



Domestic Wastewater Overflows

What you need to know when an overflow occurs on your property

The Department of Health has prepared the following information for Water Corporation customers who have been unfortunate enough to experience a wastewater overflow on their property. This information will provide customers with a better understanding of the risks and appropriate clean up procedures following a wastewater overflow.

What are the health risks associated with contact with wastewater?

Wastewater contains 99.7% water. However, the 0.03% dissolved and suspended matter can contain many micro-organisms that may be harmful to humans, animals and the environment such as viruses, bacteria, fungal, and parasitic organisms.

Contact with wastewater or its products may cause a number of illnesses which may include;

- Gastroenteritis (diarrhoea or vomiting)
- *Giardia* and *Cryptosporidium*
- Viral infections such as hepatitis
- Infections of the skin or eyes.

How are these illnesses spread?

Such illnesses may be spread by;

- **Hand to mouth** contact during eating, drinking and smoking, or by wiping the face with contaminated hands or gloves, or by licking droplets from the skin;
- **Skin contact**, through cuts, scratches, or penetrating wounds. Certain organisms can enter the body through the surfaces of the eyes, nose and mouth; or
- **Breathing in organisms**, either through dust, aerosols, droplets or mist (this is considered to be low risk).

How can I reduce my risk of exposure to wastewater?

In all situations where a wastewater overflow clean up procedure is being undertaken on your property, persons involved in the cleanup procedure should wear personal protective clothing such as rubber boots, rubber gloves and washable or disposable coveralls.

Unprotected persons should be evacuated from the affected area until the area has been thoroughly cleaned and disinfected.

Other safety precautions to be followed include;

- Assume anything touched by wastewater is contaminated.
- Wash your hands and affected areas of the body thoroughly with clean warm water and soap, especially before eating or smoking.
- Immediately wash and disinfect any wounds that come into contact with wastewater.
- Change out of dirty clothes and wash clothes separately.
- Clean and dry dirty footwear.
- Contact your doctor immediately if you experience any illness.



Are odours from wastewater a concern?

Odours from raw wastewater may be annoying. If odours persist contact the Water Corporation in the first instance, or your local government Environmental Health Officer.

What is involved in the Water Corporation clean up procedure?

Cleanup following a wastewater overflow should begin as soon as possible. The clean up process generally involves;

Indoors

- Depending on the extent of the overflow, the Water Corporation may organise a professional cleaning contractor to undertake cleaning procedures.
- Indoor clean up procedures involve cleaning the area thoroughly and the application of a chemical disinfectant over the affected area.
- Fans and natural ventilation will be used to assist in drying the area to prevent mould growth from occurring.
- All items unable to be hygienically cleaned by a *professional* shall be disposed of appropriately off site.
- In situations where the premise has become uninhabitable, the Water Corporation *may* provide the occupiers with alternative accommodation during the duration of the clean up procedure.

Outdoors

- All wastewater is disposed of appropriately off site or disinfected.
- The area is then thoroughly washed down with clean water and an appropriate chemical disinfectant is applied over the area.
- All water used to clean the area must **NOT** be disposed of into the stormwater drain. This water must be disposed away from the site at an appropriate location or to the sewer.
- In some circumstances in outside areas, hydrated lime (builders lime) may be spread over the area and mixed into the soil if in a non-paved area. This helps to neutralise the wastewater so it is less harmful to the environment, and also assists in reducing odours.

What is involved in the disinfection process?

Disinfection involves the process of destroying or preventing the growth of disease causing microorganisms.

Chemical disinfectants commonly used by the Water Corporation during cleanup procedures contain an active ingredient of 1% Quaternary Ammonium Compound. This disinfectant is considered appropriate by the Department of Health when it is used in accordance with the manufacturer's instructions.

What are the cleanup requirements for the following household items damaged by wastewater?

Carpets or rugs

In general, saturated carpeting (and the underlay) cannot be adequately cleaned after it has been contaminated by wastewater. Where possible the carpet and underlay should be removed and replaced. The Water Corporation will advise on renewal and replacement carpet and underlay.

In situations where a customer has decided to keep the carpet/rug and underlay (i.e. For sentimental reasons), the services of a professional carpet cleaning company should be sought prior to using the carpet.



Mattresses, bedding, linen, upholstered furniture and stuffed toys

Absorbent materials such as mattresses, bedding, linen, upholstered furniture and stuffed toys that have been saturated by raw wastewater must be properly cleaned and disinfected by a professional where possible. Otherwise these materials must be destroyed and replaced, as they may become reservoirs for the growth of micro-organisms.

Hard surfaces such as wood, concrete, wood mouldings, hardwood floors and metal furniture

All hard surfaces should be thoroughly cleaned with clean hot water and detergent, and then appropriately disinfected by the cleaning contractor. All items must then be thoroughly dried.

Vinyl floor areas/tiled areas

Generally vinyl and tiled floor areas are nonporous (do not absorb water). After the area has been cleaned and disinfected, these areas should be carefully examined, as wastewater may migrate to the perimeter of the floor and become trapped below the surface. If migration has **not** occurred, these materials may be fully restored by cleaning and disinfection.

Plaster/plaster boards

Plaster or plaster boards that are saturated and are soft to touch should be cleaned and disinfected. If any of these materials are retaining moisture they should be thoroughly dried out, or removed and replaced, and then disposed of appropriately.

Household appliances

Any household appliance that has been in contact with wastewater should be cleaned with warm water and detergent, and then rinsed with a disinfectant solution, and allowed to dry.

If wastewater has overflowed onto grassed, concrete or bricked outdoor surfaces, when will it be safe to use this area again?

In situations where wastewater has overflowed onto a grassed, concrete or bricked surface it is advisable to keep pets and children off the area following the clean up procedure for approximately 24 hours after. This allows ultraviolet radiation from the sun to destroy any remaining disease causing micro-organisms.

How should swimming pools and fish ponds be cleaned up?

Fish pond

Wastewater will generally not harm fish. However, depending on the amount of contamination, the fish may need to be removed from the pond. The pond volume should then be partially replaced with de-chlorinated clean water. People and pets should not have contact with the pond for at least 2-3 days.

Swimming pools

There are two options the Water Corporation may use for cleaning swimming pools contaminated with wastewater which may include;

1. Emptying, cleaning and then refilling the pool; or
2. Removing all visible material from the pool using a scoop etc. Then;
 - Adding a flocculent or clarifier to the pool, dispersing it over the entire pool.
 - Ensuring the chemical mixes thoroughly with all pool water.
 - Turning the filter OFF for 8 hours to allow material to settle on bottom of pool.
 - Vacuuming material settled on floor of pool to waste (if possible - not through filter).
 - Backwashing the filter.
 - Super chlorinating water to 10 ppm.



Adding:

- 14 grams of granular chlorine (calcium hypochlorite) per 1000 Litres, or
- 80ml of liquid chlorine (sodium hypochlorite) per 1000 Litres.
- Checking to ensure ph is 7.2 - 7.6. If necessary, add sufficient chemicals to adjust ph.
- Running filter for 24 hours.
- Backwashing filter.
- Before allowing people to use the pool, ensuring water is clear and chlorine levels are 1-5ppm.
- If water is still turbid, repeating flocculation process.
- If water still cloudy, drain and refill pool.

Backwash wastewater must **NOT** be disposed of into the stormwater drain and must be taken off site to an appropriate location.

What about vegetable gardens and fruit trees? Are they safe to eat?

Fruit and vegetables that have had contact with wastewater may be contaminated by disease causing microorganisms. All leafy vegetables and soft skinned fruits e.g. Strawberries that have had *any* contact with wastewater should be discarded. Fruit and root vegetables should be washed in a solution of at least 100ppm of chlorine and rinsed with clean water. All vegetables should be thoroughly cooked before consumption.

What about my plants?

Any affected plants should be gently watered with clean water and not touched for 2-3 days after the overflow to allow natural disinfection to occur. In certain cases, extra top soil (i.e. Sand) may be applied over the area.

Animal beds/bird aviaries

It is important not to forget your pets in such events. Ensure any pet beds, food bowls etc that have had contact with wastewater are cleaned and disinfected, or disposed of appropriately.

In bird aviaries, firstly remove the birds from the cage. You must ensure that all bird seed that has had contact with wastewater is disposed of. A disinfectant should be used to clean all surfaces, and depending on the floor surface, lime and/or clean sand should also be spread over the area. The area should then be cleaned with clean water and allowed to dry before the birds can go back into the cage.

Outdoor sports equipment/tools and other hardware

All outdoor equipment such as sporting gear or tools that have had contact with wastewater need to be washed with warm water and detergent, and then soaked in a disinfectant and allowed to dry.

How do I prevent mould growth after a wastewater overflow occurs?

Mould growth after a wastewater overflow may occur as a result of excess moisture in materials. If a material stays wet mould is likely to grow. In order to prevent mould from growing it is important to ensure all materials exposed to wastewater are thoroughly cleaned, disinfected and allowed to dry, or appropriately disposed of off site.

It is extremely important to keep the area well ventilated following the event to assist in drying. Windows and doors should be kept open, and fans should be used to assist in the drying process.

For further information

If you have any concerns regarding a domestic wastewater overflow event contact the Water Corporation's Faults, Emergencies and Security line on 13 13 75 or your local government Environmental Health Officer.