Crab Shell Meal
Dungeness Crab Shell Meal

Crab Shell Meal is derived from the fresh cuttings of Dungeness crab (*Metacarcinus magister*) processed for human consumption at inspected, domestic fish processing facilities. The raw material is cooked, de-watered, and dried under low-temperature conditions. It is a concentrated source of minerals, and contains supplemental levels of protein, astaxanthin pigment and chitin. No additives are utilized for processing or preservation.

Crab Shell Meal is a natural ingredient and a product of the United States of America. Fisheries specifically targeting Dungeness crab are our sole source of raw material. 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 fish 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>Analysis (min/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Protein (min)</td>
<td>22.0 %</td>
</tr>
<tr>
<td>Crude Fat (min)</td>
<td>1.5 %</td>
</tr>
<tr>
<td>Crude Fiber (max)</td>
<td>20.0 %</td>
</tr>
<tr>
<td>Ash (max)</td>
<td>60.0 %</td>
</tr>
<tr>
<td>Moisture (max)</td>
<td>10.0 %</td>
</tr>
<tr>
<td>Calcium (min/max)</td>
<td>15.0 / 20.0 %</td>
</tr>
<tr>
<td>Phosphorus (min/max)</td>
<td>1.0 / 1.8 %</td>
</tr>
</tbody>
</table>

Amino Acids (% meal)

<table>
<thead>
<tr>
<th>Amino Acid</th>
<th>( % meal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alanine</td>
<td>0.9</td>
</tr>
<tr>
<td>Arginine</td>
<td>1.1</td>
</tr>
<tr>
<td>Aspartic acid</td>
<td>1.2</td>
</tr>
<tr>
<td>Cystine</td>
<td>0.1</td>
</tr>
<tr>
<td>Glutamic acid</td>
<td>1.6</td>
</tr>
<tr>
<td>Glycine</td>
<td>1.0</td>
</tr>
<tr>
<td>Histidine</td>
<td>0.2</td>
</tr>
</tbody>
</table>
### Amino Acids (% meal)
- Isoleucine: 0.4
- Leucine: 0.6
- Lysine: 0.4
- Methionine: 0.1
- Phenylalanine: 0.7
- Proline: 0.8
- Serine: 0.8
- Threonine: 0.6
- Tryptophan: 0.1
- Tyrosine: 0.8
- Valine: 4.8

### Minerals (% meal)
- Calcium: 18.0
- Phosphorus: 1.4
- Potassium: 0.2
- Sodium: 1.8
- Sulfur: 0.2
- Magnesium: 0.8

### Minerals (mg / kg meal)
- Iron: 300
- Zinc: 35
- Copper: 12
- Manganese: 12
- Boron: 10
- Arsenic: BDL
- Cadmium: BDL
- Cobalt: BDL
- Molybdenum: BDL
- Lead: BDL
- Nickel: BDL
- Selenium: BDL

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

Color: Light brown to off-white
Odor: Mild crab
Physical: From whole shell to <2.5 mm
Density: Varies depending on size desired
pH: 9.5 – 10.0
Storage: Store in a cool, dry place in original packaging
Stability: 9 months when appropriately stored
Chitin: Approximately 15.0%

Packaging: Bulk bags

AAFCO Definition: Crab Shell Meal

Processing Statements

Allergen: This product contains crustacean shellfish and is processed in a facility that processes fish.
This product is not intended for human consumption.
The values for amino acids, minerals, microbial analysis, and product characteristics are typical.

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December 23, 2019