

Don't Let Your Dollar\$ Go Down the Drain!

Septic Tank Additives



Out of sight, out of mind?! Ignoring your septic tank can cost you money. Many septic system additives claim to help the homeowner reduce the worry and time required for maintenance. Overwhelmed or confused by the 1200 products out there? Read on to learn how to sort through all the hype.

How Your Septic Tank Functions

It is important to know to understand how your septic system works before considering using any additives. Your septic tank is designed to keep solids, grease and oils from entering and clogging your drainfield. Bacteria in the tank break down organic solids into gas and liquid. Some solids in the tank, such as sand, gravel, dirt and bits of plastic cannot be broken down by any enzyme or bacteria. These settle out and accumulate, creating a layer of sludge at the bottom of the tank and requires periodic pumping to remove. Grease and oils rise to the surface as scum (Figure 1), while the relatively clear liquid between these layers flows out into the drainfield and infiltrates into the soil.

Types of Additives

When looking at costs, septic system additives may seem like a bargain compared to pumping a septic tank. However, some products can damage septic systems, interfere with treatment of wastewater, and contaminate groundwater. Septic tank additives fall into three categories: inorganic compounds, organic solvents, and biological additives. Companies market inorganic additives, generally strong acids or alkalis, for their ability to open clogged drains. These contain similar ingredients to popular drain cleaners. These products can destroy the biological function of your septic tank, sterilizing it for days, allowing raw sewage to flow directly into your drainfield, potentially clogging pipes and soil pores. These types of products can also corrode concrete tanks and distribution boxes, causing them to leak and potentially break apart. Research found hydrogen peroxide degrades soil structure in a drainfield, reducing its ability to treat and absorb wastewater effluent.

Organic solvent additives contain concentrated amounts of chemicals used for degreasing machine parts due to their effectiveness at breaking down oils and grease. Unfortunately, these products also kill bacteria and other beneficial microbes in your tank and may contaminate groundwater. Some states ban these products and their use may trigger liability issues if groundwater becomes contaminated.

Biological additives combine enzymes and bacteria to supposedly enhance the existing biota in septic tanks to provide a start for new systems or to augment stressed systems. For new systems, many people believe you must add bacteria. While septic systems require bacteria to work, no special bacteria need to be added.

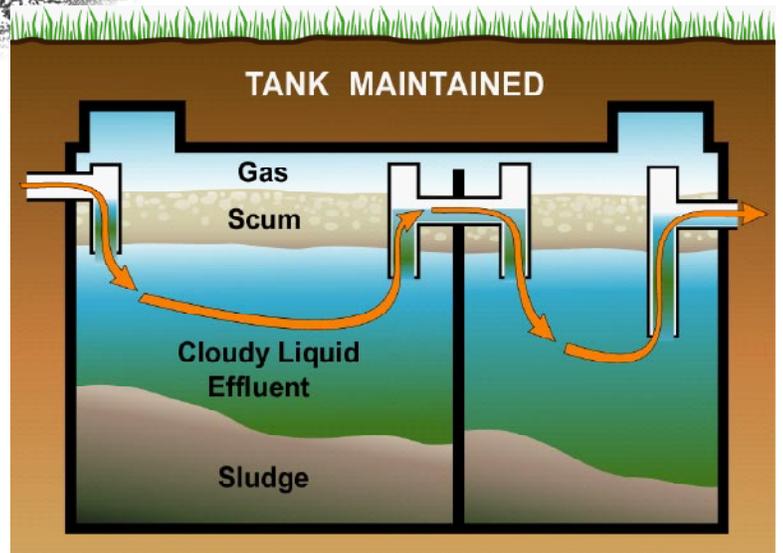


Figure 1. Depiction of a regularly maintained septic tank. Scum floats to the top, while sludge settles to the bottom, leaving the liquid to flow into the drainfield and be absorbed into the soil.

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The simple act of using the system promotes the growth of bacteria needed to make the system work. The amount of bacteria or enzyme in an additive dose remains small compared to the bacteria already in a tank and therefore provides little, if any, benefit in wastewater breakdown. In addition, if many of the bacteria in your tank died due to introduction of a harmful substance, introduced bacteria will likely die as well. One study of 48 septic tanks found no difference in sludge level between tanks that used bacterial additives and those that did not (McKenzie, 1999).

What Additives Can You Use?

To flush or not to flush...

Compared to the bacteria already in septic tanks or introduced with the first flush (in the case of a new tank), the amount of bacteria or enzyme introduced with an additive is very small, resulting in minimal effectiveness.

Washington State law allows the use of additives with ingredients unlikely to harm septic systems, groundwater, and human health. The Washington State Department of Health regularly updates a list of approved additives (Table 1). It is against the law to use, sell, or distribute additives that have not been reviewed and are not specifically on the list. The law not only prevents harm to septic systems and water quality, but also protects the consumer (you!) from false claims. However, approval and listing does not guarantee or certify the product is effective. Common household products, such as detergents, bleach, drain cleaners, and toilet cleaners, are excluded from this regulation. The list may be downloaded from Washington State Department of Health at: <http://www.doh.wa.gov/ehp/ts/WW/Additives.pdf>.

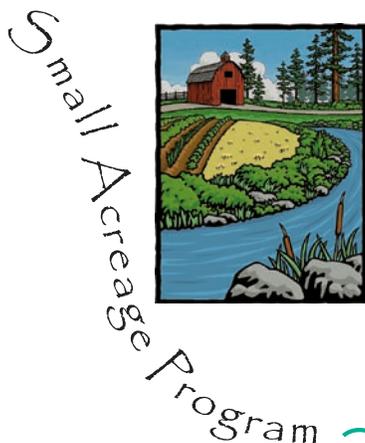
How to Remain Additive-Free

So what can you do to keep your septic system working property without the use of additives while minimizing costs? Here are some tips:

- Use less water! Repair leaks and install new, water efficient toilets, faucets, and showerheads whenever possible. Run the washer and dishwasher only with full loads. This saves money on water and energy bills as well as prolonging the life of the septic system.
- Keep toxic chemicals from going down the drain. Properly dispose of solvents, paint, varnish, oil, and pesticides at the local garbage transfer station, or look in the Recycling Directory from Clark County Solid Waste for an appropriate location. (<http://www.clark.wa.gov/recycle/documents/Publications/DirectoryforWeb.pdf>)
- Keep solids out. Cigarettes, left over medications, feminine hygiene products, paper towels, tissues, kitty litter, and other solid items should go into the trash, not your septic system. Left over medications could kill bacteria in your tank.
- Keep grease and fat out of your kitchen drain.
- Limit use of garbage disposal. Using a garbage disposal increases the amount of water and solids into your septic tank, requiring more frequent pumping.
- Space clothes washing throughout the week. This avoids overloading the system over a short time period.
- Divert runoff and drainage water. Never drain swimming pools or hot tubs onto your septic system or drainfield. Downspouts and roof runoff should be directed away from your drainfield to limit water input to the system.

Cleaning Products

Excessive use of cleaning agents stresses your system and kills beneficial bacteria. Under normal use, tanks often recover. Always follow instructions on cleaning products. A cup of bleach or a bit of clog remover will not kill significant numbers of bacteria in your tank, so use common sense.



No additive compensates for poor design, regular maintenance and inspection, and pumping every three to five years. Additives claiming to eliminate the need for pumping usually re-suspend solids, moving them to the drainfield, thus clogging lines and leading to system failure. Even well-designed septic systems need to be replaced eventually, anywhere between 20 and 30 years depending on use. Safe additives will likely be ineffective, while an effective additive will likely be unsafe to use.

Money spent on additives would better be spent pumping your septic tank every three to five years. Research and experience demonstrate regular inspection and maintenance of properly designed and installed septic systems prevent failure and extend system life.

Table 1. Washington State List of Approved Septic System Additives, December 2005.

AQUATERRA GHSD-1	LIQUID LIVE
AQUATERRA LS-1472	LIQUID PLUMR SEPTIC SYSTEM TREATMENT
BIO BLAST	MICROBE LIFT
BIOCHARGE	MICROBE-LIFT SEPTIC TANK POWDER PACKETS
BI-CHEM SM700	MICROBE-LIFT/ST SEPTIC DIGESTANT
BIO CHOICE ES	PIRANA BLEND
BIO-CLEAN	PLUMB-CLEAN
BIO-GREEN	PRO-PUMP COLD WEATHER POWDERED DIGESTANT
BIO KLEER S	PRO-PUMP POWDERED DIGESTANT FOR SEPTIC TANK AND LEACHFIELDS
BIO-JET-7	PRO-PUMP SEPTIC DIGESTANT
BIO-ONE	PUSH
BIO ROOTER DRAIN MAINTAINER	RID-X PROFESSIONAL SEPTIC SYSTEM TREATMENT + DRAIN MAINTAINER
BREAK-THRU SEPTIC TANK & CESSPOOL MAINTENANCE	ROEBIC K-37 SEPTIC TANK TREATMENT
BREAK-THRU SEPTIC TANK & CESSPOOL RESTORER	ROEBIC K-47
CONCENTRATED FORMULA RID-X	ROEBIC K-57
DRAIN CARE-SEPTIC TANK TREATMENT	ROEBIC K-87 SOAP DIGESTER FMP SOAP DEGRADER
DRAIN OUT ENZYME SEPTIC TREATMENT	ROEBIC K-97 MAINLINE CLEANER
DRAIN CARE LIQUID SEPTIC TANK TREATMENT	ROEBIC LIQUID GREASE DEGRADER, GREASE TRAP TREATMENT
DRANO PLUMBING SYSTEM BUILDUP REMOVER	ROTO-ROOTER SEPTIC & CESSPOOL SYSTEM TREATMENT (DRY)
DWT 360 SEPTIC TANK MAINTAINER (also called WT 360 WASTE DEGRADER)	ROTO-ROOTER SEPTIC & CESSPOOL SYSTEM TREATMENT (LIQUID)
ECO-SAVE ES-700	ROTO-ROOTER TREATMENT FOR SEPTIC TANKS & CESSPOOLS
ENVIRO-CULTURE	SEA-ZYME SEPTIC TANK DIGESTER 2000
GREASE TANK TREATMENT	SEPTIC HELPER 2000
GREENPIG SEPTIC TANK TREATMENT	SEPTIC-SCRUB DRAINFIELD FLOW RESTORER
GSI 4000	SEPTIC TANK AIDS
HMS SEPTIC TANK MAINTENANCE	SEPTONIC SEPTIC TANK ADDITIVE
INSTANT POWER SEPTIC SHOCK	SHACTIVATE SEWAGE DIGESTER
INSTANT POWER SEPTIC SYSTEM TREATMENT	SUPER PACK BACTERIA
LIQUID ALIVE	ULTRA GREEN 3 ENZYME CLEANER
L.E.A.D. ENZYME DIGESTANT	

Washington State University Extension do not endorse or recommend any product listed here.



If you would like additional information on septic system additives, maintenance or inspection contact:

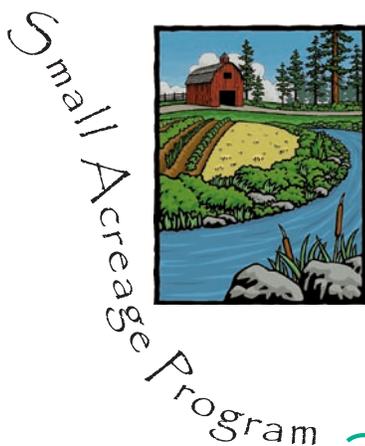
Washington State University
 Extension Clark County
 11104 NE 149th Street C 100
 Brush Prairie WA 98606
 360-397-6060 extension 7720
<http://clark.wsu.edu/>

Clark County Public Health
 1601 East Fourth Plain Boulevard
 Vancouver, WA 98661
 360-397-8428
<http://www.clark.wa.gov/public-health/Index.asp>

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Adapted by Erin Harwood, WSU Clark County Extension (August 2006).



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