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## ◀ SECLEAR ALGAECIDE AND WATER QUALITY ENHANCER®

SeClear is the first aquatic algaecide and water quality enhancer in one designed to replace routine algaecide treatments. SeClear provides effective control of a broad-range of algae species while reducing in-water phosphorus levels with each application.

The result is longer lasting control, improved water quality and aesthetics with reduced maintenance through time. The mode of action for SeClear is uptake through the algal cells where the copper ion inhibits photosynthesis providing a fast-acting result.

MODEL		EACH
SEC1	1 GALLON	\$34.39



## CAPTAIN® LIQUID COPPER ALGAECIDE

Captain is a chelated copper product that is effective on both filamentous and planktonic algae in a wide range of fresh water applications. Algae control occurs in 3 to 7 days following a Captain application and there are no restrictions on treated water, even immediately after use for swimming, fishing, watering livestock, irrigating turf or ornamental plants.

The mode of action for Captain is uptake through the algal cells where the copper ion inhibits photosynthesis providing a fast-acting result. Algae is an aquatic plant that can grow anywhere moisture, light and nutrients combine to support growth. You certainly can't control how wet your pond is; and there's not much you can do about how much sunlight hits the water. You can, however, avoid fertilizing near the pond or anywhere rainwater runoff may enter the water.

MODEL		EACH
CPT1	1 GALLON	\$38.09



## ◀ MICROBE-LIFT® FLOCCULANT PLUS

### Water Clarifier

A proprietary formulation (polymeric blend) used to coagulate suspended solids in the pond water. After use, particles in the water settle to the bottom of the pond and/or filter out through the filter system.

- Clears cloudy water
- Safe for aquatic life and plants
- Attracts suspended particles
- Improves filtration

MODEL		EACH
770007	1 GALLON	\$39.99



## NUFARM® DIQUAT HERBICIDE HAZMAT AG R

37% diquat formula, fast-acting and water-soluble. EPA-registered. Diquat SPC 2L herbicide is used to control aquatic weeds in public waters such as ponds, lakes, reservoirs, marshes, bayous, drainage ditches, canals, streams, rivers, and other slow moving or quiescent bodies of water. Optimum control of submersed weeds is obtained by applying Diquat SPC 2L herbicide when the weeds are actively growing (photosynthesizing), typically when water temperatures are about 50°F or more. With Diquat SPC 2L herbicide, there are no concerns about groundwater, toxicity to fish, other organisms or wildlife.

MODEL		EACH
RW1	1 GALLON	\$104.99

SeClear Algaecide and Water Quality Enhancer® and Captain® are registered trademarks of SePRO Corp. Nufarm® is a registered trademark of Nufarm Australia Limited. Microbe-Lift is a registered trademark of Ecological Laboratories, Inc.

## CUTRINE-PLUS® ALGAECIDE AND HERBICIDE HAZMAT A R

Citrine Plus Liquid with copper ethanalamine complexes is a rapid acting, hard water stable, contact algaecide. Citrine Plus in this liquid formulation is ideal for control of surface algae in lakes, ponds, fish hatcheries, irrigation canals, and drainage ditches. Do not use with salmon or cyprinids. Average application rate is one gallon per acre-foot. Ship weight per gallon is 11 lbs.

\*For best results, use with a surfactant such as Cide-Kick® II.

MODEL		EACH	4+
AQA9-C	1 GALLON	\$42.19	\$40.08



## GREENCLEAN® ALGAECIDE

GreenClean works on contact to control algae in water gardens, ornamental ponds, fountains and other water features. Does not harm aquatic life, and its formula releases oxygen into the water as it biodegrades. GreenClean also eliminates algae on a wide variety of surfaces. 2 lbs treat a 1,000-gal pond for an entire season. EPA-approved.

MODEL		EACH
GC81-C	8 LBS	\$47.19



**R**

In certain states, herbicides and algaecides are restricted. Products with this symbol cannot be sold into the states of California, Connecticut, Iowa, Maine, Michigan, Nebraska, Montana, New Hampshire, New York, Vermont or Washington.



## GREENCLEAN® PRO GRANULAR ALGAECIDE HAZMAT AG R

This non-copper-based algaecide eliminates algae on contact. Designed for lakes, ponds and unpainted surfaces. Sodium carbonate peroxyhydrate destroys algal cell membranes and chlorophyll within 60 sec. Biodegrades completely and adds 13% bioavailable oxygen to the water. For spot treatments apply at a rate of 20-50 lbs/acre-foot; for algae blooms apply at a rate of 9-30 lbs/acre-foot; for filamentous algae blooms treat at a rate of 50-90 lbs/acre-foot. Safe for use with koi and trout. EPA-approved.

MODEL		EACH
GC51-C	50 LBS	\$135.49



## CUTRINE-PLUS® GRANULAR ALGAECIDE R

Great for spot-treating

Citrine-Plus Granular Algaecide controls bottom-growing algae. Clean, dry, granular algaecide sinks rapidly and works evenly over the affected area.

Easily spread from the bag (wear gloves) or with a crank-type rotary spreader. EPA-approved for use in lakes and potable water reservoirs, farm fish ponds and fish hatcheries. For spot treatment, apply at the rate of 1 lb per 720 ft<sup>2</sup> (1 kg per 147 m<sup>2</sup>). 30-lb bag.

MODEL		EACH
AQA3	30 LBS	\$97.29

Do not use copper-based products in waters with koi, carp, goldfish or trout.

### WEEDTRINE®-D HERBICIDE HAZMAT A R

This is a form of diquat (8.5%), an aquatic herbicide that is not absorbed by fish. Controls bladderwort, cattail, coontail, duckweed, elodea, naiad, pennywort, pithophora, pond weeds, salvinia, spirogyra, water hyacinth, water lettuce and water milfoil.

Also recommended for top-kill of shoreline emergent weeds and as a grass and broadleaf weed killer in noncrop areas. Absorption and herbicidal action are usually quite rapid, with visible effects in a few days.

Ideally suited for use in small bodies of water. Apply only to water where there is no overflow. Do not use treated water for animal consumption, spraying, irrigation or domestic purposes for 14 days after treatment. For marginal weed problems, apply at the rate of 2 oz/gal of water. Check local laws prior to ordering, as use of this product may not be legal in your area. D.O.T. rating is hazardous when shipped by air. Weighs 8 lbs.

- For best results, use with a surfactant such as Cide-Kick II.

MODEL		EACH
WTD1	1 GALLON	\$74.99



### AQUATHOL® K HERBICIDE (LIQUID OR GRANULAR) R HAZMAT AG

Elective contact control for submerged aquatic weeds, including Najas species, coontail, milfoil and most pond weed species. Carries no turf irrigation restrictions. Granular formulation recommended for spot treating small weed patches and deep growing plants. Liquid formula supplies most active ingredients per dollar.

Apply 1 gallon per acre-foot (1 liter/326 m<sup>3</sup>) for control of most plant species. As always, read and comply with product labels. **AQT25** ships motor freight only.

- For best results, use with a surfactant such as Cide-Kick™ II.

MODEL		SHIP WT (LBS)	EACH
AQT25	2.5 GALLONS	25	\$257.99



### SONAR® HERBICIDE R

Can control weeds up to one full year

Sonar controls target weeds in almost any body of water. It usually takes 30 to 90 days for Sonar to work. Susceptible plants absorb Sonar through their leaves, shoots and from roots. Within a short period (seven to ten days) injury symptoms begin to appear. Susceptible weeds will start to show chlorosis, a deficiency of green pigment. Sonar's selectivity lets desirable aquatic plants become reestablished. Won't restrict swimming, fishing or drinking, even immediately after application! Rates depend on target species and habitat conditions. As always, follow label rates and restrictions.

MODEL		SHIP WT (LBS)	EACH
SN1	1 PINT	1	\$486.89



### SHORE-KLEAR® HERBICIDE R

A systemic postemergence herbicide used in controlling undesirable vegetation growing in and adjacent to aquatic sites. Apply 3 oz of Shore-Klear per 1 gal of water (24 mL per liter) for control of most postemergent weeds. Can not be sold into Canada.

- For best results, use with Cide-Kick II Surfactant.

MODEL		EACH
RD25	2.5 GALLONS	\$94.49



### CIDE-KICK® II SURFACTANT

Makes your spray application more effective. A nonionic additive mixed with herbicides to break down the waxy coating on the leaf surface, effectively penetrating the cell wall of the plant. Use 1 ounce of Cide-Kick™ II per 1 gallon of spray solution (8 mL/L).

MODEL		EACH
WTD2	1 QUART	\$20.69



### MICROBE-LIFT® ALGAECIDE FOR PONDS

Stops algae growth

MICROBE-LIFT® Algaway 5.4 Algaecide controls string algae. It stops algae growth in ponds and can be applied to areas that contain fish and plants. Not safe for use with snails, shrimp and other crustaceans or mollusks.

- No more green water
- Will not harm fish or live ornamental plants
- EPA-approved

MODEL			EACH
770008	MICROBE-LIFT ALGAWAY 5.4	16 OZ	\$10.99
770009	MICROBE-LIFT ALGAWAY 5.4	32 OZ	16.99
770010	MICROBE-LIFT ALGAWAY 5.4	1 GAL	57.99
770011	MICROBE-LIFT ALGAWAY 5.4	2.5 GAL	99.99



### SEAKLEAR® AQUARIA WATER TREATMENT

Natural Clarifier clears up cloudy water by causing particulates to clump together and be easily caught on mechanical filters. It also removes excess oils to prevent scum at the water line. Biodegradable and usable with all sanitizers, it is safe for plants, animals, fish and the environment. 55-gal drum also available; call for price.

Phosphate Remover eliminates phosphates by binding them in an insoluble form so they are no longer available for algae growth. Removes algae-causing orthophosphates and keeps salt generators working properly. Nontoxic—100% safe for plants, animals, fish and the environment. 3,000 ppb. Note: Will cloud water when applied. 55-gal drum also available; call for price.

MODEL EACH

#### CLARIFIER

<b>SK0104</b>	1 QT	<b>\$17.09</b>
<b>SK0101</b>	1 GAL	<b>50.29</b>
<b>SK0102</b>	5 GAL	<b>225.79</b>

#### PHOSPHATE REMOVER

<b>SK0404</b>	1 QT	HAZMAT A	<b>52.29</b>
<b>SK0405</b>	1 GAL	HAZMAT A	<b>178.49</b>
<b>SK0401</b>	5 GAL	HAZMAT AG	<b>787.49</b>

SeaKlear® is a registered trademark of NC Brands L.P. Limited Partnership.

### HERBICIDE GUIDE

HERBICIDE				AQUATIC PLANT		
Shore-Klear	Sonar	Aquathol®	Weedtrine® D			
G	G		F	Alligator Weed	<i>Alternanthera philoxeroides</i>	EMERSED PLANTS
G		G		American Lotus	<i>Nelumbo lutea</i>	
E			F	Bulrush	<i>Scirpus spp.</i>	
E	G		G	Cattail	<i>Typha spp.</i>	
G				Common Reed	<i>Phragmites australis</i>	
	G			Cutgrass	<i>Leersia hexandra</i>	
E	G			Fragrant Waterlily	<i>Nymphaea odorata</i>	
E	G			Giant Cutgrass	<i>Zizaniopsis miliacea</i>	
G				Giant Foxtail	<i>Setaria magna</i>	
E	F		F	Maidencare	<i>Panicum hematomon</i>	
E	G			Paragrass	<i>Panicum purpurascens</i>	
F			G	Pickereleweeds	<i>Pontederia spp.</i>	
G				Sawgrass	<i>Cladium jamaicense</i>	
F	F	G	F	Smartweeds	<i>Polygonum spp.</i>	
F	G			Southern Watergrass	<i>Hydrochloa carolinensis</i>	
E	G			Spatterdock	<i>Nuphar luteum</i>	
E	G			Torpedograss	<i>Panicum repens</i>	
	G		F	Water Paspalum	<i>Paspalum fluitans</i>	
F			E	Water Pennywort	<i>Hydrocotyle umbellata</i>	
	F	F	F	Water Primrose	<i>Ludwigia uruguayensis</i>	
G	G	G	F	Watershield	<i>Brasenia schreberi</i>	
	G		F	Waterwillow	<i>Justicia americana</i>	

F = Fair; G = Good; E = Excellent



HERBICIDE				AQUATIC PLANT		
Shore-Klear	Sonar	Aquathol®	Weedtrine® D			
	E		E	Duckweed	<i>Lemna minor</i>	FLOATING PLANTS
	G		E	Giant Duckweed	<i>Spirodela polyrhiza</i>	
	G		G	Mosquito Fern	<i>Azolla caroliniana</i>	
	G	F	E	Salvinia	<i>Salvinia rotundifolia</i>	
	G		G	Slender Duckweed	<i>Wolffiella floridana</i>	
F		G	E	Waterhyacinth	<i>Eichhornia crassipes</i>	
G		G	E	Waterlettuce	<i>Pistia stratiotes</i>	
	F		G	Watermeal	<i>Wolffia columbiana</i>	
	G		G	Bladderworts	<i>Utricularia spp.</i>	
	G	E	E	Coontail	<i>Ceratophyllum demersum</i>	
	G		G	Egeria	<i>Egeria densa</i>	SUBMERSED PLANTS
	G		E	Elodea	<i>Elodea canadensis</i>	
	G	E	E	Eurasian Watermilfoil	<i>Myriophyllum spicatum</i>	
	G		G	Fanwort	<i>Cabomba caroliniana</i>	
	F	E		Horned Pondweed	<i>Zannichellia palustris</i>	
	G	E	G	Hydrilla	<i>Hydrilla verticillata</i>	
	G	E	E	Naiads	<i>Najas spp.</i>	
F		F	E	Parrotfeather	<i>Myriophyllum aquaticum</i>	
	G	E	G	Pondweeds	<i>Potamogeton spp.</i>	
			E	Water buttercup	<i>Ranunculus aquatilis</i>	
		F	G	Widgeongrass	<i>Ruppia maritima</i>	
			F	Wildcelery	<i>Vallisneria americana</i>	

NOTE: This is a guide only; read and follow manufacturer's labels.

Online Orders: [PentairAES.com](http://PentairAES.com) | Phone Orders and Tech Advice: 877.347.4788

### CONCENTRATED WATER COLORANTS

Super-concentrated water colorant that's as friendly to animals and fish as it is to the eye. Requires only one-fourth as much compared to other dyes. Helps prevent the growth of vegetation. Store in cool dry location. Wear rubber gloves when applying to protect hands from staining. Case contains 12 quarts.

**Blue Vail™** turns water to a sparkling sapphire blue; ideal for ponds, lakes, fountains, and lagoons.

**Blue/Black Vail™** is the most natural looking dye possible as it mimics the hues and tones of a natural lake. Filters sunlight more than standard blue dyes. Not recommended for fountains.

**Black Vail™** turns water a mirror black, simulating clear dark bottomed lakes; ideal for controlled waterways like private ponds and lakes. Provides the darkest shading possible. Not recommended for fountains.

- Non-toxic and safe for fish, humans, plants and birds
- Contains no herbicides or algacides
- 1 quart treats 1,000,000 gallons of water for up to 4 months

MODEL		SHIP WT (LBS)	EACH	CASE (12 QTS)
<b>OWD5</b>	BLUE VAIL 1 QUART	3	<b>\$35.69</b>	<b>\$32.12</b>
<b>OWD7</b>	BLUE/BLACK 1 QUART	3	<b>37.79</b>	<b>34.01</b>
<b>OWD8</b>	BLACK VAIL 1 QUART	3	<b>37.79</b>	<b>34.01</b>



### WEED CONTROL WATER COLORANT R

Aquashade® is a water dye that filters sunlight to reduce the growth of aquatic weeds and algae. It is also useful for coloring water an attractive blue to enhance its aesthetic quality. Apply to controlled waterways such as ornamental and golf course ponds, lakes, fountains and fish farms. Use in conjunction with herbicides or algacides for control of surface algae mats or shallow-water plants. Not for use in drinking water; no restrictions for animal/livestock drinking, irrigation, swimming or fish consumption when used at label rates. Results appear immediately and last up to four months in nonflowing waters. Wear rubber gloves and protective eye wear for cleanliness and safety. Case contains 4 gallons.

- EPA-registered for aquatic plant growth control
- Easy to apply
- 1 gallon treats 1,000,000 gallons of water

MODEL	SHIP WT (LBS)	EACH	4+
<b>OWD2</b>	1 GALLON	11	<b>\$56.69</b> <b>\$51.02</b>

Aquashade® is a registered trademark of Arch Chemicals, Inc.

### CRYSTAL BLUE® WATER COLORANT

Crystal Blue® is a water colorant that produces a more vibrant blue color than some other dyes. The typical application rate is one gallon per 1,000,000 gallons of pond water (equals one acre, 3' deep or approximately one acre, 4' deep with sloping sides). Four gallons per case.

MODEL	EACH	4+
<b>CB64</b>	1 GALLON	<b>\$35.09</b> <b>\$31.58</b>

Crystal Blue® is a registered trademark of Bluelwater Chemgroup, Inc.





## ◀ PHOSCLEAR® WATER TREATMENT

Phosclear® (buffered aluminum sulfate) is a convenient phosphorus removal and water clarification solution for murky waters. Use in lakes, ponds and reservoirs. Simply broadcast the granules evenly across the surface of the water. Typical application rate is 80 lbs per acre-foot (25 ppm). A buffering agent prevents pH drops. Note: pH should be between 5.5 and 8.0, alkalinity between 50 and 200 ppm and salinity below 3 ppt. Large quantities ship from factory.

MODEL		EACH
PC40-AQ	40-LB PAIL	\$94.09

## MICROBE LIFT® 4X & IND

MICROBE LIFT® is composed of several strains of bacteria that begin immediately to attack the materials in the water or soil that cause pollution and unpleasant odors. It is a nontoxic, biodegradable, nonpathogenic, USDA-authorized product that is extremely effective in the treatment and clean up of environmental waste. MICROBE LIFT® complies with even the strictest of environmental regulations.

MICROBE LIFT® 4X is specially formulated for use in septic tanks. Use will enhance the breakdown of organic wastes and sludge and reduce hydrogen sulfide and odor problems.

MICROBE LIFT® IND is specially formulated for industrial and municipal wastewater systems. The highly concentrated formula can solve the most difficult waste management problems when used in a controlled maintenance program. It significantly reduces odors, improves BOD and COD removal efficiency, degrades hydrocarbons and volatile organic carbons and accelerates plant startups and recovery from upsets or shock loads. It has a high ability to improve organic removal efficiency and stimulate nitrification/denitrification.

MODEL		SHIP WT (LBS)	EACH
ML3-AQ	MICROBE LIFT 4X	1 QUART	3 \$14.69
ML5-AQ	MICROBE LIFT IND	1 GALLON	11 43.79



ML5-AQ



## ◀ MICROBE LIFT® PL

For over 20 years, MICROBE LIFT PL has been unique in the marketplace. It is specifically formulated for fish ponds, decorative ponds and lagoons. It is a mixture of beneficial bacteria, including nitrifiers and photosynthetic bacteria, that reduces ammonia levels, eliminates noxious odors and reduces the buildup of wastes. MICROBE LIFT PL is completely safe and will help to maintain a balanced pond environment. For 501- to 1,000-gal ponds, use 12 oz for first application, 4 oz/week for 4 weeks and 4 oz after that for monthly maintenance. For 1,001- to 5,000-gal ponds, use 16 oz for first application, 6 oz/week for 4 weeks and 6 oz after that for monthly maintenance.

MODEL		SHIP WT (LBS)	EACH
ML7	1 GALLON	11	66.19



MODEL		EACH
<b>BSP10</b>	10.5 LBS	<b>\$31.99</b>

### ◀ MICROBE-LIFT® BARLEY STRAW PELLETS

MICROBE-LIFT Barley Straw Pellets + works in much the same way as barley straw...only faster! Whereas barley straw works by releasing certain natural chemicals as it biodegrades, so do the pellets, only the breakdown compounds are released faster: dispersing equally throughout the water; reacting photochemically with sunlight; and activating humic acids to produce hydrogen peroxide-an oxidizing agent that also helps to keep the water clear-naturally and at a low level of release. The humic acid will also chelate metals such as copper or arsenic. Treats 1,000 gallons for 14 months or 2,500 gallons for 6 months. Each bag includes a graduated measuring cup.

- Matures pond water chemistry
- Disperses quickly by simple broadcast of pellets into the pond or packing in a porous fabric sock and suspending in pond or available chamber in skimmer or filter
- Buffers pH
- Releases decomposition by-products immediately
- Works year round
- Provides a slow steady release of beneficial ingredients through natural activity

### NITRAFIX

Nitrafix is a natural biological product focused on keeping nitrogen, often a limiting factor in pond systems, low. Nitrafix is a consortium of autotrophic and heterotrophic organisms and denitrifying organisms that lowers all types of nitrogen thereby removing ammonia and leaving aquatic life unharmed. Applications include migratory waterfowl ponds, koi ponds and koi farming, shrimp farming, retention and decorative ponds, and golf courses. Do not use as an adjuvant with algacides and herbicides.

**Temperature of water 55 -70°F (12.8-21.1°C):**

**Initial Dose:** 4 gallon per 4 acre feet twice per month

**Maintenance Dose:** 1 gallon per 4 acre feet twice per month

**Temperature of water 70°F (21.1°C) and up:**

**Initial Dose:** 1 gallon per 4 acre feet twice per month

**Maintenance Dose:** ½ gallon per 4 acre feet twice per month

MODEL		EACH
<b>770002</b>	1 GALLON	<b>\$51.49</b>



## AQUAPONICS & DESIGN WORKSHOP

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## ◀ PONDZILLA BLACK

PondZilla Black is an all-natural biochemical catalyst that enhances the breakdown of proteins and complex carbohydrates found in aquatic plants. PondZilla Black releases specific biostimulants that allow the naturally-occurring bacteria and fungi to take over degradation of the dead flora and fixation of available nutrients. This product is designed specifically to complement algaeicide treatments for aquatic plants and filamentous green algae like Pithophora. Although these products do not kill aquatic plants or algae, the molecular make up of PondZilla Black will boost algaeicides so they can penetrate the resting structures while it enables naturally-occurring bacteria to degrade dead organic matter. This treatment is followed up with a dose of MD Pellets to digest what is left. Applications include ponds, lakes, canals, retention and koi ponds, hatcheries, raceways, and golf course ponds.

PondZilla Black works over a wide pH range, but for best results use citric acid or a low-pH surfactant to adjust tank mix to a pH of 4 to 6:

**Monster Dose:** 15 gallons per acre

**Regular Dose:** 3 gallons per acre initially and 1-3 gallons per month thereafter

**Pollen Dose:** 2 gallons per acre sprayed on the surface

**Leaf Degradation:** 1-3 gallons per acre per month followed by 10 lbs of MD Pellets

MODEL		EACH
<b>770004</b>	1 GALLON	<b>\$105.09</b>

## MD PELLETS

MD Pellets are slow-release pellets that sink into and degrade muck that builds up in the bottom of fish ponds. This product is a nice alternative to physical cleaning of the ponds. They contain safe and beneficial bacteria, which will not harm aquatic species, fish, waterfowl, or people. This product will also reduce sulfide and mercaptan odors found in muck. Applications include lakes, decorative ponds, retention ponds, shorelines, aquaculture, and golf courses.

MD Pellets work best when water temperature is 60° F (17°C) to 130°F (54°C). The warmer it is the faster they reproduce and digest sludge:

**Traditional Dose:** Feed 10 lb to 25 lb per surface-acre once per month depending on depth of muck or extent of surface debris.

**Super Dose:** For ponds or lakes where they would like to degrade up to 1 foot per month. Feed 50 lb per acre once per month.

MODEL		EACH
<b>770005</b>	30 LBS.	<b>\$303.49</b>



## ◀ VITASTIM FISHERY BLEND

VitaStim Fishery Blend is a high-performance probiotic with a beneficial bacterial blend that lowers ammonia, nitrites and nitrates, and degrades fecal matter on the bottom of ponds. The combination of probiotics plus the select bacteria keeps the environment healthy and reduces the stress on fish. In aquaculture environments with high fish density, VitaStim Fishery Blend will also work to stabilize healthy bacterial populations. This blend also works well in saline environments.

VitaStim Fishery Blend works in a wide range of temperatures from 41° on up and while these organisms appreciate aeration, it is not required:

**Dosage at 72°F (22°C) and up:** 1 lb per surface acre to start followed by ½ lb bi-weekly.

**Dosage below 72°F (22°C):** 2 lb per surface acre to start followed by ½ lb bi-weekly.

MODEL		EACH
<b>770006</b>	30 LBS.	<b>\$399.99</b>



## WATER COLUMN CLARIFIER

Water Column Clarifier is a high-performance liquid bacterial blend that fixates nitrogen and phosphorus to clarify water. This product contains a synchronistic blend of 12 different bacteria with a higher growth rate than any dry blend. Because these bacteria fit together so well, they confuse the quorum sensing that limits bacteria growth and are able to coat the entire water body. This makes Water Column Clarifier an especially good treatment for planktonic algae when combined with a low dose chelated copper algaeicide. Applications include decorative ponds, large ponds and lakes.

Works best when temperature of water is 60°F (15.6°C) or higher:

**Initial Dose:** 20 oz per acre foot once per month

**Maintenance Dose:** Repeat initial dose monthly

MODEL		EACH
<b>770003</b>	1 GALLON	<b>\$72.49</b>



### PROLINE® AQUACULTURE BACTERIA CONCENTRATE ★ TECH FAV

FW SW

ProLine Bacteria Concentrate is a high concentration of live bacteria specifically formulated for ammonia emergencies. Live bacteria begin ammonia removal immediately, possibly saving an entire system from disaster. One gallon of freshwater concentrate can treat up to 4,800 gallons (use freshwater for salinity of 7 ppt or lower). One gallon of saltwater concentrate can treat up to 2,400 gallons. The concentrate must be refrigerated at all times and has a shelf life of 3 months. All concentrate ships Next Day Air, orders placed by early AM will either ship that day or next day. Weighs 11 lbs.

MODEL		EACH
239310	FRESHWATER, GALLON	\$336.59
239300	SALTWATER, GALLON	336.59



239310



239001

### PROLINE BIOFILTER START-UP KITS FW SW

Accelerate biofilter start-up by weeks using the ProLine Biofilter Start-Up Kit. Each kit comes complete with ProLine Aqua Coat water conditioner, ProLine ammonium chloride, ProLine nitrifying bacteria, nutrients and trace elements required for optimizing the seeding of biological filters. Components of the kit may also be used for reseeded biofilters in cases of shock load or system upsets.

Biofilter start-up is initiated by adding the components of the kit to an offline biofilter. Instructions for use are included with each kit. Two separate kits are available, freshwater and saltwater. Use with any biofilter with up to 50 cubic feet of media. Additional kits may be added for larger biofilters. All kits must ship by Next Day Air (shipping cost not included in price). Orders placed by early AM will either ship that day or next day. The concentrate must be refrigerated at all times and has a shelf life of 3 months.

MODEL		EACH
239001	FRESHWATER KIT	\$129.99
239002	SALTWATER KIT	129.99

\*Shipping cost not included in price.

### PROLINE AMMONIUM CHLORIDE

Great source of ammonia to initiate the growth of nitrifying bacteria. Should not be used when fish or other culture animals are present in the water. Maintain 1 mg/L while seeding bacteria until nitrates appear. Do not exceed 4 mg/L and do not add fish until ammonia level is at zero. Not FDA-approved.

MODEL		EACH	4+
239100	500 GRAMS	\$14.09	\$12.68



239211

### PROLINE BACTERIA FW SW

ProLine Nitrifying Bacteria can be used to rapidly seed biological filters and correct ammonia and nitrite imbalances. Treatment rates are 4 ounces per 10 gallons for freshwater systems (use freshwater for salinity of 7 ppt or lower) and 8 ounces per 10 gallons for saltwater systems. For garden pond applications (fewer than 1,000 gallons), add four ounces per 20 gallons of water. For lightly loaded ponds or lakes, add two gallons per surface acre of water.

For older or heavily loaded lakes, call a Pentair AES technician.

MODEL		SHIP WT (LBS)	EACH
239210	FRESHWATER 16 OZ	1	\$10.79
239211	FRESHWATER 1 GALLON	8	46.89
239201	SALTWATER 1 GALLON	8	45.09

Should not be shipped Ground if chance of freezing exists.

## PROLINE FRESHWATER "BACTERIA IN A BAG"

ProLine "Bacteria in a Bag" is a good product for elimination of pond sludge and odors. Natural bacteria and enzymes biodegrade bottom sludge in ponds. Simply calculate water volume and dispense at the rate of one 1-oz bag per 600 gallons of water or one 8-oz bag per 4,800 gallons in ornamental ponds, biofilters or raceways.

When treating large ponds/lakes, dose 1 lb per acre-foot of water every two weeks while temperatures are above 50°F; double dose on the first application of the season.

MODEL		EACH
<b>239400</b>	SIX 1-OZ BAGS	<b>\$15.19</b>
<b>239410</b>	ONE 8-OZ BAG	<b>10.99</b>
<b>239425</b>	ONE 25-LB BAG	<b>368.99</b>



239410



239810

## PROLINE SALTWATER "BACTERIA IN A BAG"

"Bacteria in a Bag" Saltwater Formula is the perfect choice for water quality improvement, sludge elimination and odor removal in high-salinity applications (>18 ppt). Like the original ProLine "Bacteria in a Bag," this formulation is a one-step maintenance program for aquaculturists working in high-salinity environments.

Simply calculate water volume and dispense at the rate of one 1-oz bag per 400 gallons or one 8-oz bag per 4,800 gallons in all home and public aquariums.

MODEL		EACH
<b>239805</b>	SIX 1-OZ BAGS	<b>\$16.49</b>
<b>239810</b>	ONE 8-OZ BAG	<b>12.59</b>

### TECH TALK 25

#### Bacteria Notes

##### WHAT IS THEIR SIZE?

There are thousands of strains and two major groups. Heterotrophs use organic carbon (as we do). They are elongated, often rod-shaped bacteria, typically .2 μ (microns) wide and 4-6 μ long. Autotrophs use inorganic carbon (carbonate or carbon dioxide) as plants do. They are cocci-shaped (round to oval) bacteria, typically .2-.4 μ in diameter.

##### WHAT DO THEY DO?

Like all other living things, they have a biological directive to eat and reproduce. They must compete with each other and with predators. Each strain does only one job, so it takes a coordinated team of strains to purify water, for example.

##### WHAT DO THEY EAT?

An individual strain may digest a specific type of fat, certain proteins, carbohydrates, cellulose or hydrocarbons. Together the right team can eat sludge, animal wastes, etc.

##### HOW FAST DO THEY GROW?

A population of heterotrophic bacteria can double every 20 minutes. Nitrobacter can double every 8 hours. This rapid reproduction (with mutations) quickly evolves new strains.

##### WHERE CAN YOU BUY THEM?

From Pentair Aquatic Eco-Systems, Proline liquid and bacteria in a bag.

##### DO THEY MOVE AROUND?

Some bacteria form floc, the slippery material one feels on a tank wall. Although many involved in water purification may get trapped in the floc they typically flow through the system. The bacteria on a biofilter are immobile, and water movement is essential to insure that food is brought into contact with them.

##### WHERE DO THEY COME FROM?

Bacteria can live in most places, but all strains are not everywhere all the time. Water purification cannot be optimized if all the required strains are not present. Bioaugmentation with Proline liquid and bacteria in a bag encourages the presence of the balanced team. If a proper environment exists, they will multiply.

##### HOW ARE THEY ELIMINATED?

Freezing can kill over 99 percent of some strains, such as Nitrosomonas and Nitrobacter. Spore-forming bacteria are less affected, at least the spores survive. UV light, disinfectants, heat, acids, bactericides and oxidizers (ozone, chlorine, hydrogen peroxide and potassium permanganate) will also kill them.

##### WHAT IS THE RELATION BETWEEN LIGHT AND BACTERIA?

Light is not only unnecessary for the growth of beneficial bacteria that improve water quality, but also will inhibit the growth of nitrifiers, particularly Nitrobacter. Biological filters should be kept in the dark. Ultraviolet light is used to kill bacteria. The toxicity of the uv light is a function of the wavelength, intensity and exposure duration.

Assistance on this Tech Talk was provided by IET, Inc.



### Applications

- Public aquariums
- Saltwater fish holding systems
- Aquarium stores
- Recirculating systems
- Seafood holding systems
- Research labs



### PROLINE SUPER SALT CONCENTRATE

Contains everything but the salt—save on shipping

This synthetic salt mixture contains all the necessary elements and buffers (except sodium chloride) required to make synthetic seawater. Each phosphate- and nitrate-free batch is individually tested to generate consistency and high quality. Because sodium chloride is a major component of most synthetic sea salt mixtures, it is also responsible for a large amount of the weight. This concentrated mixture contains everything but the sodium chloride, which you can add locally to save money on freight charges.

ProLine Super Salt Concentrate is packaged in a semiliquid form and sold in resealable buckets. One bucket mixes with 80 lbs of noniodized, high-purity sodium chloride to make 400 gallons (1,514 liters) of salt water.

MODEL		SHIP WT (LBS)	EACH	4+
<b>239500</b>	400 GALLONS	63	<b>\$79.29</b>	<b>\$71.36</b>

### MICROBE-LIFT® POND SALT CRYSTALS

Microbe-Lift® Pond Salt Crystals added to your pond water can be effective in helping to maintain a healthy fish environment and, in proper dosages, has proven to be helpful in reducing the threat of parasitic infestations in the pond. It will temporarily block the toxic effects of nitrite, and by initiating the production of a thicker slime coat on the fish's body surface, helps to promote a stronger immune system and reduce stress.

- Contains no additives
- Nitrate and phosphate free

MODEL			EACH
<b>770012</b>	POND SALT CRYSTALS	9 LBS	<b>\$14.89</b>



### ARAGAMAX

Sugar-sized sand

Grain size is .2-1.2 mm diameter. Also known as "oolitic sand," this product is ideal for shallow beds, allowing denitrification in as little as a 1" depth of water. The fine grain size can pass easily through the gills of gobies and other sand-sifting organisms. The smooth round grains are gentle to soft-bellied sharks and rays. White in color and metal-free. No ash or silica.

MODEL			EACH	4+
<b>SS30</b>	30 LBS		<b>\$23.89</b>	<b>\$21.50</b>

### FLORIDA CRUSHED CORAL

This crushed coral with aragonite provides up to 25 times the buffering power of other crushed corals, dolomite and oyster shell. Eliminate chronic pH problems and provide maximum surface area for bacteria. Allows an increase in bio load by up to 50%, and it never needs replacement.

MODEL		EACH
<b>CC5</b>	40 LBS	<b>\$28.09</b>



## INSTANT OCEAN SEA SALT

Instant Ocean® has been the preferred salt mix of public aquariums and home aquarists for many years. It is scientifically blended to contain every minor and major trace element required to make artificial seawater. Phosphate- and nitrate-free, it dissolves quickly without insoluble residue. Each package will make a 32-ppt salt solution at listed volume. Contains no chlorine remover. Pallet quantities available.

MODEL		SHIP WT (LBS)	EACH
<b>IS50</b>	50-GALLON MIXTURE (BAG)	15	<b>\$18.99</b>
<b>IS160</b>	160-GALLON MIXTURE (BUCKET)	48	<b>47.99</b>
<b>IO200</b>	200-GALLON MIXTURE (BOX)	60	<b>47.99</b>



IS160



IS50



CM2B

CM2-AQ



## CRYSTAL SEA® MARINEMIX SALTS

This product is a perfect mixture of essential compounds and trace elements to make seawater (contains no anticaking agents). Use it with confidence when setting up any saltwater ecosystem. Crystal Sea is preferred by many public aquariums, universities, biological research facilities and professionals.

**CM2B** is a 150-gallon mixture specifically formulated for bioassay research. Does not contain de-chlorinator.

### Quality Assured

Crystal Sea® Marinemix is manufactured under the most stringent quality control guidelines using a superior computer control blending system. This ensures exact mixing of anhydrous ingredients throughout each batch.

- No ammonia, nitrate, phosphate, silicate or EDTA added.
- Attains a proper pH of 8.3 upon hydration.
- Contains chlorine remover.

MODEL		SHIP WT (LBS)	EACH
<b>CM2-AQ</b>	150-GALLON MIXTURE	44	<b>\$41.59</b>
<b>CM2B</b>	150-GALLON BIOASSAY MIXTURE	44	<b>46.19</b>

## INSTANT OCEAN REEF CRYSTALS® REEF SALT

Developed for reef aquariums, Reef Crystals® is an enriched blend of sea salt that contains extra levels of calcium, vitamins and selected trace elements that are commonly depleted in living reef aquariums. It has superior dissolvability and is compatible with all marine aquariums. A special additive helps to detoxify excess heavy metals, such as copper, that are often found at elevated levels in domestic water supplies. Every batch is carefully analyzed to guarantee composition, consistency and uniformity. Contains no chlorine remover. Biodegradable box includes four bags, each for a 50-gal mixture.

SHIP WT MODEL		(LBS)	EACH
<b>RC200</b>	200-GALLON MIXTURE	56	<b>\$60.09</b>



### Making Salt Water?

Start by mixing at these levels, then aerate for over an hour before measuring salinity, pH, etc. Add more salt if needed.

4½ cups per 10 gallons

1 kg per 10 gallons

36 oz per 10 gallons

2¼ lbs per 10 gallons

10 gallons = 37.5 liters

All salts are available in pallet quantities. Call for quotation.

### KORDON® NOVAQUA® PLUS WATER CONDITIONER

FW SW

Improve your fish's health, reduce nitrite toxicity, detoxify heavy metals and buffer tap water with NovAqua® Plus's enhanced formula. This conditioner neutralizes chlorine (up to 3.75 ppm) and breaks the bond between chlorine and ammonia in chloramines [use AmQuel® Plus water conditioner to remove leftover toxic ammonia].

Ingredients include organic herbs and vitamins, electrolytes and polymer colloids that combine to boost immune systems, reduce stress and build up stronger slime coatings on fish. Also removes iodine and promotes biofiltration.

NovAqua Plus contains stabilizers for long-term storage and is compatible with other water conditioners. One 16-oz bottle treats 960 gallons; 1-gal container treats 7,680 gallons. Not FDA-approved.

#### Why NovAqua® Plus?

- Polymer colloids for fish protection.
- Increased ability to remove chlorine.
- Electrolytes for stress reduction.
- Remover of heavy metals, including increased ability to remove toxic zinc, iron, aluminum, copper, etc.
- Herbal ingredients for immune health aids and viral and protozoan infection inhibition.
- Vitamin ingredients for health aids.

MODEL		EACH
NA16P	16 OZ	\$9.29
NA64P	1 GAL	48.79
NA5P	5 GAL	166.99



NA16P

Kordon®, NovAqua® and AmQuel® are registered trademarks of Kordon, LLC.

### PRIME FW SW

A complete water conditioner that removes chlorine and chloramines. It detoxifies ammonia and nitrite and enhances nitrate removal. Provides essential ions and stimulates natural slime coat on fish. Prime does not cause a pH drop or overactivate skimmers. 500 mL-bottle treats over 5,000 gallons (19,000 liters). Not FDA-approved.

MODEL		SHIP WT (LBS)	EACH
SC433	500 ML	2	\$10.99
SC438	2 LITERS	6	44.09
SC439	4 LITERS	11	73.29



SC438

### ULTIMATE® WATER CONDITIONER FW SW

This convenient, fully functional water conditioner instantly removes chlorine, chloramines and ammonia from fresh or salt water. It also detoxifies copper and heavy metals, boosts alkalinity and adds essential electrolytes needed for proper fish growth. It is excellent for conditioning new water in ponds. Can also be used in shipping bags during transport. When testing for ammonia, a salicylate test kit must be used. One gallon treats approximately 7,680 gallons.

MODEL		SHIP WT (LBS)	EACH
UT32	32 OZ	3	\$14.69
UT1	1 GALLON	11	47.29
UT5	5 GALLONS	50	138.29



UT1

Ultimate® is a registered trademark of Aquascience Technologies, LLC.

### PROLINE AQUA-COAT FW SW

Safe to use with fish in the water. This super-concentrated formula removes chlorine and chloramines while also detoxifying heavy metals commonly found in tap and well water. It greatly accelerates the attachment of nitrifying bacteria to biomed, maximizing cycling speed. Natural ingredients help damaged scales and fins on fish (don't use with food fish). It even adds a protective slime coat to the fish's body, preventing future damage and reducing the risk of external parasites. Will not alter pH and contains no phosphates or formaldehydes. Dosage: 2 ounces treat 240 gallons. Not FDA-approved.

International customers: check with your customs agent to determine whether this product can be shipped to your country.

MODEL		SHIP WT (LBS)	EACH
239601	1 GALLON	11	41.99
239602	5 GALLONS	50	114.49



239602

### DECHLORINATOR, SODIUM THIOSULFATE FW SW

Sodium thiosulfate is the main compound in most chlorine neutralizers. Any time municipal water must be used for aquaculture, use sodium thiosulfate for instant neutralization of chlorine (do not add directly to water containing fish). Dosage rates vary with the pH of the water, but rates between 1.6 to 2.6 parts sodium thiosulfate per one part chlorine should be adequate (excess levels of sodium thiosulfate up to 100 ppm will not harm fish).

MODEL		EACH
ST1A	4-LB JAR	\$18.79
ST1	50-LB BUCKET	93.49



ST1A



ST1

## PROLINE DRY AMMONIA REMOVER FW SW

Formulated in a highly concentrated powder, ProLine's complete dry ammonia remover is ideal for large volume applications. It works in the same way as AmQuel® Plus water conditioner. One level tablespoon treats 473 liters (125 gallons), 32 grams will treat 1,000 liters (264 gallons), 1 kg will treat 31,250 liters (8,250 gallons).

MODEL	SHIP WT (LBS)	EACH
APP1	2.2	\$19.99
APP5	11	95.29
APP25	55	393.79



APP1



APP5

## PROLINE ZEOLITE AMMONIA REMOVER FW

Fresh water only

Clinoptilolite filter media, otherwise known as zeolite, is an effective means of removing ammonia. It also provides a large surface area for nitrifying bacteria in recirculating systems. ProLine high-performance zeolite may be regenerated several times by overnight immersion in a salt solution and/or oven drying (not effective in salt water).

MODEL		EACH
ZAR10	10-LB BUCKET	\$22.29
ZAR5	50-LB BAG	44.09



ZAR10

## PROLINE ACTIVATED CARBON FW SW

A superior, high-purity, bituminous coal-based activated carbon. Preferred by public aquariums, research centers and government fisheries. The small particle size [approximately 1/16" to 1/8"] provides a large surface area for rapid uptake and reduces water travel distances to interior adsorption surfaces. Adsorbs full range of organic contaminants, pesticides, odors, colors, chlorine, dissolved organics, ozone and many heavy metals. Carbon is dry-packed.

Can be retained using window screen size mesh. Approximately .625 m<sup>2</sup> of surface area per gram. Bulk density is approximately 24 lbs/ft<sup>3</sup>.

MODEL		EACH
AC412A	1.5 LB JAR	\$12.09
AC412	15 LB BUCKET	83.99
AC55	55 LB BAG	166.69



AC412A

## AMQUEL® PLUS WATER CONDITIONER FW SW

Considered to be one of the most effective dechlorinators on the market, AmQuel Plus instantly removes all forms of ammonia, nitrite, nitrate, chlorine and chloramine from both fresh and salt water. The active ingredient in AmQuel Plus reacts with nitrogen compounds like ammonia and nitrite to form a nontoxic, stable substance that does not interfere with beneficial bacteria and can be oxidized by nitrifying bacteria in the biofilter. AmQuel Plus uses no sodium thiosulfate, contains no formaldehyde and is nontoxic to all fish and invertebrates (not FDA-approved for use with food fish). Water treated with AmQuel Plus cannot be accurately tested using Nessler's-type ammonia tests or Winkler-type D.O. kits. The amounts of toxic components removed by AmQuel Plus vary depending on water conditions. Recommended dosage is 1 teaspoon (5 mL) for each 10 gallons. This dose will remove chlorine, 1.2 ppm of ammonia, 2 ppm of nitrite, 13 ppm of nitrate. A 16-oz. bottle treats 960 gallons.

MODEL		SHIP WT (LBS)	EACH
AM16P	AMQUEL PLUS, 16 OZ	1	\$8.79
AM64P	AMQUEL PLUS, GALLON	11	45.49
AM75P	AMQUEL PLUS, 5 GALLONS	50	187.79
AMD2P	DRY AMQUEL PLUS, 11 LBS	11	169.29
AMD3P	DRY AMQUEL PLUS, 55 LBS	55	506.09



AM16P



AM64P



AMD2P

## CLORAM-X® WATER CONDITIONER FW SW

Safe for use on food fish and shellfish

This highly concentrated powder completely neutralizes ammonia, chlorine and chloramines from fresh and salt water. It is nontoxic to fish and invertebrates. Dosage rate: 1 oz ClorAm-X® per 235 gallons of water removes 1 mg/L of total ammonia. A 5-lb box treats 18,749 gallons. Note: Water treated with ClorAm-X® cannot be accurately tested using Nessler's-type ammonia tests or Winkler-type D.O. kits.

MODEL	SHIP WT (LBS)	EACH
CAX5	5	\$51.99
CAX10	10	85.99
CAX25	55	464.09

ClorAm-X® is a registered trademark of Aquascience Technologies, LLC.



CAX5



CAX10

## REEF CARBON FW SW

This high-grade carbon contains no phosphates and is excellent for removing dissolved organics, organic chemicals and heavy metals. Highly recommended for saltwater reef systems. Use 1/4 lb per 100 gallons.

MODEL		EACH
KC6	15 LBS	\$85.29
KC55	44 LBS	195.29



KC6

## PROLINE CALCIUM CHLORIDE

Technical-grade calcium chloride can be used to raise the calcium hardness in recirculating systems. Depending upon the water's buffering capacity, it may raise or lower the pH. Normal calcium hardness levels should be maintained between 100–250 mg/L, depending on the species. Fast-dissolving pellets. Note: Increases H<sub>2</sub>O temperature slightly when mixed in high concentrations.

MODEL		EACH
<b>CC1AB</b>	3.5-LB JAR	<b>\$12.89</b>
<b>CCB1</b>	35-LB BUCKET	<b>52.09</b>



CC1AB

## PROLINE SODIUM BICARBONATE

Raise alkalinity and pH (when conditions are right) of fish-raising water. FCC food-grade complying with National Science Foundation Standard 60. Powdered to dissolve quickly and completely. To increase total alkalinity 10 ppm in 1,000 gallons of water requires 0.15 lb. Note: Increases H<sub>2</sub>O temperature slightly when mixed in high concentrations.

MODEL		EACH
<b>SC12A</b>	4-LB JAR	<b>\$16.99</b>
<b>SC12</b>	40-LB BUCKET	<b>71.09</b>



SC12A

## CHEMI-PURE® FILTERING GRANULES FW SW

A high-grade blend of activated carbon and ion exchange resins prepackaged in a convenient, nylon filter bag. It is an excellent chemical adsorption media and ion generator that will keep pH at a stable level, helping fish resist osmotic shock. Replace every six months. One 10-oz bag is ideal for tanks up to 50 gallons.

MODEL		EACH
<b>16705</b>	10 OZ	<b>\$8.19</b>



Chemi-Pure® is a registered trademark of Aquatic Futures, LLC.

## PURIGEN® SYNTHETIC FILTRATION FW SW

This is a premium, synthetic absorbent that is unlike any other filtration product. It is not a mixture of ion exchangers or absorbents, but a unique macro-porous synthetic polymer that removes soluble and insoluble impurities and exceeds all others by over 500%. Purigen removes proteins, ammonia, nitrates and a broad spectrum of organics, yet its impact on trace elements is minimal. It progressively darkens as it exhausts and is renewed by treating with household bleach. 100 mL purifies up to 100 gallons (400 L) of water for up to 6 months. Use with a fine mesh bag (included with **P165**).

MODEL		SHIP WT (LBS)	EACH
<b>P165</b>	100 ML	1	<b>\$7.79</b>
<b>P186</b>	250 ML	1	<b>12.99</b>
<b>P187</b>	1 LITER	3	<b>45.09</b>



P186

Purigen® is a registered trademark of Seachem Laboratories, Inc.

## PHOSPHATE SPONGE FW SW

Removes phosphates quickly from water

This ceramic media can be used in marine and freshwater systems, including koi ponds and recirculating aquaculture systems. One quart (650 g) of media will reduce 1 ppm phosphates or silicates to less than .5 ppm in 120 gallons of water. Media particle size is 2–5 mm and can be retained using an 800-micron or smaller mesh bag.

MODEL		EACH
<b>KPS8</b>	5 LBS (2,500 GAL)	<b>\$125.79</b>

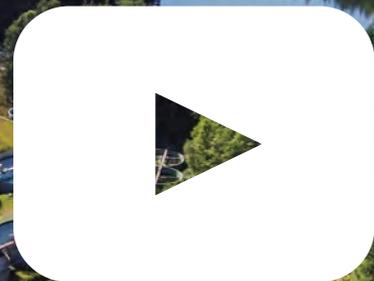


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## BRIGHTWELL AQUATICS FISHAUL-C

Reduces stress and mortality caused by fish hauling and holding. Also reduces the accumulation of ammonia, nitrate and prevents foam buildup caused by hauling tank crowding. Safe for use on all freshwater fish, it has a low regulatory status and is safe for use on food fish. Ideal for fish transport, bait tanks, minnow farms and fishing/bass tournaments. This concentrated, salt-free formula will save you in shipping costs. Simply mix 2.5 kg container with 50 lbs of noniodized salt (purchased locally) to treat 2,230 gallons (8,441 liters). Not a dechlorinator.



MODEL	EACH	6+
HL1A	\$27.09	\$25.74

## TRANQUIL™

Reduce injury and loss during shipping and handling of baitfish. Ship more baitfish per volume of water. Tranquil Fish Calmer slows fish metabolism, so less oxygen is required. Great for bait holding tanks, hauling truck tanks and shipping bags. Six drops of Tranquil treat one gallon of water. Baitfish recover immediately upon removing them from Tranquil-treated water.

MODEL	GALLONS TREATED		EACH
SL141	700	8 OZ	\$23.79
SL142	11,200	1 GALLON	275.09



SL141



SL142

## BAIT HOLDING FORMULAS

ALL products below are for use with nonfood fish only. Our Chemical Waiver Form is required to purchase these products.

**BETTER-BAIT** Minnow Holding Formula was developed for use on soft-scaled baitfish such as fathead and Missouri minnows. Its dark blue granular formulation readily dissolves and is ideal for bait holding tanks, raceways, hauling tanks, live wells and minnow buckets. The formula provides instant removal of chlorine, adds electrolytes, removes heavy metals and pesticides and stimulates the minnows' natural slime coat. One tablespoon treats 50 gallons. Turns water blue.

**FINER-SHINER** Shiner Holding Formula is designed for use with wild shiners, hatchery shiners and hard-scaled baitfish. It is heavily formulated with potassium, which hardens fish scales and makes sure bait lasts longer during captivity. It also removes tapwater chlorine, removes harmful metals and pesticides and stimulates a natural slime coat. Finer-Shiner is commonly used in bait tanks, hauling tanks, holding vats, live baitwells and minnow buckets. One tablespoon treats 50 gallons. Turns water a clear, green color.

**SHRIMP-KEEPER** Saltwater Bait Holding Formula will help keep saltwater bait alive, including shrimp, ghost shrimp, croakers, mullet, piggy perch and menhaden. The formula totally conditions salt water. It removes ammonia and surface foam, stimulates natural slime coat and reduces water surface tension so that more oxygen can enter the water. One tablespoon treats 25 gallons of salt water.

MODEL		GALLONS TREATED	SHIP WT (LBS)	EACH
SL103	BETTER-BAIT	2,400	3	\$26.89
SL104	BETTER-BAIT	9,600	12	85.99
SL203	FINER-SHINER	2,400	3	33.09
SL204	FINER-SHINER	8,000	12	98.69
SL313	SHRIMP-KEEPER	1,200	3	51.99
SL314	SHRIMP-KEEPER	4,800	12	154.09

## VIDALIFE WATER CONDITIONER

Vidalife is a specially formulated water conditioner for use in fish hatcheries, broodstock facilities, transport tanks, and on handling equipment and handling surfaces. When applied as directed, Vidalife will help protect fish from abrasions by preserving the fish's natural mucous layer and can be used whenever fish are handled or moved.

MODEL	EACH
VLC1	1 GALLON \$36.79



### CHEMICAL

This symbol designates those products that require a completed Chemical Waiver Form before purchase (Visit [PentairAES.com](http://PentairAES.com)). Pentair AES will only sell medications to those customers who certify that they will control the usage of these products. Medications are for use with ornamental fish only and are not for use with food fish or for human consumption.

## NEVER RELEASE BAITFISH INTO THE WILD!



SL103



SL203



SL313



### Note:

Use of any conditioners, additives, treatments or medications is "at your own risk." Pentair Aquatic Eco-Systems highly recommends the following:

- Fish should ALWAYS be properly examined and diagnosed for disease by a licensed veterinarian or fish lab.
- ALWAYS double-check your chemical calculations and dosage rates.
- ONLY dose at rates prescribed by a licensed veterinarian or the manufacturer.
- NEVER mix chemicals or medications with other chemicals.

Pentair Aquatic Eco-Systems Inc. is not liable for any damages or consequential damages resulting from any chemical or medication treatments.

### TRICAINE-S TOPICAL ANESTHETICS

FW SW KOI

This is an FDA-approved, ANADA #200-226, high-grade brand of MS-222 (tricaine methanesulfonate), which is an anesthetic/tranquilizer of fish and other cold-blooded aquatic organisms. When used properly, it induces a temporary state of immobilization that is rapidly reversed when the animal is placed back in clean water. It is commonly used when handling fish during manual spawning (stripping), tagging, measuring, weighing and surgical operations. It is a great sedative for transporting, sorting and grading fish.



TRS2 TRS5 TRS1

Tricaine-S is a USFDA registered drug of Western Chemical Inc. a subsidiary of Aquatic Life Sciences, Inc.

MODEL		EACH
TRS4	5 G	\$20.99
TRS5	10 G	31.49
TRS1	100 G	125.89
TRS2	1 KG	681.49

### OVADINE IODINE

FW SW KOI

This product is a buffered, FDA-registered fish egg disinfectant that works well when applied to the egg surface of salmonids. It is effective against a wide variety of fungi, viruses and bacteria. Sodium thiosulfate (ST1/ST1A) can be used to neutralize iodine disinfectants.



MODEL	SHIP WT (LBS)	EACH
ID10	1 GALLON 11	\$40.99

Ovadine® is a registered trademark of Western Chemical, Inc.

### POTASSIUM PERMANGANATE

FW SW KOI

HAZMAT AG CHEMICAL Waiver Form Required

Technical grade KMnO4 (97% minimum potassium permanganate) is a strong oxidizer that works by oxidizing organic and inorganic materials that are major consumers of oxygen (does not add oxygen to the water). Sold in 5-lb (2.2 kg) bucket. Ships Hazmat. Not FDA Approved.



MODEL		EACH
PTP5	5 LB	\$48.99

### PROLINE DEFOAMER

Instantly eliminates foam

Our defoamer is a high-quality, 5% food grade, silicone-based product that will instantly eliminate surface foam in tanks, ponds, hauling tanks, etc. Use sparingly, as one teaspoon treats 100 gallons or more. This is a great price on a high-quality defoamer.



DFA

MODEL		EACH	4+
DFA	1 PINT 1 LB	\$9.89	—
DFB	1 GALLON 11 LBS	34.59	32.86

### AQUATIC DISINFECTANT

FW SW TECH FAV

This is a highly effective disinfectant specifically formulated for use in aquaculture facilities. Generally used for cleaning equipment and instruments, but may also be used in footbaths. Ideal for controlling a wide variety of viral, bacterial and fungal pathogens.

Mix at a rate of 1.3 ounces per gallon of water. One gallon of solution treats 135 sq.ft.; 10-lb container makes 123 gallons of solution. Solution remains stable for seven days. EPA-registered (registration pending in California).

MODEL		EACH
VKS10	10-LB CONTAINER	\$98.59



### MICROBE-LIFT® SABBACTISUN

All Natural Herbal Water Conditioner for Bacterial Diseases

MICROBE-LIFT®/SABBACTISUN™ is a unique, natural remedy, proven effective against bacterial dropsy, fungus, fin/tail rot, bulging eyes, raised scales and ulcers in fish. It works by expelling external pathogens from the host fish and stimulating its immune system response. Unlike many chemical and antibiotic treatments available, it can also speed up damaged tissue regeneration. It is made from plant and herbal extracts and is environmentally friendly. This product is harmless to all nitrifying bacteria and aquatic plants. It has a shelf life of 2 years provided it is kept at room temperature and stored in its original bottle. Do not allow to freeze. May not be used with fish intended for human consumption. For quarantine tank and pond use only. Treats up to 2,365 gal. (8,953 Liters) for 10 days.



- Stimulates the immune system
- Completely safe to use
- Non-toxic to animals and plants
- Fully biodegradable
- Does not discolor water

MODEL		EACH
770013	32 OZ	\$49.99

Microbe-Lift® and Sabbactisun™ are trademarks and/or registered trademarks of Ecological Laboratories, Inc.

### METHYLENE BLUE

FW SW CHEMICAL Waiver Form Required

Aids in general disease prevention with tropical fish, fry and eggs. Also used for detoxification of fish suffering from nitrite or cyanide poisoning. One teaspoon treats 10 gallons (3 ppm concentration). Toxic to plants and bacterial beds; recommended for use in quarantine tanks. Not FDA-approved.



MODEL		EACH	4+
37344	4 OZ	\$4.09	\$3.89

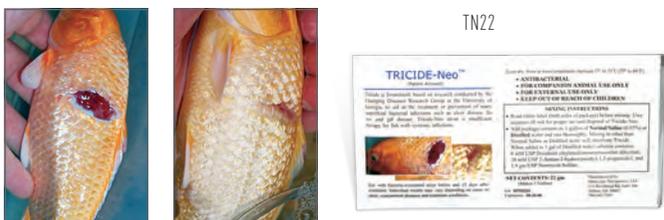
## TRICIDE-NEO® ANTIBIOTICS

**FW** **KOI** **TECH FAV** **CHEMICAL** Waiver Form Required

Tricide-Neo® is a dip to aid in the treatment of superficial bacterial infections such as ulcer disease. It breaks the bacteria's resistant outer layer to allow the antibiotic to stop the bacteria. The product is shipped dry and mixed with distilled water. Fish can be dipped every other day for one week. Healed ulcers can typically be seen within 15 days. Also used as a prophylactic dip prior to introducing new fish. Ineffective against Mycobacterium spp. For external use on nonfood fish only! **TN22** (22 grams) makes one gallon, **TN110** (110 grams) makes 5 gallons. Not FDA-approved.

MODEL		EACH
<b>TN22</b>	22 GRAMS	<b>\$32.29</b>
<b>TN110</b>	110 GRAMS	<b>71.99</b>

Tricide-Neo® is a registered trademark of Molecular Therapeutics.



Koi with ulcer infected with multiantibiotic resistant bacteria before and 15 days after 5 to 10 min dips in Tricide-Neo on days 0, 2 and 4.

## POND RID-ICH®+ MEDICATION

**FW** **KOI** **CHEMICAL** Waiver Form Required

This is a combination of two medications effective in the control of many diseases caused by freshwater external protozoan parasites, including ich, Costia, Trichodina and Chilodonella. Can also treat fungal infections in fish. Contains formalin and malachite green; 16 oz (473 mL) treat 960 gallons (3.6 cubic meters). Pond Rid-Ich®+ is not FDA-approved for use on food fish. Cannot ship when temperature is below 40°F.

MODEL		EACH
<b>PR16</b>	16 OZ	<b>\$9.39</b>
<b>PR64</b>	GALLON	<b>46.19</b>

Rid-Ich® is a registered trademark of Kordon, LLC.



PR16

## PROFORM-C MEDICATION **FW** **KOI** **CHEMICAL** Waiver Form Required

ProForm-C is a broad spectrum treatment that is safe and effective for the control of diseases caused by Ichthyophthirius (ich), Costia, Trichodina, Chilodonella, Oodinium and fungal infections. It is a malachite green and formalin combination that is considerably less toxic to koi and goldfish than other similar products in the market. Required treatment time is generally three days and bypassing the biofilter is not required. One quart treats a 3,200-gallon system three times and one gallon treats a 12,800-gallon system three times. Not for food fish. Cannot ship when temperature is below 40°F.

MODEL		EACH
<b>P1002</b>	1 QUART	<b>\$24.09</b>
<b>P1003</b>	1 GALLON	<b>66.09</b>



P1002

## MICROBE-LIFT® LICE & ANCHOR WORM TREATMENT **FW** **SW** **KOI**

Treats pond fish affected by common external parasites such as lice and anchor worms. Safe for use on all ornamental pond fish, reptiles, amphibians and mollusks. Will not harm pond biological filtration. Recommended dosage: 1 ts per 20 gallons. 16 oz bottle treats up to 1,920 gallons of pond water. **For ornamental fish only.**

MODEL	EACH
<b>FLAW16</b>	<b>\$13.09</b>

Microbe-Lift® is a registered trademark of Ecological Laboratories, Inc.



## KOIZYME® WATER CONDITIONER **FW** **KOI**

This blend of nonpathogenic bacteria, enzymes and micronutrients works on the established principle of competitive exclusion. When used as directed, KoiZyme will reduce the bacterial count of *Aeromonas*, *Pseudomonas* and other pathogenic bacteria to such low levels that they will not have an effect on koi. KoiZyme will not harm biofilters and has a 4–6 month shelf life (18 months if kept refrigerated). Use weekly at 4 teaspoons per 1,000 gallons. Not FDA-approved.

MODEL		EACH	4+
<b>KZ32</b>	32 OZ	<b>50.39</b>	<b>47.87</b>

KoiZyme® is a registered trademark of Koi Care Kennel, Inc.



## MICROBE-LIFT® PARAZORYNE

All Natural Herbal Water Conditioner for Parasitic Diseases

MICROBE-LIFT®/Parazoryne™ is a natural parasite expellant proven to work against skin and gill flukes, white spot, Oodinium, Costia, Chilodonella and Trichodina, just to name a few. Parasitic infections are characterized by symptoms such as: milky skin, white spots, flashing, heavy breathing and general lethargy. Made from plant extracts and environmentally friendly, it supports the fish's immune system, driving off the excess parasites, and is harmless to all nitrifying bacteria and aquatic plants. This product has a shelf life of 2 years, provided it is kept at room temperature and stored in its original bottle. Do not allow to freeze. This product is intended for use with all ornamental fish and may not be used with fish intended for human consumption. For quarantine tank and pond use only. Treats up to 2,365 gal. (8,953 Liters) for 10 days.

MICROBE-LIFT®/Sabbactisun™ and MICROBE-LIFT®/Parazoryne™ can be used 12 hours apart

- 100% natural plant and herbal product
- Fully biodegradable
- Non-toxic to animals and plants
- Does not adversely affect either nitrifying filter bacteria or beneficial bacterial additives
- Does not discolor water



MODEL		EACH
<b>770014</b>	MICROBE-LIFT PARAZORYNE	<b>\$49.99</b>

Parazoryne™ is a trademark of Ecological Laboratories, Inc.