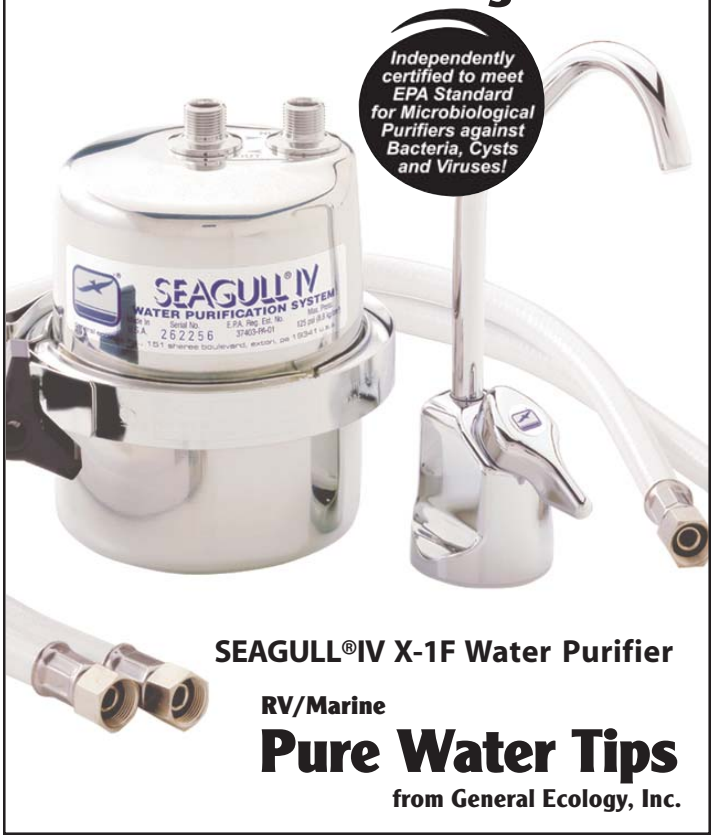
Water Treatment

Potable Water Storage Tanks



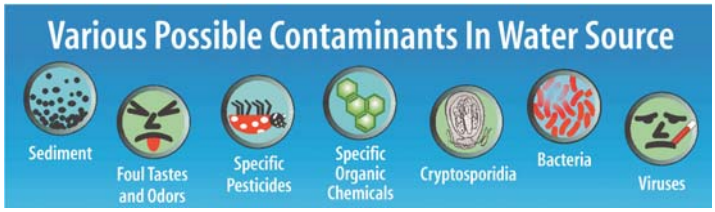
SEAGULL®IV X-1F Water Purifier

RV/Marine

Pure Water Tips

from General Ecology, Inc.

Potable water storage tanks aboard yachts, aircraft, recreational vehicles and mobile homes frequently provide an almost ideal environment for the rapid multiplication of bacteria, algae, fungi, mold, mildew, Giardia, Cryptosporidia cysts, amoebic cysts, microscopic worms, larvae and other undesirable creatures and plants.



The problem is exacerbated by using different water sources. Most water supplies, including "city water," contain some bacteria, usually non-pathogenic, but even these "harmless" bacteria occasionally can become troublesome if present in sufficient numbers. Many supplies also have been found to contain protozoan pathogens such as Giardia and chlorine-proof Cryptosporidia. Ground water sources can contain iron, bacteria, and slime in addition to having a higher probability of contamination from sewage intrusions and leaks into water supply aquifers... sometimes many miles away. Campgrounds and yacht harbors — particularly those on tidal water, with floating docks, pump-out stations and outside toilets — are particularly vulnerable to leak and intrusion problems.

Along with carrying a 3 to 6 ppm residual of sodium hypochlorite (chlorine) in the potable water storage tank to keep the tank clean and free of slime, algae and excess bacteria build up; an effective drinking water system in the galley provides the best protection. Sodium hypochlorite is readily available under several well-known trade names such as Clorox®, Purex®, etc. (see Summary for dosing levels.)

Although useful for killing many pests, chlorine is not especially effective against cysts and larger parasites (a leading source of dysentery, worldwide) and provides essentially no protection against Cryptosporidia. More than 400,000 people were sickened by Cryptosporidia in Milwaukee in 1993; thousands were hospitalized, and more than 100 deaths were attributed to this parasite. More died in Las Vegas the next year, and there have been many other incidents...mostly on "safe" water supplies meeting all health safety standards. In addition to Cryptosporidia, Giardia, and amoebic dysentery cysts, and other chlorine insensitive microorganisms are found essentially everywhere. Additionally, foul tastes and odors, sometimes coming from fiberglass storage tanks holding chlorinated water, can render water almost undrinkable, especially in the concentrations necessary for assured protection against bacteria.

Summary:

For an effective and a safe water supply, do the following:

1. Always seek the cleanest, most dependable water source available, and be sure to use our "Dockside™ Prefiltration System" when filling your water storage tanks. This system keeps tanks, lines, pumps and valves virtually free of abrasive sediment for smoother operation; and, generally, should help extend the capacity of your SEAGULL®IV purification cartridges.
2. Add a chlorine compound such as Clorox® or Purex® to the potable water storage tank at the rate of ⅛ ounce (1 teaspoon) per ten gallons of water.
3. Install a SEAGULL®IV drinking water purification system in the galley area to remove Cryptosporidia, amoebic cysts, chlorine, bad tastes and odors, etc., and disease viruses and bacteria that might still be viable.
4. Initially disinfect the potable water storage tank and all distribution lines being served from the tank by adding 1 ounce of Clorox® or Purex® per ten gallons of water. Run water to each tap or outlet until a heavy chlorine smell is evident. **(If you already have a SEAGULL®IV purifier installed, remove the cartridge before disinfecting the water distribution lines and tank.)** Close the water inlet and all water outlets and let stand for 2 to 4 hours. Then open all faucets and outlets and run fresh water into your tanks until chlorine smell disappears, then follow steps 1 through 3, remembering to reinstall your purification cartridge.

This disinfection process should not have to be repeated as long as the water system remains intact, isn't overly contaminated, or isn't interrupted to install new equipment.

pn 200372 revA 0307

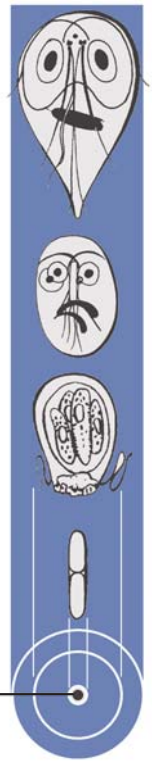
Importantly, in addition to microbiological and aesthetic considerations, it is now well established that chlorine contributes to many known and suspected cancer-inducing agents such as chloroform, carbon tetrachloride and many other halogenated hydrocarbons. (Chlorine also has been implicated in heart disease). Halogenated hydrocarbons are hydrocarbon pollutants that link chemically with chlorine, iodine, bromine or fluorine. This reaction needs only trace amounts of contaminant compounds; and since our nation's waterways and water sources are now practically all contaminated to at least a minor extent, the U.S. Environmental Protection Agency (EPA) has estimated that probably ***all*** water supplies contain at least some cancer causing agents.

Of the various water systems on the market, SEAGULL®IV drinking water purifier, manufactured by General Ecology, Inc., is the all-around single best system available. There are literally dozens of products on the market ranging from ordinary charcoal filters (which have been shown to actually support bacteria growth) to the non-purifying, silver ion/granular charcoal bacteriostatic units, which seem to be little better than charcoal filters.

The fact that some units are EPA registered creates a great deal of confusion. In addition to an EPA "Establishment Registration" number, which all manufacturers must have, products which incorporate "economic poisons," i.e., pesticides, must carry a second EPA registration for the product. This ***EPA product registration does not mean the product is a purifier****, however. All products, including "Comet" cleanser, for example, are required to have this second registration number.*

SEAGULL IV water purifier works quite differently from such chemical pesticidal units in that it is a microstraining "purification device" that physically removes cysts and microscopic parasites and even viruses through a 3-stage process of ultrafine microstraining, broad spectrum molecular capture, and electrostatic removal. It is properly described as a non-chemical system because it doesn't rely on injecting a pesticide into the water and eventually into the environment.

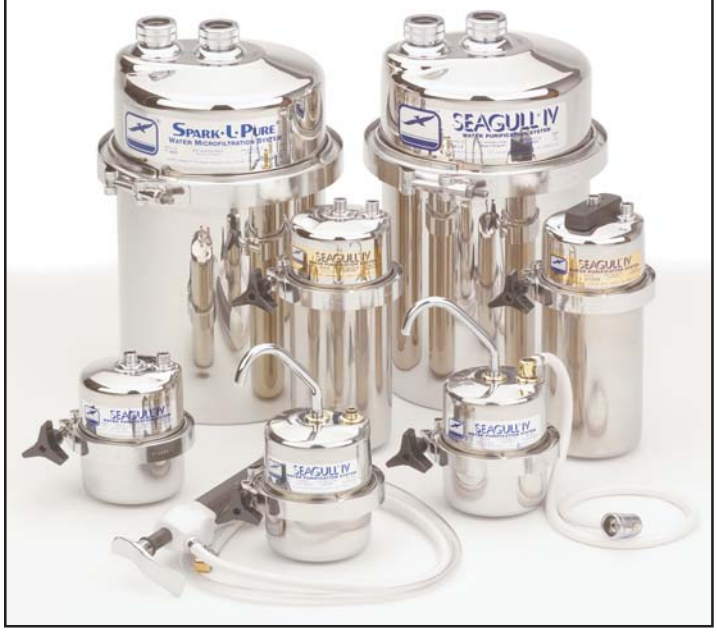
Relative Size Comparisons



*nominal dimensions—a much finer retention of one (1.0) micron absolute is required for complete removal of cryptosporidia.

Furthermore, SEAGULL IV water purifier is rated among the best, of all units tested, in removing chlorine and other such chemical contaminants. Unlike other products, it is easy to tell when you need a new purification cartridge because it eventually clogs, reducing water flow until it finally stops. Consumers should beware of filtration products that "last several thousands of gallons." This usually means only that they will still be able to pass water, long after whatever effectiveness they might have had has been expended.

Quality General Ecology® Purifiers and Micro Filters



SEAGULL IV water purifier operates at a minimum water pressure of about 25 psi. General Ecology offers manual pumping purifiers for systems having inadequate pressure. Systems with both one and two GPM flow rates are available.

Note: SEAGULL IV "Structured Matrix™" purification cartridge should be removed and air-dried if your water system is inactive, i.e., when winterized. (Never put antifreeze into your cartridge.) The ***dry*** cartridge should then be placed in a tightly closed plastic bag. Be sure to drain SEAGULL IV pressure vessel if freezing could occur.

1-800-441-8166

info@generalecology.com

www.generalecology.com

General Ecology, Inc. the pure science of safe water™

151 Sheree Blvd., Exton, Pennsylvania 19341-1292 USA

(610) 363-7900 • fax (610) 363-0412 • www.generalecology.com