



# SHRIMP MEAL



**SANITARY REGISTRY: SCI-R004276**

## Product Description

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Fortidex's Shrimp Meal is a protein meal obtained from fresh byproducts generated during the processing of shrimp from shrimp farms for human consumption. Its elaboration processing incorporates an indirect drying through a rotating tube steam dryer and a hot-air dryer, which contributes to preserve the nutritional quality of the protein and its amino acids.

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

## Ingredients

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Fresh byproducts generated from the processing of shrimp designated to human consumption, with antioxidant (BHT) added.

It does not contain antibiotics or synthetic growth promoters.



## Functional Properties

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Nutritional and functional value of the Fortidex's shrimp meal is based on the indirect drying process through steam and hot air, which contributes to preserve the quality of the protein and the availability of amino acids, in comparison with traditional processes by direct heat drying.

Benefits obtained from feeding animal species with it, including pets, are:

- Better growth ratio.
- Better attractability and palatability due to a better bioavailability of amino acids.

## Specific Applications

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It is recommended as a strategic ingredient for cost-optimizing formulation processes, the ones which seek to replace with a better cost-benefit relationship conventional protein ingredients such as fish meal and soy meal.

It is ideal for petfood diets.

It is recommended for ornamental fish due to its content of the astaxanthin pigment which intensifies the natural color, and other nutritional properties.

## Recommendations of Use

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**Carnivorous fish:** Up to 5%

**Omnivorous fish:** Up to 3%

**Bird species:** It is recommended as a replacement of soy meal up to ten percent of the same.

**Pets:** Mostly for dogs, replacing animal proteins in up to 3%.

## Conditions of Use

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- Keep the product in its original container and closed.
- Store it in a cool, dry, and well-ventilated place.
- Protect it from the direct sunlight.
- Avoid extreme temperatures.
- Store the product on pallets, avoiding a direct contact with the floor, in order to minimize the risk of humidity absorption and contamination.



## Technical Information

| PROXIMAL ANALYSIS |      |                  |
|-------------------|------|------------------|
| PARAMETER         | UNIT | GUARANTEED VALUE |
| Moisture          | %    | Max. 11.0        |
| Protein           | %    | Min. 50.0        |
| Fat               | %    | Max. 12.0        |
| Ashes             | %    | Max. 23.0        |

| MINERALS         |      |                  |
|------------------|------|------------------|
| PARAMETER        | UNIT | GUARANTEED VALUE |
| Calcium          | %    | Min. 4.50        |
| Total Phosphorus | %    | Min. 1.50        |
| Salt             | %    | Max. 4.00        |
| Sand             | %    | Max. 1.00        |
| Salt + Sand      | %    | Max. 5.00        |

| PROTEIN QUALITY                                    |      |                  |
|----------------------------------------------------|------|------------------|
| PARAMETER                                          | UNIT | GUARANTEED VALUE |
| Protein Solubility                                 | %    | Min. 20.0        |
| Digestibility (Torry 0.2% pepsin)                  | %    | Min. 80.0        |
| AMINO ACIDS PROFILE (Determination on the protein) |      |                  |
| Aspartic acid                                      | %    | Min. 2.0         |
| Glutamic acid                                      | %    | Min. 5.0         |
| Alanine                                            | %    | Min. 3.0         |
| Arginine                                           | %    | Min. 3.1         |
| Cysteine                                           | %    | Min. 0.5         |
| Phenylalanine                                      | %    | Min. 4.0         |
| Phenylalanine + Tyrosine                           | %    | Min. 5.0         |
| Glycine                                            | %    | Min. 4.0         |
| Histidine                                          | %    | Min. 2.0         |
| Isoleucine                                         | %    | Min. 2.5         |
| Leucine                                            | %    | Min. 3.1         |
| Lysine                                             | %    | Min. 2.5         |
| Methionine                                         | %    | Min. 1.0         |
| Methionine + Cystine                               | %    | Min. 1.5         |
| Proline                                            | %    | Min. 0.5         |
| Serine                                             | %    | Min. 0.2         |
| Tyrosine                                           | %    | Min. 1.0         |
| Threonine                                          | %    | Min. 1.0         |
| Valine                                             | %    | Min. 4.0         |



## Technical Information

| FUNCTIONAL NUTRIENTS |       |                  |
|----------------------|-------|------------------|
| PARAMETER            | UNIT  | GUARANTEED VALUE |
| Chitin               | %     | Min. 10.0        |
| Astaxanthin          | ppm   | Min. 150.0       |
| Choline              | mg/kg | Min. 6000.0      |

| MICROBIOLOGICAL QUALITY AND FRESHNESS            |          |                  |
|--------------------------------------------------|----------|------------------|
| PARAMETER                                        | UNIT     | GUARANTEED VALUE |
| Salmonella                                       | -        | Absence in 25 g  |
| Shigella                                         | -        | Absence in 25 g  |
| Histamine                                        | ppm      | Max. 100.0       |
| Total volatile basic nitrogen (TVB-N)            | mgN/100g | Max. 100.0       |
| Antioxidant (Residual BHT)                       | ppm      | Min. 150.0       |
| Free fatty acids, expressed as oleic acid (FFA). | %        | Max. 10.0        |

| ORGANOLEPTIC REQUIREMENTS |                         |
|---------------------------|-------------------------|
| PARAMETER                 | GUARANTEED VALUE        |
| Appearance                | Milled meal             |
| Color                     | Reddish                 |
| Odor                      | Product characteristics |

## Commercial Presentation

| PRESENTATION | PACKAGING                          | NET CONTENT |
|--------------|------------------------------------|-------------|
| Bag          | Laminated polypropylene with liner | 25 kg       |
| Big Bag      | Polypropylene                      | 1200 kg     |

## Useful Life

12 months from the date of production, under the storage conditions recommended.

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