



Septic System Owner's Guide

Safety and Health

Why You Need Good Wastewater Treatment

The septic system is designed to treat wastewater for a specific site. Proper treatment of wastewater reduces health risks to humans and animals and prevents surface and groundwater contamination.

Risks to Human and Animal Health

It is unhealthy for humans, pets, and wildlife to drink or come in contact with surface or ground water contaminated with wastewater.

Inadequate treatment of wastewater allows bacteria, viruses, and other disease-causing pathogens to enter groundwater and surface water. Hepatitis, dysentery, and other diseases may result from bacteria and viruses in drinking water. Disease-causing organisms may make lakes or streams unsafe for recreation. Flies and mosquitoes that are attracted to and breed in wet areas where wastewater reaches the surface may also spread disease.

Inadequate treatment of wastewater can raise the nitrate levels in groundwater. High concentrations of nitrate in drinking water are a special risk to infants. Nitrate affects the ability of an infant's blood to carry oxygen, a condition called methemoglobinemia (blue-baby syndrome).

Risk of Contaminating Water

A septic system that fails to treat sewage can also allow excess nutrients to reach nearby lakes and streams promoting algae and weed growth. Algal blooms and abundant weeds may make the lake unpleasant for swimming and boating, and can affect water quality for fish and wildlife habitat. As plants die, settle to the bottom, and decompose, they use oxygen that fish need to survive.

Many synthetic cleaning products and other chemicals used in the house can be toxic to humans, pets, and wildlife. If allowed to enter a failing septic system, these products may reach groundwater, nearby surface water, or the ground surface.

In the soil treatment portion of the septic system (drainfield or mound), bacteria and viruses in the sewage are destroyed by the soil and naturally-occurring microscopic organisms. Nutrients are absorbed by soil particles or

taken up by plants. However, these processes only work in soil that has air in it. The soil cannot be saturated with water. Near lakes, streams, and wetlands soil conditions may be saturated. When the soil is saturated, biological breakdown will be incomplete and nutrients will move much greater distances, sometimes hundreds

of feet from the drainfield or mound, and possibly into surface water. **Even systems that appear to be working well or that are in compliance with local design and installation codes may allow nutrients or bacteria to reach the ground or surface water.**



Safety Checklist

- **Never enter the septic tank.** The tank has a manhole for cleaning and inspection from the outside only. The tank contains very little oxygen and has high levels of hydrogen sulfide, methane, carbon dioxide, and other life-threatening gases.
- **Never use electrical** lights, appliances, or tools in or close to the water or wet ground near the septic tank or drainfield. This can result in explosion or electrical shock.
- **Always remember** that the liquid and solid contents of the septic system are **capable of causing infectious diseases**. After working on any part of the septic system, always wash hands thoroughly before eating, drinking, or smoking. Change clothes before coming into contact with food or other people.
- **Keep vehicles and other heavy equipment away**, from the septic system. The tank and other components may collapse due to weakness from corrosion.
- **Never smoke near septic tank openings.** Gases such as methane that may be present are potentially combustible.
- **Keep children and other spectators away** from the septic system when it is being cleaned or excavated.
- If there is a **smell of sewer gases** in your home, **immediately call** a plumber or other qualified person to identify the source and correct it. If the gas smell is very strong, **evacuate the building** until the problem is corrected and the gases are removed.