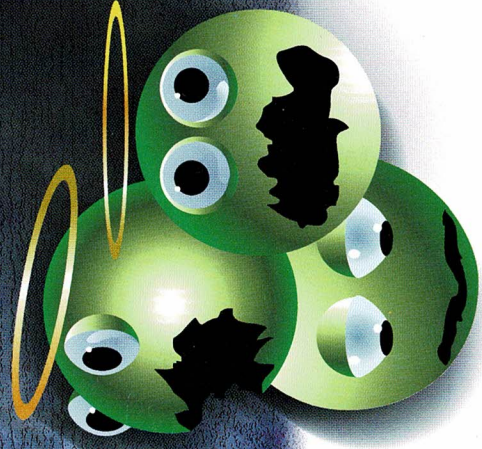


from **BOW** to **STERN**



BACTERIA ARE YOUR SANITATION ALLIES

Bacteria tank doesn't have a pleasant ring to it, does it?

That's all that houseboat holding tanks are, but before you go to rip it out of the wall in the interest of family health hear us out. Bacteria are a necessary and crucial part of the tank.

In accordance with stringent regulations, Congress passed the "Clean vessel Act" in 1992 to reduce the pollution problems in overboard dumping of marine toilets. MSDs (marine sanitation devices), commonly known as holding tanks, were created, but problems of odor control and waste removal from the holding tanks are other issues to which we can relate.

Holding tanks are similar to septic tanks in that they both use the same technology to destroy human waste. Naturally-occurring bacteria

degrades the waste in both systems. Bacteria are present everywhere in our environment, such as in drinking water, streams, rivers, lakes and soil. These non-pathogenic bacteria are responsible for the removal and purification of all waste material from the soil and water through their biological oxidation process.

All bacteria are not bad, but unfortunately sometimes they get a bad rap. Bacteria are either non-pathogenic (harmless and are abundant in nature) or pathogenic (harmful, but not as abundant). Bacteria are referred to as microorganisms, microbes or bugs.

Bacteria come in several forms and perform specific functions while converting all organic waste to carbon dioxide and water. The microbes that are used in the holding

tanks are either live-vegetative or spore forming. The live vegetative is a good type, but has its limitations because it is sometimes more fragile and dies more quickly than the more hardy spore bacteria. The spore bacteria are encapsulated and just waiting to be called into action.

The friendly bacteria and their biological processes are absolutely essential to our environment and our daily lives. Their natural biological process provides for the conversion of all organic waste to carbon dioxide and water, which is the real definition of biodegradable.

Two types of waste are put down the head. Urine is sterile and has no bacteria, unless you have an infection. Feces, on the other hand, does have good and bad bacteria. When this organic matter begins degrading, it puts

off a foul odor.

When bacteria-based holding tank products are placed in the holding tank and waste is introduced, the bacteria produces enzymes that convert the waste into a food source that the bacteria can eat. The bacteria need this food source so that it can reproduce. The end product of this bacterial action is water and carbon dioxide—completing nature's cycle.

Bio-enzymatic or bio-for-mulation holding tank products are the most environmentally friendly way to treat a holding tank. They treat the waste, turning it to liquid, while destroying the bacteria that smell or cause odors. It is not necessary to use harsh chemicals or formaldehyde.

Based on information contributed by Barbara Nolan of Nolan Bio-Labs, phone: 770-469-8316.