

## SeaPro<sup>®</sup> 70

### Natural Pacific White Fish Meal

**SeaPro<sup>®</sup> 70** is a high-protein fish meal derived mainly from 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 on the West Coast of the United States conform to [Marine Stewardship Council](#) 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<sup>®</sup> 70** 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 provides supplemental levels omega-3 fatty acids including docosahexaenoic (DHA) and eicosapentaenoic (EPA). It is stabilized with natural antioxidants. This premium product is ideal for improving feed protein quality, reducing dietary ash, and validating flavor, label and natural claims.

**SeaPro<sup>®</sup> 70** is produced solely in the United States of America. It is traceable with documentation showing source and disposition of all 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)	70.0 %
Crude Fat (min)	6.5 %
Crude Fiber (max)	1.5 %
Ash (max)	15.0 %
Moisture (max)	10.0 %
Calcium (min/max)	2.0 / 5.5 %
Phosphorus (min)	1.3 %
Salt (max)	2.0 %

#### Typical Analysis

##### Freshness

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

<b>Amino Acids</b>	<b>(% meal)</b>
Alanine	3.9
Arginine	5.1
Aspartic acid	6.6
Cystine	0.7
Glutamic acid	9.1
Glycine	3.9
Histidine	1.6
Isoleucine	3.3
Leucine	5.4
Lysine	5.7
Methionine	2.0
Phenylalanine	3.3
Proline	2.9
Serine	3.1
Taurine	0.2
Threonine	2.9
Tryptophan	0.9
Tyrosine	2.8
Valine	3.9

### **Protein Digestibility**

Pepsin Digestibility (0.0002% pepsin) 96.0 %

<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		2.3	28.5
Total omega-6		0.4	2.5

**Fat Stability**

Preserved with mixed tocopherols	1,000 ppm
Peroxide Value	10.0 mEq / kg fat

**Minerals** (% meal)

Calcium	3.8
Phosphorus	2.1
Potassium	0.5
Sodium	0.5
Sulfur	0.8
Magnesium	0.18

(mg / kg meal)

Iron	160
Zinc	100
Aluminum	40
Copper	4
Manganese	10
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

**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

\*BDL – beyond detectable level

**Microbial Analysis**

Aerobic Plate Count 100,000 cfu / g

**Packaging**

1800 lb bulk bags

**AAFCO Ingredient Name**

Fish Meal, Fish Protein Concentrate

**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**

Pacific Bio Products- Warrenton, LLC

(DBA BioOregon Protein, Inc.)

P.O. Box 429

1935 NW Warrenton Drive

Warrenton, OR 97146

w: [www.pacificbioproducts.com](http://www.pacificbioproducts.com)

e: [biooregonmarketing@pacseafood.com](mailto:biooregonmarketing@pacseafood.com)

p: 1-503-861-2256

**Technical and Sales Inquiries**

Bing Brackeen

*Technical Product and Market Development Manager*

e: [bbrackeen@pacseafood.com](mailto:bbrackeen@pacseafood.com)

p: 503-861-2256 ext. 8808 | c: 971-601-0793

**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