

## SeaPro™ 75

### De-Boned Natural Whitefish Meal

**SeaPro™ 75** is a de-boned, high-protein, low-ash fishmeal derived from fresh cuttings of marine whitefish harvested and processed for human consumption. All processing is domestic and shore-based. All facilities are federally inspected. Commercial fisheries targeting Pacific Whiting (*Merluccius productus*) and ground fish species on the West Coast of the United States conform to Marine Stewardship Council ([www.msc.org](http://www.msc.org)) standards and reflect our “Sustainability Mission” to promote socially and ecologically responsible marine resource management practices worldwide. Utilizing only fish cuttings from established marine fisheries managed as sustainable natural resources is the best way to ensure our product is wholesome, renewable and consistently available.

**SeaPro™ 75** is a consistent feed ingredient. Product specifications do not vary seasonally and each production lot is formulated and blended to standard nutrient levels. Our ingredient is a concentrated source of highly digestible fish protein and extremely low in ash and magnesium. It provides a supplemental level of omega-3 fatty acids including docosahexaenoic (DHA) and eicosapentaenoic (EPA), and is stabilized with natural antioxidants. This premium product is ideal for improving feed protein quality; reducing dietary ash and magnesium content; and validating flavor, label and natural claims.

**SeaPro™ 75** is produced solely in the United States of America. It is traceable with documentation showing source and processing 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 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

Crude Protein (min)	75.0 %
Crude Fat (min)	8.5 %
Crude Fiber (max)	1.5 %
Ash (max)	5.5 %
Moisture (max)	10.0 %
Calcium (min/max)	0.5 / 1.0 %
Phosphorus (min)	0.7 %
Magnesium (max)	0.145 %
Salt (max)	1.5 %

<b>Amino Acids</b>	<b>(% meal)</b>	<b>(g / 100 g protein)</b>	<b>(% digestible)</b>
Alanine	4.1	5.3	95.9
Arginine	5.6	7.3	88.4
Aspartic acid	7.3	9.5	93.5
Cystine	0.7	0.9	86.8
Glutamic acid	10.1	13.2	94.8
Glycine	3.4	4.5	N/A
Histidine	1.8	2.3	83.8
Isoleucine	3.7	4.8	96.1
Leucine	6.4	8.4	96.3
Lysine	6.9	8.9	85.7
Methionine	2.2	2.9	96.6
Phenylalanine	3.5	4.6	95.4
Proline	2.8	3.6	93.6
Serine	3.2	4.2	94.1
Taurine	0.2	0.3	N/A
Threonine	3.6	4.7	94.2
Tryptophan	1.2	1.6	99.7
Tyrosine	3.1	4.1	95.1
Valine	4.4	5.8	94.1

<b>Protein Digestibility</b>	<b>(% protein)</b>
Pepsin (0.0002% pepsin)	96.0
Rainbow Trout	92.1

<b>Fatty Acids</b>		<b>(% meal)</b>	<b>(g / 100 g fat)</b>
Myristic	C 14:0	0.3	3.0
Palmitic	C 16:0	1.8	19.0
Palmitoleic	C 16:1	0.7	7.0
Stearic	C 18:0	0.5	5.0
cis-Oleic	C 18:1 n-9	2.4	25.0
cis-Linoleic	C 18:2 n-6	0.2	1.8
gamma-Linolenic	C 18:3 n-6	N/A	0.4
α-Linolenic	C 18:3 n-3	0.2	1.5
cis-11-Eicosenoic	C 20:1 n-9	0.2	2.5
cis-11,14,17-Eicosatrienoic	C 20:3 n-3	0.2	2.0
Arachidonic	C 20:4 n-6	0.2	1.5
Eicosapentaenoic (EPA)	C 20:5 n-3	1.2	12.3
Erucic	C 22:1 n-9	0.1	1.5
Docosahexaenoic (DHA)	C 22:6 n-3	1.1	12.0
Total omega-3		2.8	28.5
Total omega-6		0.4	2.5

**Freshness**

Histamine	50 mg / kg meal
Total Volatile Nitrogen	100 mg N / 100 g meal

**Fat Stability**

Preserved with mixed tocopherols	1250 ppm
Peroxide Value	10.0 mEq / kg fat

**Minerals (% meal)**

Calcium	0.8
Phosphorus	0.9
Potassium	0.5
Sodium	0.4
Sulfur	0.9
Magnesium	0.13

**(mg / kg meal)**

Iron	250
Zinc	100
Aluminum	30
Copper	4
Manganese	5
Chromium	1
Vanadium	BDL
Cadmium	BDL
Lead	1
Cobalt	BDL
Nickel	BDL
Molybdenum	BDL

**Vitamins (IU / kg meal)**

Vitamin A	86,500
Vitamin D	1,500
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 1.9 mm screen
Density	Approximately 25 - 28 lb / ft <sup>3</sup>

pH	7.0 – 7.5
Storage	Store in a cool, dry place in original packaging
Stability	6 months when appropriately stored

**Packaging** 1,800 lb bulk bags

**AAFCO Definition** Whitefish Meal, or Fishmeal

**Certification** Canada Export

### 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 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 freshness, amino acids, fatty acids, minerals, vitamins, aerobic plate count, 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](http://www.biooregonprotein.com)  
e: [biooregonmarketing@pacseafood.com](mailto:biooregonmarketing@pacseafood.com)  
p: 1-503-861-2256

### Technical and Sales Inquiries

Bing Brackeen  
*Technical Product and Market Specialist*  
e: [bbrackeen@pacseafood.com](mailto:bbrackeen@pacseafood.com)  
p: 503-861-2256 ext. 8808 | c: 971-601-0793

Annette Takko  
*Technical Product and Quality Assurance Specialist*  
e: [atakko@pacseafood.com](mailto:atakko@pacseafood.com)  
p: 503-861-2256 ext. 8811 | c: 503-440-8998

### Sales

Gary Acker  
*International and Domestic Sales/ Global Logistics Manager*  
e: [gacker@pacseafood.com](mailto:gacker@pacseafood.com)  
p: 503-905-4589 | c: 503-260-4127

October 10, 2018