

# USE OF RAINWATER TANKS

In Australia water is a valuable commodity. Rainwater can provide a renewable supply of natural, soft, clear and odourless water that can be used for a range of purposes including drinking, washing, bathing, laundry and gardening. In some areas it may represent the primary source of household water while in others it can supplement existing mains water supplies.



## IS RAINWATER SAFE TO DRINK ?

Generally yes. Providing 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.

For those who are immunocompromised such as the very young or very old, cancer patients, people with diabetes, organ transplants, or those who are HIV positive disinfecting the water before consumption should be considered. This can be achieved by heating and holding at a rolling boil for 1 minute or more.

## 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 providing 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 provision of good quality water depends on 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 of these materials can be suitable providing 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 unless in use. The inlet should incorporate a mesh cover and a strainer to keep out materials such as leaves and to prevent the access of mosquitoes and other insects. The overflow should also be covered with an insect-proof screen.

## THE CATCHMENT

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 the associated gutters.

## FIRST FLUSH DEVICES

First flush devices prevent the first portion of roof run-off from being collected and will reduce the amounts of dust, bird droppings and leaves etc that can accumulate on roofs from being washed into tanks. 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.

All screens should be cleaned regularly. **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 covering the bottom of the tank is evident it should be removed by siphon or by complete emptying of 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).

## 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 a tank is to provide an alternative or secondary supply (eg to mains water), the size of tank is not such a critical issue and often will depend on considering user requirements (drinking or drinking and cooking etc) balanced against cost.

## 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 firefighting.

## FURTHER ADVICE

The information contained in this brochure was taken from the National Environmental Health Monograph "*Guidance on the Use of Rainwater Tanks*". The monograph is available from enHealth Council of the Commonwealth Department of Health and Aged Care ~ email: [environhealth@health.gov.au](mailto:environhealth@health.gov.au).

### FURTHER INFORMATION IS AVAILABLE FROM:

**Health** ~ Department of Health: Ph 8226-7100

**Water testing (at cost)** ~ SA Water: Ph 8259-0215

#### Size of tanks and security of supply

Dept of Water Resources: Ph 8204-9000 or at: [www.environment.sa.gov.au/water/catchment.html#publications](http://www.environment.sa.gov.au/water/catchment.html#publications)