

SeaPro[®] HP

Deboned Fish Protein

SeaPro[®] HP is a deboned, low-ash, high-protein fish product derived 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[®] HP is a unique, 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 intact fish protein, extremely low in ash, and provides a supplemental level of omega-3 docosahexaenoic (DHA) and eicosapentaenoic (EPA) fatty acids. It is stabilized with natural antioxidants. This premium product has application for improving feed protein quality, and validating flavor, label and natural claims.

SeaPro[®] HP is an ideal protein source for supporting certain microbial growth in fermentation processing. Fish cuttings are extensively deboned and finely screened to reduce particle size and improve process incorporation. Most important, all protein is in its natural, complex structure (no hydrolysis) allowing for slow release of nitrogen and control of reaction rate and heat.

SeaPro[®] HP is a product of 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 its 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 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	≥ 77 %
Crude Fat	≥ 7.0 %
Crude Fiber	≤ 1.5 %
Ash	≤ 4.8 %
Moisture	≤ 10.0 %
Salt	≤ 1.5 %

Typical Analysis

Amino Acids	(% meal)	(g / 100 g protein)
Alanine	4.4	5.6
Arginine	5.0	7.4
Aspartic Acid	7.5	9.7
Cystine	1.0	1.3
Glutamic Acid	10.6	13.4
Glycine	3.4	4.5
Histidine	1.8	2.3
Isoleucine	3.7	4.8
Leucine	6.4	8.4
Lysine	6.9	8.9
Methionine	2.3	2.9
Phenylalanine	3.7	4.8
Proline	2.8	3.6
Serine	3.4	4.3
Taurine	0.2	0.3
Threonine	4.0	5.0
Tryptophan	1.2	1.6
Tyrosine	3.3	4.3
Valine	4.4	5.8

Fatty Acids		(% meal)	(g / 100 g fat)
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
Docosaheptaenoic (DHA)	C 22:6 n-3	1.1	12.0
Total omega-3		2.8	28.5
Total omega-6		0.4	2.5

Protein Digestibility (% protein)

Pepsin Digestibility (0.0002% Pepsin) 96.0 %

Freshness

Histamine 20 mg / kg meal
Total Volatile Nitrogen 90 mg N / 100 g meal

Fat Stability

Natural Mixed Tocopherols 1000 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 0.16

(mg / kg meal)

Iron 250
Zinc 100
Aluminum 30
Copper 4
Manganese 5
Chromium 1

Vitamins (IU / kg meal)

Vitamin A 86,500
Vitamin D 4,500
Vitamin E N/A

Microbial Analysis

Aerobic Plate Count 10,000 cfu / g

Product Characteristics

Color Light brown
Odor Mild fish
Physical Free-flowing, 100% through 1.18 mm screen
Density Approximately 22 - 26 lb / ft³
pH 6.8 – 7.5
Storage Store in a cool, dry place in original packaging
Stability 9 months when appropriately stored



Packaging 1,500 lb or 1,800 lb bulk bags; 25 lb bags

AAFCO Ingredient Name Deboned Fish Protein

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

e: biooregonmarketing@pacseafood.com

p: 1-503-861-2256

Technical and Sales Inquiries

Bing Brackeen

Technical, Product and Market Development Manager

e: bbrackeen@pacificseafood.com p: 503-861-2256 ext. 8808 | c: 971-601-0793

Sales

Gary Acker

International and Domestic Sales/ Global Logistics Manager

e: gacker@pacificseafood.com p: 503-905-4589 | c: 503-260-4127

Revision Date: March 1, 2024