

## SODIUM BLOCKS THE SOILS PORES

Past research has shown that the presence of sodium in wastewater greatly inhibits the percolation of wastewater out through a trench or into the surface of the ground. The major contributor of total sodium to septic tanks has been found to be laundry detergents. Up to 38% of the detergent has little bearing on wash quality. The use of concentrated detergents have an advantage as they contain less fillers.

An important step in extending the longevity of a septic tank system or an aerated wastewater treatment system is to use low sodium detergents.

If water control and sodium reduction measures are used, as outlined in this brochure, an aerated wastewater treatment system or septic tank system will perform effectively, and have a longer serviceable life.

You might have heard that by putting a dead animal carcass in your septic tank it will help promote the bacteria necessary to kick start the system. This is a incorrect. You may have also heard that the mixing of half a cup of gypsum in a bucket of water and flushing it down the toilet once a week is beneficial in that it helps settle out solids and improve the performance of the disposal trenches. While this might be true it has not been scientifically proven. If you find it necessary to do so you should consult your council Environmental Health Officer.



## HOW TO MAINTAIN YOUR SYSTEM

Do not dispose of fats, grease or oil into the system as they can solidify and block parts of the system;

Do not deposit coffee products, disposable nappies, feminine hygiene products, sanitary wipes, cigarette butts and other non decomposable materials in your system;

Do not use household chemicals (disinfectants and bleaches) in great volumes as some can kill the bacteria needed for proper system performance;

Pump out the septic tanks approximately every 2-3 years;

Inspect septic systems annually and aerobic wastewater treatment systems quarterly;

Always check before using septic system additives as some biological and chemical additives may in fact be harmful to the system or contaminate groundwater;

Do not divert stormwater or basement pumps into systems;

Avoid or reduce the use of your food waste disposal unit as they can contribute excessive sludge build up and frequency of tank pump outs;

Do not put solids down the toilet as excess solids may clog the system and necessitate more frequent pump outs;

Always look for low-phosphorus or phosphorus-free detergents to use in your system;

Consider installing an outlet filter for your septic tank.

### For more information

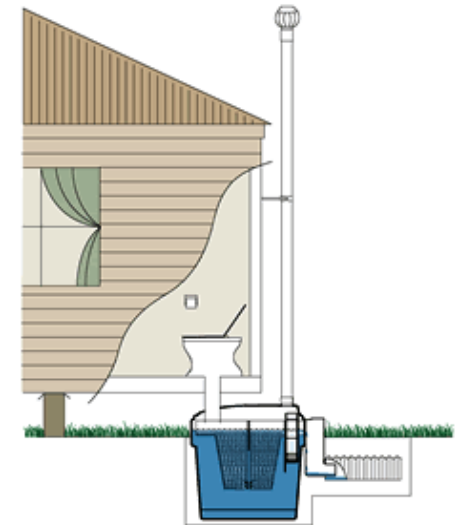
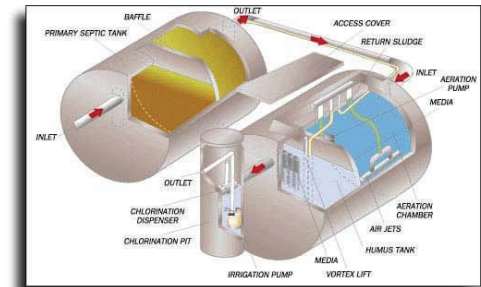
about the *Plumbing Regulations 2004* and the Tasmanian Plumbing Code, contact Workplace Standards Tasmania

Phone: 1300 366 322 within Tasmania or (03) 6233 7657 outside Tasmania

Fax: (03) 6233 8338

Email: [wstinfo@justice.tas.gov.au](mailto:wstinfo@justice.tas.gov.au)

## On-site waste water management systems



Workplace Standards Tasmania

DEPARTMENT of JUSTICE

GB174 March 2007

  
Tasmania  
Explore the possibilities

## AERATED WASTEWATER TREATMENT SYSTEMS AND CONVENTIONAL SEPTIC TANK SYSTEMS

This brochure is intended for owners or occupiers of land using on-site Waste Water Management systems involving conventional septic tanks and Aerated Waste Water Treatment Systems (AWTS).

### HOW DO THEY WORK?

In both systems wastes drain to a tank where solids sink to the bottom, with a small amount of solids remaining suspended in the effluent (which is 99 percent water). A small fraction of the solids float to the top of the tank, where it forms a "crust" (in septic tanks), which indicates a healthy system. Bacteria in the tank digest most of the solids, leaving an indigestible sludge in the bottom of the tank, which must be removed every few years depending on the performance of the system.

In conventional septic tanks the fluid that is left over is distributed under the ground by a system of absorption trenches by gravity or pressure dosing.

In an AWTS this fluid is further digested by aerobic bacteria in a chamber with air bubbling through it. This clarifies the effluent significantly, which is then disinfected (generally by chlorination) and reused by spray irrigation onto a designated land application system incorporating signage.

## EXCESS WATER INTERRUPTS A SYSTEM'S PERFORMANCE

In both conventional septic systems and aerated systems, water flows through the system. If too much water is discharged at one time the bacteria present in the system cannot properly digest the solids in the wastewater and the solids cannot properly settle out. In septic tanks systems the solids are then discharged to a trench where they block up the trench pores, or in the case of aerated wastewater treatment systems, blocking the irrigation system's filters and sprinklers. Additionally, the lack of holding time in the system makes effluent from both types of on-site system become far more contaminated than normal with disease causing bacteria.

Reasons for a system becoming overloaded by water include:

- Increased water usage due to:
  - ◇ having lengthy showers;
  - ◇ using automatic washing machines incorrectly;
  - ◇ installing dishwashers and/or spa tubs;
  - ◇ changing from tank water to town water.
- Poorly-designed land application areas;
- Lack of maintenance;
- Long winters with extended wet periods.

You can reduce water usage by:

- ◇ installing low-flow shower heads and having shorter showers (this also saves energy bills);
- ◇ install dual flush toilets, water efficient washing machines and appliances;
- ◇ do not leave the machine water settings on "high" - only use the appropriate amount of water for the actual quantity of washing;
- ◇ *for older washing machines*, re-using final rinse water for further washes; and
- ◇ washing only on "economy" cycle.

## WHEN THEY FAIL!

**On-site waste water management systems occasionally fail due to a number of factors.**

Systems that have failed may cause problems such as:

- Odour problems;
- Problems relating to saturation of the ground;
- Problems relating to run-off of the effluent (which in both conventional septic tank and aerated waste water treatment systems, must be disposed of within the designated land application area);
- Clogged sprinklers (aerated systems); and
- Potentially serious health problems.

### Preventative maintenance.

Many problems with on-site waste water management systems can be traced to:

1. Excessive septic tank sludge build-up:  
*Solution* - remove sludge regularly;
2. Bacteria die-off: - *Solution* - do not put bleaches or strong detergents into the system, e.g. non septic safe detergents, automatic dishwasher detergents and the like;
3. Excessive water flows overloading the system;
4. The soil's inability to allow effluent to permeate through it.

