

Shrimp Shell Meal

Ocean Pink Shrimp Shell Meal

Shrimp Shell Meal is derived from the fresh cuttings of Pacific pink shrimp (*Pandalus jordani*) processed for human consumption at inspected, domestic fish processing facilities. Wild Pacific pink shrimp harvested by the <u>Pacific Seafood Group</u> is certified as "sustainable" by the <u>Marine Stewardship Council</u> and is the sole source of our raw material. Fresh shrimp cuttings are cooked and dehydrated under low-temperature conditions. No additives are utilized for processing or preservation.

Shrimp Shell Meal is a concentrated source of minerals and contains supplemental levels of protein, astaxanthin pigment and chitin. It has applications in animal feeds and petfood to balance nutrient profiles, and to validate flavor and label claims.

Shrimp Shell Meal is a natural ingredient and a product of the United States of America. 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 shellfish 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)	34.0 %
Crude Fat (min)	1.0 %
Crude Fiber (max)	25.0 %
Ash (max)	40.0 %
Moisture (max)	10.0 %
Calcium (min/max)	13.5 / 16.0 %
Phosphorus (min)	2.0 %

Typical Values

Amino Acids	(% meal)
Alanine	1.7
Arginine	1.8
Aspartic acid	3.1
Cystine	0.4
Glutamic acid	4.0
Glycine	1.4



Amino Acids (Continued)	(% meal)
Histidine	0.6
Isoleucine	1.2
Leucine	1.8
Lysine	1.7
Methionine	0.6
Phenylalanine	1.3
Proline	1.2
Serine	1.5
Taurine	N/A
Threonine	1.0
Tryptophan	0.3
Tyrosine	1.1
Valine	1.4

Minerals	(% meal)
Calcium	14.0
Phosphorus	3.3
Potassium	1.0
Sodium	0.3
Sulfur	0.2
Magnesium	0.7

-	(mg/kg meal)
Iron	83
Zinc	38
Copper	12
Manganese	12
Boron	47
Barium	36
Arsenic	BDL
Cadmium	1
Chromium	2
Cobalt	BDL
Mercury	BDL
Molybdenum	BDL
Lead	BDL
Nickel	BDL
Selenium	BDL
Silver	BDL
*BDL- beyond detectable level	

Chitin A



Microbial Analysis

Aerobic Plate Count 100,000 cfu / g

Product Characteristics

Color Pink

Odor Mild shrimp

Physical Free flowing, 100% through 2.5 mm screen

Density Approximately 13 - 18 lb / ft³

pH 9.5 - 10.0

Storage Store in a cool, dry place in original packaging

Stability 9 months when appropriately stored

Packaging 1,300 lb bulk bags

AAFCO Ingredient Name Shrimp Shell Meal

Processing Statements

Allergen: This product is processed in a facility that contains and processes crustacean shellfish.

This product is not intended for human consumption.

The values for amino acids, minerals, microbial analysis, 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@pacseafood.com

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

Gary Acker

International and Domestic Sales/ Global Logistics Manager

e: gacker@pacseafood.com

p: 503-905-4589 | c. 503-260-4127

Revision Date: October 14, 2020