SeaPro® Shrimp
Natural Ocean Pink Shrimp Meal

SeaPro® Shrimp is derived from the fresh cuttings of Pacific pink shrimp (*Pandalus jordani*) processed for human consumption at inspected, domestic fish processing facilities. Wild Pacific pink shrimp harvested by the Pacific Seafood Group is certified as sustainable by the Marine Stewardship Council and is the sole source of our raw material. Fresh shrimp cuttings are cooked and dehydrated under low-temperature conditions, and stabilized with natural antioxidants.

SeaPro® Shrimp is a concentrated source of minerals and contains supplemental levels of protein, astaxanthin pigment and chitin. It has applications in animal feeds and petfood to balance nutrient profiles, and to validate flavor and label claims.

SeaPro® Shrimp is a product of the United States of America. It is traceable with documentation showing source and processing of raw material utilized in manufacturing. Our company benefits from vertical integration within a human seafood company, Pacific Seafood Group, through access to their electronic tracking of fish catch, landings and processing, and the subsequent disposition of fresh shellfish cuttings. Pacific Seafood Group maintains strict quality standards based on scientifically-derived FSMA/HACCP systems at all our locations to ensure that the product you receive is the highest quality.

Customers are always welcome to visit our facilities and review our practices. Our definition of excellence, “consistently doing your best and always striving to do better”, demonstrates our commitment to providing a traceable, sustainable and wholesome product to our customers and yours.

**Guaranteed Analysis**

<table>
<thead>
<tr>
<th>Component</th>
<th>Minimum/Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Protein (min)</td>
<td>34.5 %</td>
</tr>
<tr>
<td>Crude Fat (min)</td>
<td>1.0 %</td>
</tr>
<tr>
<td>Crude Fiber (max)</td>
<td>25.0 %</td>
</tr>
<tr>
<td>Ash (max)</td>
<td>35.0 %</td>
</tr>
<tr>
<td>Moisture (max)</td>
<td>10.0 %</td>
</tr>
<tr>
<td>Calcium (min/max)</td>
<td>13.5 / 16.0 %</td>
</tr>
<tr>
<td>Phosphorus (min)</td>
<td>1.0 %</td>
</tr>
</tbody>
</table>

**Fat Stability**

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preserved with mixed tocopherols</td>
<td>250 ppm</td>
</tr>
<tr>
<td>Peroxide Value</td>
<td>6.0 mEq / kg fat</td>
</tr>
</tbody>
</table>
### Amino Acids (% meal)

- Alanine: 1.7
- Arginine: 1.8
- Aspartic acid: 3.1
- Cystine: 0.4
- Glutamic acid: 4.0
- Glycine: 1.4
- Histidine: 0.6
- Isoleucine: 1.2
- Leucine: 1.8
- Lysine: 1.7
- Methionine: 0.6
- Phenylalanine: 1.3
- Proline: 1.2
- Serine: 1.5
- Taurine: 
- Threonine: 1.0
- Tryptophan: 0.3
- Tyrosine: 1.1
- Valine: 1.4

### Chitin
- Approximately 23.5%

### Microbial Analysis
- Aerobic Plate Count: 100,000 cfu / g

### Minerals (% meal)

- Calcium: 14.0
- Phosphorus: 3.3
- Potassium: 1.0
- Sodium: 0.3
- Sulfur: 0.2
- Magnesium: 0.7
<table>
<thead>
<tr>
<th>Minerals</th>
<th>(mg/kg meal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>83</td>
</tr>
<tr>
<td>Zinc</td>
<td>38</td>
</tr>
<tr>
<td>Copper</td>
<td>12</td>
</tr>
<tr>
<td>Manganese</td>
<td>12</td>
</tr>
<tr>
<td>Boron</td>
<td>47</td>
</tr>
<tr>
<td>Barium</td>
<td>36</td>
</tr>
<tr>
<td>Arsenic</td>
<td>BDL</td>
</tr>
<tr>
<td>Cadmium</td>
<td>BDL</td>
</tr>
<tr>
<td>Chromium</td>
<td>BDL</td>
</tr>
<tr>
<td>Cobalt</td>
<td>BDL</td>
</tr>
<tr>
<td>Mercury</td>
<td>BDL</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>BDL</td>
</tr>
<tr>
<td>Lead</td>
<td>BDL</td>
</tr>
<tr>
<td>Nickel</td>
<td>BDL</td>
</tr>
<tr>
<td>Selenium</td>
<td>BDL</td>
</tr>
<tr>
<td>Silver</td>
<td>BDL</td>
</tr>
</tbody>
</table>

**Product Characteristics**

- **Color**: Pink
- **Odor**: Mild shrimp
- **Physical**: Free-flowing, 100% through 2.5 mm screen
- **Density**: Approximately 13 - 18 lb / ft³
- **pH**: 9.5 – 10.0
- **Storage**: Store in a cool, dry place in original packaging
- **Stability**: 12 months when appropriately stored

**Packaging**

1,300 lb bulk bags

**AAFCO Definition**

Shrimp Shell Meal
Processing Statements
Allergen: This product is processed in a facility that contains and processes crustacean shellfish.
This product is not intended for human consumption.

Typical Values
The value for mixed tocopherols is a residual and typical content for the product at the time of shipping.
The value for peroxide is a typical value for the product at the time of shipping.
The values for amino acids, minerals, microbial analysis, and product characteristics are typical and expected.

Manufacturer
BioOregon Protein, Inc.
P.O. Box 429
1935 NW Warrenton Drive
Warrenton, OR 97146
w: www.biooregonprotein.com
e: biooregonmarketing@pceseafood.com
p: 1-503-861-2256

Technical and Sales Inquiries
Bing Brackeen
Technical Product and Market Development
e: bbrackeen@pceseafood.com
p: 503-861-2256 ext. 8808 | c: 971-601-0793

Annette Takko
Quality Assurance Manager
e: atakko@pceseafood.com
p: 503-861-2256 ext. 8811 | c: 503-440-8998

Sales
Gary Acker
International and Domestic Sales/ Global Logistics Manager
e: gacker@pceseafood.com

December 23, 2019