Pacific Whiting 68
Natural Pacific Whiting Meal

Pacific Whiting 68 fishmeal is derived mainly from the fresh cuttings of Pacific whiting (Merluccius productus) harvested and processed for human consumption. All processing is domestic and shore-based. All facilities are federally inspected. Commercial fisheries targeting Pacific whiting and other groundfish species are the primary source of raw material. These fisheries conform to Marine Stewardship Council standards and reflect our “Sustainability Mission” to promote ecologically responsible marine resource management practices worldwide. Utilizing only fish cuttings from established fisheries managed as sustainable natural resources is the best way to ensure our products is wholesome, renewable and reliably available.

Pacific Whiting 68 is a consistent feed ingredient. Specifications do not vary seasonally and each production lot is formulated and blended to standard nutrient levels. It is a source of highly digestible fish protein, provides a supplemental level of omega-3 fatty acids including docosahexaenoic (DHA) and eicosapentaenoic (EPA), and is stabilized with natural antioxidants.

Pacific Whiting 68 is produced solely in the United States of America. It is traceable with documentation showing source and disposition of raw material utilized in production and final product formulation. 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 cuttings. Pacific Seafood Group maintains strict quality standards based on scientifically-derived FSMA/HACCP systems at all our locations to ensure the product you receive is 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>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Protein (min)</td>
<td>68.0 %</td>
</tr>
<tr>
<td>Crude Fat (min)</td>
<td>6.5 %</td>
</tr>
<tr>
<td>Crude Fiber (max)</td>
<td>1.5 %</td>
</tr>
<tr>
<td>Ash (max)</td>
<td>16.5 %</td>
</tr>
<tr>
<td>Moisture (max)</td>
<td>10.0 %</td>
</tr>
<tr>
<td>Calcium (min/max)</td>
<td>3.8 / 5.8 %</td>
</tr>
<tr>
<td>Phosphorus (min)</td>
<td>2.2 %</td>
</tr>
<tr>
<td>Salt (max)</td>
<td>2.5 %</td>
</tr>
</tbody>
</table>

Freshness

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Histamine</td>
<td>50 mg / kg meal</td>
</tr>
<tr>
<td>Total Volatile Nitrogen</td>
<td>120 mg N / 100 g meal</td>
</tr>
</tbody>
</table>
Amino Acids  (% meal)
Alanine 3.8
Arginine 5.0
Aspartic acid 6.6
Cystine 0.6
Glutamic acid 9.1
Glycine 3.1
Histidine 1.6
Isoleucine 3.3
Leucine 5.8
Lysine 6.2
Methionine 2.0
Phenylalanine 3.2
Proline 2.5
Serine 2.9
Threonine 3.2
Tryptophan 1.1
Tyrosine 2.8
Valine 4.0

Digestibility
Pepsin Digestibility 0.0002% pepsin 96%

Fatty Acids  (% meal)
Myristic C 14:0 0.2
Palmitic C 16:0 1.6
Palmitoleic C 16:1 0.5
Stearic C 18:0 0.3
cis-Oleic C 18:1 n-9 1.9
cis-Linoleic C 18:2 n-6 0.1
gamma-Linolenic C 18:3 n-6 BDL
α-Linolenic C 18:3 n-3 0.1
cis-11-Eicosenoic C 20:1 n-9 0.1
cis-11,14,17-Eicosatrienoic C 20:3 n-3 0.1
Arachidonic C 20:4 n-6 0.1
Eicosapentaenoic (EPA) C 20:5 n-3 0.9
Erucic C 22:1 n-9 0.1
Docosahexaenoic (DHA) C 22:6 n-3 0.8
Total omega-3 2.0
Total omega-6 0.2
Fat Stability
Preserved with Mixed Tocopherols 750 ppm
Peroxide Value 10.0 mEq / kg fat

Minerals (% meal)
Calcium 4.5
Phosphorus 2.4
Potassium 0.8
Sodium 0.9
Sulfur 0.6
Magnesium 0.2

(mg / kg meal)
Iron 95
Zinc 80
Aluminum 35
Copper 5
Manganese 12
Chromium 1
Vanadium BDL
Cadmium BDL
Lead BDL
Cobalt BDL
Nickel BDL
Molybdenum BDL

Vitamins (IU / kg meal)
Vitamin A 64,500
Vitamin D 1,100
Vitamin E N/A

Microbial Analysis
Aerobic Plate Count 100,000 cfu / g

Product Characteristics
Color Light brown
Odor Mild fish
Physical Free-flowing, 100% through 2.5 mm screen
Density Approximately 25 - 28 lbs / ft³
pH  7.0 – 7.5
Storage  Store in a cool, dry place in original packaging
Stability  9 months when appropriately stored

Packaging
2,000 lb bulk bags

AAFCO Definition
Pacific Whiting Meal, White Fish Meal, or Fish Meal

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

Typical Values
The values for freshness, amino acids, fatty acids, minerals, vitamins, aerobic plate count, and product characteristics are typical and expected values.

The value for peroxide value is a typical value for the product at time of shipping.

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