

## Fish Bone Meal

**Fish Bone Meal** is a mineral and protein supplement derived from the 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](#) 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.

**Fish Bone Meal** is a unique feed ingredient. It contains a complete array of macro and micro minerals, and the protein component is highly digestible. No additives are utilized for processing or preservation.

**Fish Bone Meal** 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 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)	37.0 %
Crude Fat (min)	1.5 %
Crude Fiber (max)	1.5 %
Ash (max)	53.0 %
Moisture (max)	10.0 %
Calcium (min/max)	13.5 / 18.0 %
Phosphorus (min)	7.0 %
Magnesium (max)	0.40 %
Salt (max)	2.0 %

### Freshness

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

<b>Amino Acids</b>	<b>(% meal)</b>
Alanine	3.4
Arginine	3.7
Aspartic acid	3.0
Cystine	n.d.
Glutamic acid	4.8
Glycine	6.5
Histidine	0.8
Isoleucine	1.2
Leucine	2.0
Lysine	2.0
Methionine	1.0
Phenylalanine	1.5
Proline	3.6
Serine	2.0
Threonine	1.5
Tryptophan	0.3
Tyrosine	1.0
Valine	1.3

**Protein Digestibility**

Pepsin Digestibility (0.0002% pepsin) 96 %

<b>Fatty Acids</b>		<b>(% meal)</b>
Myristic	C 14:0	0.2
Palmitic	C 16:0	0.9
Palmitoleic	C 16:1	0.4
Stearic	C 18:0	0.2
cis-Oleic	C 18:1 n-9	1.3
cis-Linoleic	C 18:2 n-6	0.1
gamma-Linolenic	C 18:3 n-6	n.d.
α-Linolenic	C 18:3 n-3	0.1
cis-11-Eicosenoic	C 20:1 n-9	0.1
cis-11,14,17-Eicosatrienoic	C 20:3 n-3	n.d.
Arachidonic	C 20:4 n-6	0.1
Eicosapentaenoic (EPA)	C 20:5 n-3	0.6
Erucic	C 22:1 n-9	n.d.
Docosahexaenoic (DHA)	C 22:6 n-3	0.5
Total omega-3		1.3
Total omega-6		0.1

<b>Minerals</b>	<b>(% meal)</b>
Calcium	15.0
Phosphorus	7.5
Potassium	0.4
Sodium	0.6
Sulfur	0.4
Magnesium	0.3

	<b>(mg/kg meal)</b>
Iron	150
Zinc	90
Boron	35
Manganese	35
Copper	15
Barium	7
Chromium	3
Arsenic	BDL
Cadmium	BDL
Cobalt	BDL
Lead	BDL
Mercury	BDL
Molybdenum	BDL
Nickel	BDL
Selenium	BDL
Silver	BDL

### **Microbial Analysis**

Aerobic Plate Count      100,000 cfu / g

### **Product Characteristics**

Color	Light brown
Odor	Mild fish
Physical	Free-flowing
Density	Approximately 30 - 35 lb / ft <sup>3</sup>
pH	7.0 – 7.5
Storage	Store in a cool, dry place in original packaging
Stability	12 months when appropriately stored

**Packaging** Bulk bags

**AAFCO Definition** Fish Bone Meal, Bone Meal

**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 values for amino acids, minerals, microbial analysis and product characteristics are typical and expected.

**Manufacturer**

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