

# HISAL

All-in nutritional boost for shrimp farmed in high salinity

## The Challenge :

Penaeid shrimp are often cultured in salinities that are higher than the optimal 25-35g/L. High salinity is causing osmotic stress which requires the shrimp to regulate its osmotic balance with the ambient salinity. These physiological mechanisms induce different nutritional requirements, reduce the appetite and constitute an additional stress.

## The Features :

- HISAL is the ideal tool to tailor shrimp feed during periods of high salinity
- HISAL is a complete nutritional boost containing highly digestible and attractive marine proteins and peptides, all essential vitamins and trace elements, osmo-regulating amino acids, phospholipids and highly available sources of energy.
- Free of antibiotics

## Mode of action :



Physiological challenges at high salinity	Nutritional support HISAL
reduced feed intake	feeding stimulants and attractive marine proteins and peptides
buildup of osmoregulatory amino acids in the haemolymph	optimized blend of osmoregulating compounds
stress on cell membranes of gills & intestine	phospholipids, anti-oxidant vitamins C/E, choline, nucleotides
increased energy expenditure due to osmoregulatory processes	sources of highly available energy
increased metabolic requirements	supplement of all essential vitamins (vit C, E, A, D <sub>3</sub> , K <sub>3</sub> , B <sub>1</sub> , B <sub>2</sub> , B <sub>6</sub> , B <sub>12</sub> , B <sub>3</sub> , B <sub>5</sub> , H, folic acid, choline, inositol)

## Benefits :

- Ideal tool to tailor shrimp feed during periods of high salinity
- Enhance feed uptake and growth
- Reduce osmotic stress
- Increase osmotic balance in shrimp
- complete nutritional boost

## Composition :

Highly digestible and attractive marine proteins and peptides, feeding stimulants, highly available sources of energy, vitamins: vit C (ascorbic acid, 100% stable phosphate form), vit E, vit A, vit D<sub>3</sub>, vit K<sub>3</sub>, vit B<sub>1</sub> (thiamine), vit B<sub>2</sub> (riboflavin), vit B<sub>6</sub> (pyridoxine), vit B<sub>12</sub> (cyanocobalamin), vit B<sub>3</sub> (pantothenic acid), vit B<sub>5</sub> (niacin), vit H (biotin), folic acid, choline, inositol, trace-minerals: Manganese, Copper, Zinc, Iodine, Cobalt, Selenium, Osmo-regulating amino acids, phospholipids, and nucleotides.

## Experimental Trials:

## Application & Dosage:

- Mix with feed at the rate of 5 g / kg with 20-30 ml of suitable binder. Can be used in combination with other products.
- Consult our field staff / your aquaculture specialist for specific usage and directions

## Packaging:

- 750 gm HDPE bottle

## Storage:

Store in a cool and dry place away from direct sunlight. Keep package closed when not in use. Once opened, preferably use within one month.

A Research Product of :



**NUTRIAD INTERNATIONAL NV**

Schietstandlaan  
2,2300 Turnhout BELGIUM  
Tel: +32 (0) 14 55 19 90 Fax: +32 (0) 14 55 19 15  
info@nutriad.com

Marketed by :

**Biostadt India Limited**

602-A, Poonam Chambers, 'A' Wing,  
Dr. A.B.Road, Worli, Mumbai 400 018,  
Maharashtra, India  
www.biostadt.com/aqua



An ISO 9001:2008 Certified Company  
An ISO 14001:2004 Standard Company

Customer Care Cell: Tel: 022-66520625  
E-Mail: customercare@biostadt.com

© Registered Trademark  
Imitation of Label Graphics is a Punishable offence