



Epicore BioNetworks Inc.

## **EPICIN<sup>®</sup>-D**

### **Biological Aquaculture Treatment Applied via Feed**

#### **PRODUCT DESCRIPTION**

**EPICIN-D** is a natural microbial ecosystem with added stabilizers and growth stimulants. It eliminates water-fouling waste products such as ammonia, nitrites and hydrogen sulfide, thereby lowering stress and providing a healthier environment for aquatic animal growth. It also improves animal health and disease resistance by creating a probiotic environment. When applied to feed in the field, EPICIN-D is especially effective in reducing secondary pathogen mortality in viral weakened shrimp.

#### **BENEFITS TO AQUACULTURE**

- Effectively reduces dangerous levels of ammonia, nitrite and sulfide pollutants from pond water.
- Establishes a strong natural bacteria culture in the water that suppresses the growth of harmful bacteria such as *Vibrio sp.*
- Increases animal survival and yields and allows higher stocking densities.
- Promotes animal weight gain and reduces feed conversion ratios.
- Reduces need for water exchanges providing a more bio-secure environment.
- Leaves behind cleaner water reducing pollution from discharge water.
- Feed application concentrates EPICIN -D in and near the shrimp for a more effective and cost efficient application.

#### **MODE OF ACTION**

Treatment of aquaculture ponds with specially formulated products based on carefully selected, natural bacteria provides a natural way to eliminate pollution and to create a beneficial microbial environment that inhibits the development of harmful organisms. Bacteria have a powerful capacity to utilize pollutants such as ammonia, nitrates and nitrites in their normal metabolism of organic carbon. Additionally, a thriving culture of the right natural bacteria provide a “probiotic” environment which suppresses the growth of harmful organisms. Through these two mechanisms, a healthier aquatic creature is raised that has greater vitality and immunity to disease.

#### **INGREDIENTS**

Contains non-toxic, natural microbial cultures and enzymes with added stabilizers and growth stimulants on an inert carbohydrate carrier.

#### **PRODUCT DATA**

Form	Off-white powder with brown particles
Odor	Sweet
Bulk Density	Approximately 0.8 gm/ml (52 lbs./cubic foot)
Total Aerobic Count	4.0E+09 cfu/gm, minimum

#### **REGULATORY STATUS**

The US Food and Drug administration and the Association of American Feed Control Officials have published a list of microorganisms that are GRAS (generally recognized as safe) in direct-fed microbial products. All the microorganisms in EPICIN-D are on this list.

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### IMPORTANT NOTICE TO PURCHASER

"Epicore BioNetworks, Inc. ("Epicore") warrants that the product conforms to its compositional description and is reasonably fit for the purpose stated on the label when used in accordance with the label instructions under normal conditions of use. There are no other express or implied warranties, whether as to merchantability, fitness for any use, or otherwise, given in respect of the product. Neither Epicore nor its agents shall be liable for any damage, loss, or injury, whether the same arises directly or consequentially, by reason of any matter whatsoever relating to the use of the product, and any buyer's or user's exclusive remedy in any instance shall be limited to a refund of the purchase price paid."

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## TREATMENT SUGGESTIONS

- A preventative program is strongly recommended over a remedial one. Applying EPICIN-D before problems develop consistently protects animal health and minimizes the impact of problems on survival and yield.
- The following treatment rates are suggested as starting points:

Pond Type	Days of Culture	Treatment Rate
Nursery	1-20	4-6 gm/kg feed
Grow-out	1-30	1 gm/kg feed
Grow-out	31-45	3-4 gm/kg feed *
Grow-out	46-80	1 gm/kg feed
Grow-out	>80	**

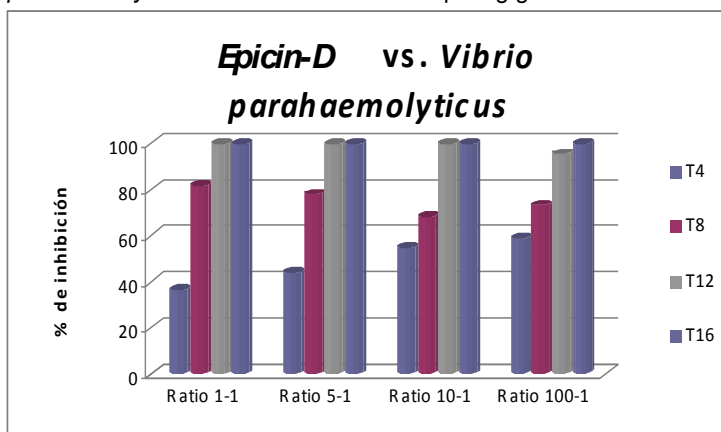
\* If heavy disease pressure is expected, increase the dose rate prior to the onset of expected problems during this period.

\*\* EPICIN application usually is necessary only for high water pollutants late in the cycle of highly stocked ponds.

- To apply, mix the required amount of EPICIN-D bacteria along with 1-liter molasses in 4-liters of fresh water that is free of chlorine or disinfectants. Mix well for about ten minutes to break up clumps of bacteria. In a clean container apply as uniformly as possible the bacteria and molasses mixture to 40 kg bag of feed.

## PRODUCT PERFORMANCE

The following data was obtained in an independent Ecuadorian laboratory. The test involved probiotic and pathogen competing growth in broth. EPICIN-D inhibited 100% of *Vibrio parahaemolyticus* after twelve hours competing growth.



**PRODUCT STORAGE:** Keep dry; do not store continuously at temperatures above 45°C; store out of direct sunlight in a well ventilated area; do not pre-mix with other products not recommended by Epicore especially biocides and harsh chemicals.

**SHELF LIFE:** Shelf life is two years if stored as recommended.

**PACKAGING:** Supplied in 40-kg fiber drums with polyethylene liners, in 10-kg (5 U.S. gallon) open head polyethylene pails and in 0.75-kg resealable plastic bags.