



Background And Guidelines For The Pirana®

Before a Pirana® was installed in your septic tank, there were no real consequences to putting anything you liked into the tank. The conventional anaerobic (without oxygen or aeration) septic tank is basically a biologically activated filter to remove, by separation and settling, the solid waste from the water you just used to take the solids out of your house. This process removes and sequesters from 80 to 90 percent of the organic solids matter and inorganic solids that enter the septic tank. Anaerobic digestion by intestinal bacteria removes a very minimum amount of the organic matter within the septic tank. The vast majority of the solids are merely retained within the septic tank until you periodically removed them by pumping for disposal, treatment and pollution elsewhere.

Intestinal bacteria are the bacteria within the conventional septic tank and if their population is diminished by inadvertent introduction of a toxic material into the septic tank, the effect is off set by putting more intestinal bacteria into the septic tank when your family flushes feces down the toilet.

The Pirana® Blend Bacteria are inoculated over several weeks by a slow release process of Pirana® Blend Bacteria within the Pirana® unit beginning at start up. They are powerful enough to develop a stable, competitive community within the Pirana® unit and through out the septic tank and septic system where ever there are minimal conditions for survival despite you and your family inoculating competitive bacteria when you flush feces down the toilet. It is recommended that once a year a Pirana® Blend Bacteria PUC (Pirana® PUC) be dropped into the septic tank along side of the operating Pirana® unit to reinforce the Pirana® Blend Bacteria community.

Think of the Pirana® unit as an incubator for these powerful bacteria. Unlike a conventional anaerobic septic tank that separates and retains sewage solids requiring pumping to remove them, the Pirana® unit grows Pirana® Blend Bacteria by digesting the solids (nutrients) within the septic tank virtually eliminating future pumping and continue to digest and remove organic matter and biomat clogging disposal field soils and keep biomat from reforming. The disposal field cannot fail from biomat clogging in the future as long as the Pirana® is properly operated and maintained.

By digesting the organic matter in the septic tank, the septic tank no long acts as a sequestering filter. The function of the septic tank remains the same; remove organic solids discharging only contaminated liquid. After the installation of the Pirana®, solids are removed by digesting them away vs filtering and sequestering them in the septic tank for removal by pumping. This superior process can only be done by the Pirana® and is just one of the many, continuous advantages provided by the proper operation and maintenance of the Pirana®. To get the most potential from the advantages of the Pirana®, the homeowner should be familiar with the basic guidelines below. They are not substantially different from the EPA guidelines for operating your anaerobic conventional septic system.

The Pirana® Blend Bacteria are robust and are capable of adapting to a wide variety of conditions and moderate abuses typical of how a modern households use a septic system. But, the Pirana® Blend Bacteria do best when consideration is used in what you put in your septic system. Toxic conditions have not been reported in the many thousands of Pirana® installations to date. People with a Pirana® installed in their septic tank say they haven't basically changed their way of life after the installation. We here at Pirana® System are proactive and want all Pirana® owners to be aware of the following information. Should toxic conditions occur, we work with you to restore the Pirana® to proper function.

A good rule to follow when considering putting something new into your Pirana® septic system is, "If you won't swallow it, don't put it in your septic system." Most household products we purchase at the super market for use in our modern homes we won't swallow and will normally not harm a Pirana® if you follow the product's basic instructions for use while considering the following guidelines below:

1) The Pirana® unit can be damaged or clogged by non-biodegradable items or materials that enter the septic system, including but not limited to personal latex products, rubber gloves, any items made of rubber, latex, plastics or metals, sand or soil from non water tight septic tanks, etc. It is important to keep such items out of the septic system.

2) Toxic household cleaning products or chemicals or are labeled to contain disinfectants, pesticides or make specific claims to kill bacteria ideally should be avoided. Household cleaning products typically purchased in the local super market or grocery store normally don't create a toxic stress on the Pirana® Blend bacteria when used as directed on the product label. Normally used household cleaning products like Comet Cleanser, Tide Laundry Soap, Cascade Dishwasher Soap, Palmolive Dish Washing Soap have not caused a toxic risk when used properly.

3) Laundry soaps and detergents with anti-microbial chemicals ideally should be avoided. It is also best to use *liquid laundry soaps and detergents*. Powdered products use ultra fine clay to make soap a powder vs a liquid. Clay and septic systems is never a good combination. Laundry should be spaced out over the week. It is recommended you not have a "laundry day". If you use household bleach and have more than one load to do, do one in the morning and one in the evening. This allows for dilution of the bleach and should eliminate any toxic affect bleach may have on the Pirana® Blend Bacteria.

4) By labeling cleaning products "natural, organic and biodegradable" doesn't mean they aren't highly toxic and will kill Pirana® Blend Bacteria. Toxic compounds are found everywhere in Nature, mostly in plants. Concentrating plant toxins and adding these toxins to household cleaning products with the above labeling still means they kill bacteria. *Remember, Rattlesnake venom is "natural, organic and biodegradable"*.

5) Additional toxic materials that should not be allowed in a septic system include, but not limited to, automotive products, petroleum products, pesticides, paint or paint thinner, solvents, etc.

6) Water softener backwash into the septic tank has the "potential" to cause problems for the Pirana® Blend Bacteria. We use salt is a preservative and that means salt kills bacteria that spoil food or eat organic matter - the purpose of the Pirana® Blend Bacteria. Should a problem occur, there are alternatives to discharging backwash into a septic tank or simply switch to potassium chloride vs sodium chloride.

7) Garbage disposals are useful for providing organic matter to help sustain the Pirana® Blend Bacteria community. Unlike other septic systems, there is no problem using garbage disposals with the Pirana®.

8) Prescription medications, especially antibiotics, chemotherapeutic and immune system suppression drugs can have a devastating effect on any bacteria community within a septic tank including the Pirana®. These are powerful chemicals that are toxic to living cells including bacteria. Within three days of commencing the use of these types of drugs for more than 10 days, contact Pirana® System for consultation. It may be necessary to frequently inspect the Pirana® in the septic tank for a signs of toxicity. Should a toxic condition occur, we will do our best to find a method to adapt the Pirana® installation to overcome a toxic condition created by these types of medications.

9) Should there be a power outage from a few days to a week where the air pump is not working, the Pirana® Blend Bacteria normally survive in their vegetative state. Should the power remain out for a longer periods, contact Pirana® System for advice.

10) If you leave your house unoccupied while on vacation, or for any extended period, unplug the Pirana® and plug it back in when you return. If the Pirana® installation is in a septic tank for a vacation home that is temporarily occupied each month, leave the air pump operating. If a problem develops, simply drop in another Pirana® PUC. Remediation will cease during these periods.

11) When a vacation home is closed up after the vacation season, unplug the air pump. When you start to use the vacation home the next season, get a new Pirana® PUC, drop it into the tank along side the Pirana® unit and plug in the air pump. The Pirana® process should restart without additional oversight.

12) We recommend once a year dropping a Pirana® PUC into the septic tank along side the operating Pirana® unit. If the septic system isn't for a single-family residence, a shorter time period may be required. It just makes good sense to re-inoculate additional bacteria to ensure the health of the Pirana® Blend Bacteria community working for you while keeping the Pirana® process as optimal as possible. The advantages of this more than pays back the small annual cost.

13) If you are required to have an annual maintenance contract with a Pirana® Maintenance Provider, they will provide the Pirana® PUC as a part of the maintenance.