

EutroSORB™

Phosphorus Filtration Technology

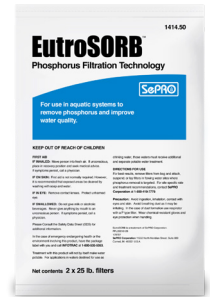


Product Use Guide



EutroSORB. A novel solution to rapidly remove phosphorus and protect water quality.

Eutrophication—the natural aging processes of waterbodies that is accelerated by excessive nutrient loading, frequently due to runoff. The impacts are degraded water quality, poor aquatic ecosystem health, and impaired operations. Phosphorus is a key limiting nutrient in water resources—one pound of phosphorus can support five hundred pounds of algae growth.



EutroSORB phosphorus filtration technology is a novel solution for rapidly removing phosphorus from moving water. EutroSORB filters immediately bind and reduce phosphorus concentrations in surface waters.



An example of “In Series” arrangement

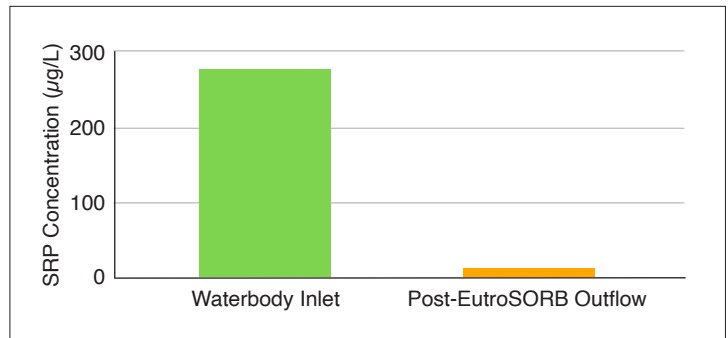
EutroSORB filters are composed of a highly specific phosphorus-binding media contained inside of a permeable mesh bag. The media has been formulated to specifically bind phosphorus in the presence of other competing ions in a wide variety of water chemistries. EutroSORB media has a high affinity for the phosphate ion, which is the most bio-available and often referred to as soluble reactive phosphorus (SRP). The bond between the media and the phosphorus compound is strong and stable under all relevant natural conditions. The result, phosphorus is indefinitely retained while

EutroSORB is deployed. EutroSORB can be easily implemented into a wide variety of aquatic systems.

Phosphorus Removal Efficiency

In fresh water, approximately 100 lbs. of EutroSORB is required to remove 1 lb. of phosphorus. Phosphorus removal efficiency is enhanced in waters with lower levels of turbidity, conductivity, hardness, alkalinity, and pH. Contact your SePRO Technical Specialist for assistance.

EutroSORB bags contain 2 filters. Each EutroSORB filter is 25 lbs. and capable of removing approximately ¼ lb. of phosphorus (SRP) from the water.



Removal efficiency will depend upon site specific conditions.

EutroSORB Application Guide

The following chart is a general use guide for EutroSORB exposure and phosphorus filtration. For site specific recommendations, contact your SePRO Technical Specialist.

EutroSORB Phosphorus Filtration Table			
Number of 25 lb. filters recommended per month of phosphorus removal			
Water Depth	Size of inlet or outlet culvert, stream, etc.		
	Small 12 - 18"	Medium 18 - 24"	Large 24 - 36"
1 - 4 inches	1	2	3
4 - 8 inches	2	3	4
8 - 12 inches	3	4	5

Where can EutroSORB be used?

- EutroSORB filters can be placed in or near inlets, streams, tributaries, and canals to reduce the amount of phosphorus flowing downstream.
- EutroSORB can be incorporated into stormwater treatment systems, drains, and retention basins.
- EutroSORB filters can be used as a physical barrier on dry land for periodic inflow or runoff of phosphorus.
- EutroSORB can be attached to buoys, docks, fountains or boats and suspended in the water column to remove excess phosphorus.
 - The media does not impact water quality or chemistry and poses no threat to swimmers or other recreational users.
- EutroSORB can be used to remove phosphorus in water and wastewater treatment processes, including concentrated animal feeding operations (CAFOs) and manure lagoons.
- EutroSORB can also be used in combination with other phosphorus mitigation technologies (e.g. Phoslock) to accelerate water quality restoration.

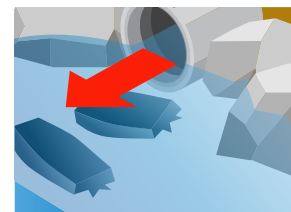
Optimizing Exposure

EutroSORB filters can be arranged in a wide variety of configurations based on the system attributes and

management objectives. Phosphorus removal efficiency is improved by enhancing contact with the flowing water, while lower contact reduces the phosphorus removal efficiency, but extends the life of the filter. The wide variety of configurations in both natural and engineered systems with flowing water allows the user to start small and add additional filters as needed. SePRO aquatic specialists are available to assist with the treatment process design.

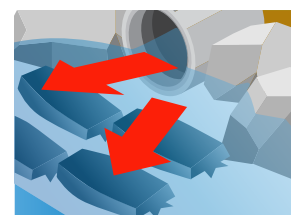
Enhanced Phosphorus Removal

Improved phosphorus removal can be accomplished by arranging filters *front to back (in-series)* so that the outflow from the first filter is the inflow for the second filter.



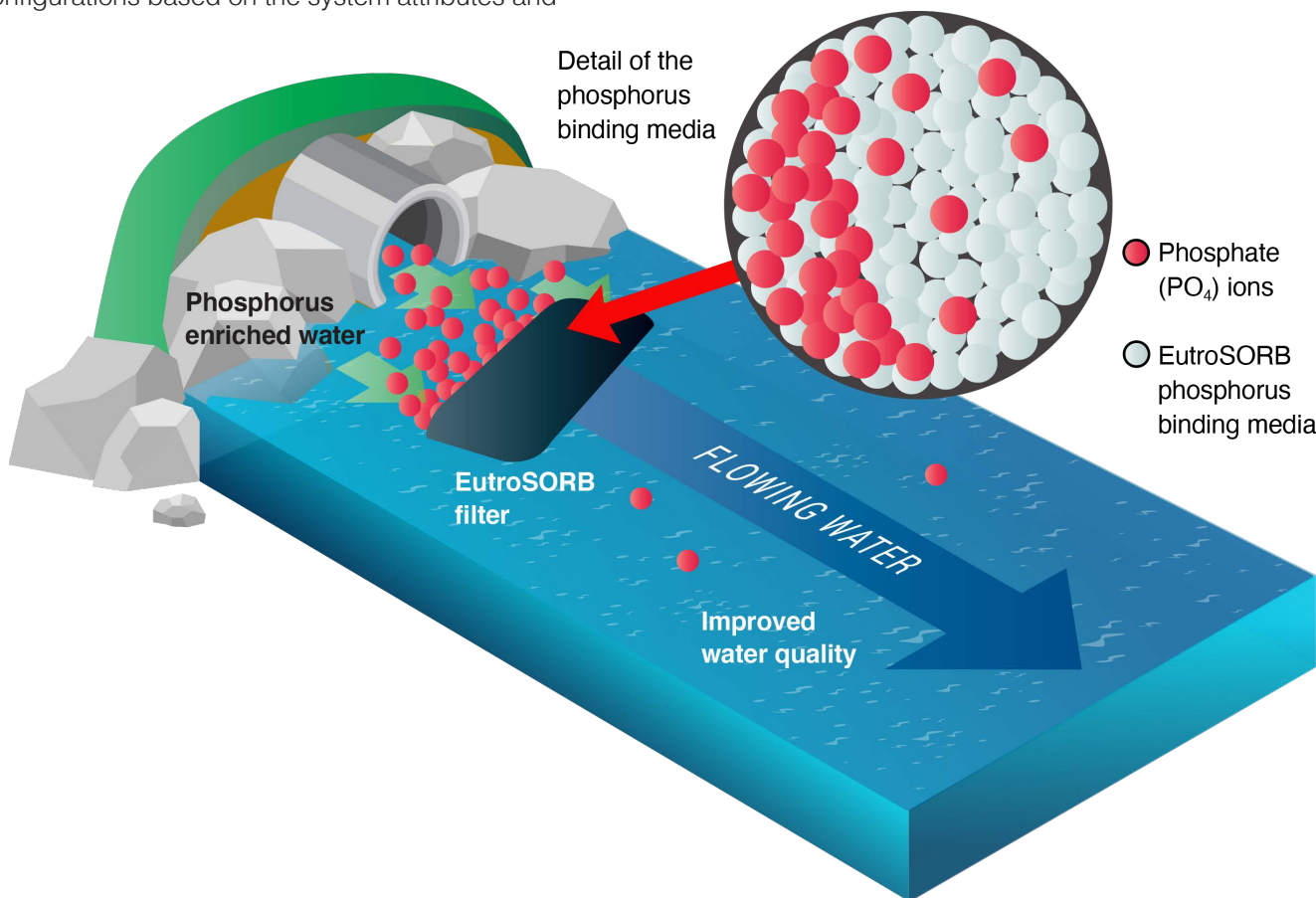
Larger Surface Area

EutroSORB filters can be placed *side-by-side (parallel)* to cover a larger surface area.



Deep Flowing Water Systems

Filters can also be placed *top of each other* to enhance phosphorus removal in deeper flowing waters.



EutroSORB Disposal

Once a EutroSORB filter is fully saturated and binding capacity has been exhausted, the filter media may be disposed to a landfill or spread on soil.

Ecological Assessment

EutroSORB is insoluble and does not impact water quality or chemistry. It has an excellent safety profile with no environmental, health, or safety concerns associated with this technology. EutroSORB filters should be removed from a waterbody seasonally (i.e. after P capacity has been achieved).

Summary

EutroSORB phosphorus filtration technology is a novel solution that can easily be placed in moving water or suspended in the waterbody to reduce phosphorus concentrations in the water. EutroSORB is applicable in a variety of natural and engineered treatment systems, with a wide variety of configurations based on phosphorus removal objectives. EutroSORB carries no environmental or human health risks when deployed according to its intended uses.

EutroSORB Benefits:

- Can be implemented in small or large systems.
- No equipment necessary for implementation.
- Easy to use – simply place it in water.
- Does not impact water chemistry.
- High P-binding capacity – approximately 100 lbs. of EutroSORB required to remove 1 lb. of phosphorus.
- Simply replace EutroSORB filter(s) after recommended intervals.

For more information contact a SePRO Technical Specialist at **1-800-419-7779**



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