# BIOFORT -SP

MICROGRANULATED HYDROLYZED
SHRIMP PROTEIN



**SANITARY REGISTRY:** SCI-R004489

## Product Description

BIOFORT-SP is a microgranulated hydrolyzed shrimp protein obtained through a controlled enzymatic hydrolysis and a subsequent spray drying of fresh byproducts generated from the processing of shrimp from shrimp farms designated for human consumption. Its high content of low molecular weight bioactive peptides (<1200 Da) gives it a high nutritional and functional value.

With the guarantee of Fortidex S.A,. one of the main producers of high biologic content marine protein.

## Ingredients

Fresh byproducts generated from the processing of shrimp from shrimp farms designated for human consumption, subjected to a controlled enzymatic hydrolysis and a subsequent spray drying.

It does not contain antibiotics or synthetic growth promoters.

## Functional Properties

BioFort-SP's nutritional and functional strength is based on the high content of low molecular weight peptides (<1200 Dalton), product of the controlled enzymatic hydrolysis.

Benefits obtained from supplying peptides to aquaculture animals, especially shrimp, have been tested in assays and this is backed up with several scientific studies.

Among the benefits we include:

- Immunomodulating effect.
- Antibacterial properties
- Increases factor of resistance to clinical conditionsfrom virus and bacteria attacks.
- Antioxidant properties.
- Natural growth promoters.

Additionally, it complies with the attracting-palatability features of aquatic food which, added to the high digestibility of the protein section, substantially improves food intake.

## Specific Applications

Its nutritional-functional profile is ideal for replacing, with a better cost-benefit ratio, special raw material such as squid meal, krill meal, and super prime fish meal.

Recommended as a functional ingredient in special diets such as in food for feeding introductory phases and/or for food designated for aquaculture systems in which stress caused by biological reasons must be prevented, such as in high presence of pathogens or water with a deficient quality.

## Recommendations of Use

**Shrimp and fish:**

- Range from 2.0 to 3.0% initial diets and/or with functional properties.
- Range from 1.5 to 2.0% in growth and fattening diets.
- In shrimp or fish farms place the product by diluting it in water and then spraying it on the pellets and mixing it until a uniform distribution is achieved.

**Poultry farming and swine production species:**

- In initial diets for poultry or weaning diets in swine production, it may be used as a partial replacement for fish meal up to a 5% of the formulation.

# Technical Information

| PROXIMAL ANALYSIS | | |
|---|---|---|
| **PARAMETER** | **UNIT** | **GUARANTEED VALUE** |
| *Moisture* | % | *Max. 6.0* |
| *Protein* | % | *Min. 62.0* |
| *Fat* | % | *Max. 10.0* |
| *Ashes* | % | *Max. 18.0* |

| MINERALS | | |
|---|---|---|
| **PARAMETER** | **UNIT** | **GUARANTEED VALUE** |
| *Calcium* | % | *Min. 0.80* |
| *Total Phosphorus* | % | *Min. 0.27* |
| *Sodium* | % | *Min. 1.40* |
| *Sodium chloride* | % | *Max. 4.10* |

| PROTEIN QUALITY | | |
|---|---|---|
| **PARAMETER** | **UNIT** | **GUARANTEED VALUE** |
| *Protein Solubility* | % | *Min. 92.0* |
| *Digestibility (0.02% pepsin)* | % | *Min. 94.0* |
| *AMINO ACIDS PROFILE (% of product, as it is)* (1) | | |
| *Arginine* | % | *Min. 2.6* |
| *Cysteine* | % | *Min. 0.2* |
| *Phenylalanine* | % | *Min. 2.0* |
| *Histidine* | % | *Min. 0.6* |
| *Isoleucine* | % | *Min. 2.0* |
| *Leucine* | % | *Min. 3.0* |
| *Lysine* | % | *Min. 3.5* |
| *Methionine* | % | *Min. 0.8* |
| *Tyrosine* | % | *Min. 1.1* |
| *Threonine* | % | *Min. 1.7* |
| *Tryptophan* | % | *Min. 0.2* |
| *Valine* | % | *Min. 2.4* |

## Technical Information

| FUNCTIONAL NUTRIENTS | | |
|---|---|---|
| **PARAMETER** | **UNIT** | **GUARANTEED VALUE** |
| *Low molecular weight peptides (2)* | *%* | *Min. 92.0 of soluble protein*<br>*Min. 55.0 of total product* |
| *Cholesterol* | *%* | *Min. 0.20* |
| *Phospholipid* | *%* | *Min. 1.0* |
| *Chitin* | *%* | *Min. 10.0* |
| *Astaxanthin* | *ppm* | *Min. 150.0* |
| *Total nucleotides* | *%* | *Min. 0.55* |

| MICROBIOLOGICAL QUALITY AND FRESHNESS | | |
|---|---|---|
| **PARAMETER** | **UNIT** | **GUARANTEED VALUE** |
| *Salmonella* | - | *Absence in 25g* |
| *Shigella* | - | *Absence in 25g* |
| *Enterobacteria* | *CFU/g* | *Max. 300.0* |
| *Pathogens in crustaceans (3)* | - | *Absence* |
| *Total volatile basic nitrogen (TVB-N)* | *mgN/100g* | *Max. 300.0* |

| FATTY ACIDS PROFILE (% OF PRODUCTS AS IT IS) | | |
|---|---|---|
| **PARAMETER** | **UNIT** | **GUARANTEED VALUE** |
| *EPA + DHA* | - | *Min. 0.40* |
| *Total ω6* | - | *Min. 1.40* |

| ORGANOLEPTIC REQUIREMENTS | |
|---|---|
| **PARAMETER** | **GUARANTEED VALUE** |
| *Appearance* | *Microgranulated solid* |
| *Color* | *Reddish-brown* |
| *Odor* | *Product characteristics* |

(1) 10 essential amino acids for the nutrition of fish and crustaceans, plus 2 non-essential.
(2) Bioactive peptides (BAPs) with a molecular weight of less than1200 Da.
(3) WOAH-listed diseases, 2024 version.

## Commercial Presentation

- Primary package: Low-density polyethylene bag
- Secondary package: Polypropylene bag
- Net content: 20 kg
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## Useful Life

- 6 months from the date of production, kept in its original closed container and under the storage conditions recommended.

## Storage Conditions

- Keep the product in its original container, properly closed.
- Store it in a cool, dry, and well-ventilated place, protected from the direct sunlight.
- Do not store it on a height of more than one pallet, unless racks are being used for avoiding the product compaction.

## Conditions of Use

The product shows a hygroscopic nature, and thus it may absorb humidity from the environment once the container is opened.

- It is recommended that the totality of the content is used once the container is opened. In case there are remains, close the container tightly.
- Avoid puncturing or damaging the container during the sampling in order to prevent the introduction of humidity.

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