organ transplant recipients or people who are HIV positive,. This can be achieved by bringing the rainwater to the boil.

Water quality

Rainwater collected in tanks generally contains few chemicals. However, there may be increased pollution by airborne contaminants from very heavy traffic or in industrial areas.

Collection of rainwater for human consumption (drinking and cooking) in areas affected by very heavy traffic, industry, incinerators and smelters is not recommended.

The microbiological quality of rainwater collected in domestic tanks may not be as good as mains water, but if collection systems are well maintained, the risk of harmful organisms being present is low.

Fluoride

Rainwater does not contain fluoride. Where rainwater is the major source of water for drinking and cooking, advice about alternative sources of fluoride should be sought from your local dentist, school or community dental service or from the Australian Dental Association.

How can water quality be protected?

The supply of good quality water depends on ensuring correct design and installation followed by sensible maintenance of the rainwater tank and catchment area. The collection of rainwater involves “*low* maintenance — not *no* maintenance”.

The tank

Tanks are available in a wide range of materials including galvanised, Aquaplate™ or zincalume® steel, concrete, fibreglass or plastic. All these tank materials can be suitable if



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the tanks have been manufactured specifically for the collection of rainwater.

Some types of new tanks may have to be washed or flushed before use. The manufacturer should be able to provide advice on whether this may be necessary.

When installed, the tank should be covered and every access point except the inlet and overflow should be sealed. The inlet should incorporate a mesh cover and a strainer to keep out debris and prevent the entry of mosquitoes and other insects. The overflow should also be covered with an insect-proof screen.

The catchment (roof)

In general, house and shed roofs are used as catchment areas. Rainwater can be collected from most types of roof, including asbestos roofs, providing they have not been painted with lead-based paints or coated with bitumen-based material.

Some types of new tiles and freshly applied acrylic paints may affect the colour or taste of rainwater and the first few run-offs may need to be discarded.

As a precaution, chemically treated timbers and lead flashing should not be used in roof catchments. Also, if possible, rainwater should not be collected from parts of roofs incorporating flues from wood burners.

Overflows or discharge pipes from roof mounted appliances such as evaporative air conditioners or hot water systems should not be allowed to discharge onto the roof catchment area or gutters.

First-flush devices

First-flush devices can be used to prevent the first rains from flowing into the tank after a dry period. This will

reduce the amount of dust, bird droppings, leaves and debris that have accumulated on the roof from being washed into the tank. The use of these devices is recommended. Alternatively the tank inlet could be disconnected so that the first run-off of rain after a dry spell is not collected.

Maintenance

Roof catchments should be kept clean and clear of leaves and debris. Overhanging branches should be removed. Gutters should be regularly inspected and cleaned if necessary. The use of screens/guards should be considered and all screens should be cleaned regularly.

Water ponding in gutters must be prevented as it can provide breeding sites for mosquitoes and could lead to eggs being washed into tanks. Tanks should not be allowed to become breeding sites for mosquitoes. If mosquitoes are detected in a tank, the entry point should be located and closed.

For most types of tanks mosquito breeding can be stopped by adding a teaspoon (5 mL) of domestic kerosene. However, kerosene should not be used in Aquaplate™ or some plastic tanks. Prevention of mosquito access is the best control option in all cases.

Tanks should be examined for accumulation of sludge at least every 2-3 years. If sludge is covering the bottom of the tank it should be removed by siphon or by completely emptying and rinsing the tank. Professional tank cleaners are available in some areas. Excessive sludge is a sign of inadequate maintenance of the catchment area (roof and gutters).

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Disinfection

Regular disinfection should not be necessary. If it is suspected that water in the tank is contaminated, it can be disinfected using 40 mL of liquid sodium hypochlorite (12.5% available chlorine) or 7 grams of granular calcium hypochlorite per 1000 litres of water.

A chlorine taste and odour may persist for a few days but this does not make the water unsafe for drinking.

Stabilised chlorine should not be used.

Size of tanks

The size of tank required to provide the primary or total supply of household water will depend on a number of factors including the amount and pattern of rainfall, roof area and water usage.

Where rainwater is being used to supplement mains water, the size of tank is not such a critical issue and will depend on space, cost and user requirements (such as drinking, cooking, washing and watering the garden).

Regulations

Before purchasing or installing a rainwater tank check whether there are any local health, building or planning regulations that apply to tanks in your area. In some areas there may be minimum storage and pump requirements for fire fighting.

A mandatory rainwater tank policy exists for new homes and some extensions to existing homes built after July 2006.

See www.planning.sa.gov.au for information on the new requirements and www.sawater.com.au for details of the Rainwater Tank Rebate Scheme.

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
- This information was based on the enHealth Council monograph, 'Guidance on the use of rainwater tanks' by enHealth Council at:
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).
- Water testing (at cost) ~ Australian Water Quality Centre:
telephone 1300 653 366
- For information on the size of tanks and security of supply contact the Department of Water, Land and Biodiversity Conservation,
telephone (08) 8463-6800 or go to:
www.dwlbc.sa.gov.au/files/rainwater.pdf.

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Last revised October 2008