Rainwater from your roof can be a valuable resource as it can contribute to your yearly water needs and help conserve drinking water reserves. However, a reticulated scheme drinking water supply remains the most reliable source of drinking water in the urban environment.

The Department of Health supports the use of rainwater tanks in urban areas for all non-potable uses, such as garden watering, flushing toilets, in washing machines and car washing. Using rainwater in this way will not pose a risk to your health.

If you live in an urban area and you would like to drink rainwater, you should be aware that there might be an increased risk of pollution by airborne chemical and microbiological contamination. Also poorly maintained rainwater tanks can breed mosquitoes that can cause severe nuisance or carry human disease to you and your neighbours.

Follow the information in this guide to minimise the risk of contamination and disease to you and your family if you intend to drink your rainwater.

Is Rainwater Always Safe To Drink?

Unless adequately treated, rainwater is not reliably safe to drink. It is almost impossible to completely protect rainwater from:

- bird droppings and other debris containing micro-organisms;
- air pollution caused by:
  - light industries such as spray painters and fibreglass fabricators;
  - heavy industries such as kilns, quarries, chemical plants; and
  - emission from motor cars associated with freeways and main roads.

The level of contamination in your rainwater will depend upon:

- **the amount of debris collected in your gutters and on your roof.**
- **your proximity to heavy traffic, incinerators, light or heavy industry.**

What Is On The Roof?

Rainwater can be collected from most types of roofs, including asbestos, Colourbond™ and galvanized. It is important to find out if your roofing material or the paint used on your roof or in your gutters etc. could contaminate rainwater. eg. Tar based coatings can bind other harmful organic chemicals to the roof or gutter and be difficult to clean.

Rainwater should not be collected from parts of the roof that incorporate:

- a chimney from a wood burner;
- discharge pipes from roof mounted appliances such as evaporative air conditioners or hot water systems;
- chemically treated timbers; or
- lead based paints or flashings.

Speak to your rainwater tank supplier about identifying materials on the roof that could contaminate your rainwater.

How Do I Maintain My Rainwater System?

Regular maintenance is the key to good water quality. Installing screens, filters and first flush devices will reduce contamination.

Likely sources of micro-organisms and chemical contaminants that you can control are:

- Overhanging branches,
- Soil and leaf litter accumulated in gutters particularly if kept damp for long periods due to poor drainage,
- Faecal matter deposited by birds (resting on wires and TV antennas), lizards, mice, rats etc
- Dead animals and insects either in gutters or in the tank itself.

It is important that roofs, gutters, screens and first flush devices be inspected and cleared of leaves and other debris every three to four months.

The first flush runoff from a roof will wash contaminants such as dust, bird droppings, leaves and other airborne contaminants into your tank. First flush devices prevent the first portion of roof runoff from entering the tank.

Are Mosquitoes A Problem?

Rainwater tanks can become breeding sites for mosquitoes that can cause severe nuisance and carry serious diseases. In WA the most common mosquito found to breed in poorly maintained rainwater tanks is a proven carrier of Ross River virus.

To prevent mosquito breeding, corrosion and metal contamination, guttering and pipework should be self-draining or fitted with drainage points. Water should not be allowed to pool under the overflow outlet or tap as these can become mosquito-breeding sites.

The tank should be a sealed unit with the lid preventing sunlight from reaching the water. Sunlight encourages the growth of algae that will taint the water. Holes and spaces will allow mosquitoes to enter.

The inlet should incorporate a mesh cover and a strainer to keep leaves and to prevent the access of mosquitoes and other insects. The overflow should also be covered with an insect proof cover such as plastic insect mesh wired around the pipe. Insect mesh should be no coarser that 12 x 12 meshes/ 25mm^2.

To stop mosquito breeding add a teaspoon of food grade paraffin oil (in small tanks up to 1000 litre) to the water. (The amount needed will vary depending upon the surface area of the water. A sufficient quantity to produce a thin film over the water surface is all that is required).

Should I Test Rainwater?

Routine testing of rainwater is not normal practice and in most cases would not be recommended. If tested, the results should be compared with the values contained in the Australian Drinking Water Guidelines (NHMRC/ARMCANZ, 1996).

Laboratories can be found in the yellow pages telephone directory under the heading, “Analysts”.

Should I Treat Rainwater?

If rainwater is to be drunk or used in cooking for any reason, eg where a reticulated scheme drinking water supply is not available, it should first be

disinfected either by bringing to a rolling boil for a few seconds (waiting for the automatic cut out on an electric kettle is sufficient) or by chlorination. Additional information on water disinfection is contained within the Environmental Health Guide, “Emergency Treatment of Drinking Water Supplies”.

Can I Top Up My Tank ?

It is important to protect our reticulated scheme drinking water supply from any risk of contamination through backflow from rainwater tanks. Rainwater tanks connected to the scheme must be fitted with an approved backflow prevention device installed by a licensed plumber.

Do I Need Building Approval?

Before purchasing and installing a rainwater tank check with your local government for local building regulations that apply in your area.

What Should I Look For?

Your rainwater system should incorporate:

- A first flush device,
- Gutter guards or screen mesh to reduce the amount of debris entering the tank,
- Rainwater tank outlet points that reduce or eliminate the build up of sludge,
- Insect screens on overflow pipes and insect proof lids and inspection ports,
- Australian Standards approval marks on materials that will come into contact with rainwater such as:
  - AS 2070, Plastic materials for food contact use
  - AS/NZS 2179-1994 Specifications for rainwater goods, accessories and fasteners.
  - AS 2180 – 1986 Metal rainwater goods – selection and installation.
  - AS 3500.1 – 1992 National plumbing and drainage code. Part 1: Water supply
  - AS 3855 – 1994 Suitability of plumbing and water distribution systems products for contact with potable water.
  - AS 4020 Products for use in contact with water intended for human consumption with regard to their effect on the quality of water.

Some PVC pipes may contain lead so if the water is for drinking purposes use only high-grade (food) plastic pipes and fittings.

Summary

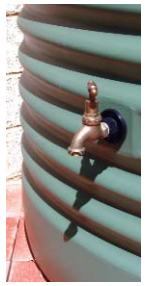
- Unless adequately treated, rainwater is not reliably safe to drink.
- In urban areas connected to scheme drinking water use rainwater for non-potable uses, such as garden watering, flushing toilets, washing machines and car washing.
- If rainwater is consumed for any reason, first disinfect by boiling or chlorination.
- Do not allow the first rainwater to enter the tank.
- Keep gutters and roofs clean, dry and in good repair.
- Ensure that the tank is sealed and the inlet and overflow screened against insects/animals.
- Cover and seal the tank to prevent the entry of sunlight, dust, insects and animals.
- Check for the appropriate Australian Standards mark.
- Rainwater tanks connected to the scheme must be fitted with an approved backflow prevention device installed by a licensed plumber.

Other Water Quality Guides Available

- Is the Water in your Rainwater Tank Safe to Drink?
- Emergency Treatment of Drinking Water Supplies
- Water Filters
- Giardia Infection
- Cryptosporidiosis

Further Information

For further information, contact an Environmental Health Officer at your local government



or

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Urban Rainwater Collection

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