

Crab Shell

Dungeness Crab Shell

Crab Shell is derived from the fresh cuttings of Dungeness Crab (*Metacarcinus magister*) processed for human consumption at inspected, domestic fish processing facilities. The raw material is cooked, de-watered, and dried under low-temperature conditions. It is a concentrated source of minerals and contains supplemental levels of protein, astaxanthin pigment, and chitin. No additives are utilized for processing or preservation.

Crab Shell is a natural ingredient and a product of the United States of America. Fisheries specifically targeting Dungeness Crab are our sole source of raw material. 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 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)	22.0 %
Crude Fat (min)	1.5 %
Crude Fiber (max)	20.0 %
Ash (max)	60.0 %
Moisture (max)	10.0 %
Calcium (min/max)	15.0 / 20.0 %
Phosphorus (min/max)	1.0 / 1.8 %

Amino Acids (% meal)

Alanine	0.9
Arginine	1.1
Aspartic acid	1.2
Cystine	0.1
Glutamic acid	1.6

Amino Acids	(%meal)
Glycine	1.0
Histidine	0.2
Isoleucine	0.4
Leucine	0.6
Lysine	0.4
Methionine	0.1
Phenylalanine	0.7
Proline	0.8
Serine	0.8
Threonine	0.6
Tryptophan	0.1
Tyrosine	0.8
Valine	4.8

Minerals	(% meal)
Calcium	18.0
Phosphorus	1.4
Potassium	0.2
Sodium	1.8
Sulfur	0.2
Magnesium	0.8

	(mg / kg meal)
Iron	300
Zinc	35
Copper	12
Manganese	12
Boron	10
Arsenic	BDL
Cadmium	BDL
Cobalt	BDL
Molybdenum	BDL
Lead	BDL
Nickel	BDL
Selenium	BDL

Microbial Analysis

Aerobic Plate Count	100,000 cfu / g
---------------------	-----------------

Product Characteristics

Color	Light brown to off-white
Odor	Mild crab
Physical	From whole shell to <2.5 mm
Density	Varies depending on size desired
pH	9.5 – 10.0
Storage	Store in a cool, dry place in original packaging
Stability	9 months when appropriately stored
Chitin	Approximately 15.0 %

Packaging Bulk bags

Processing Statements

Allergen: This product contains crustacean shellfish and is processed in a facility that processes fish.
This product is not intended for human consumption.
The values for amino acids, minerals, microbial analysis, and product characteristics are typical.

Manufacturer

BioOregon Protein, Inc.
P.O. Box 429
1935 NW Warrenton Drive
Warrenton, OR 97146

w: www.biooregonprotein.com

e: biooregonmarketing@pacseafood.com p: 1-503-861-2256

Technical and Sales Inquiries

Bing Brackeen

Technical Product and Market Specialist

e: 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 p: 503-861-2256 ext. 8811 | c: 503-440-8998

Sales

Gary Acker

International and Domestic Sales/ Global Logistics Manager

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

August 31, 2018