

# Fish Oil

## Marine Whitefish Oil

**Fish Oil** is derived from fresh cuttings of marine whitefish species harvested and processed for human consumption. All processing is domestic and shore-based. All facilities are federally inspected. Primary sources of our raw material are commercial fisheries targeting Pacific Whiting (*Merluccius productus*) and ground fish species on the West Coast of the United States. These fisheries conform to [Marine Stewardship Council](#) standards and reflect our “Sustainability Mission” to promote socially and ecologically responsible marine resource management worldwide. Utilizing fish cuttings from established fisheries managed as sustainable natural resources is the best way to ensure our product is wholesome, renewable and consistently available.

**Fish Oil** is a crude oil and retains a complete profile of all naturally-occurring fatty acids. It has applications in a variety of animal feeds to provide dietary energy and supply critical omega-3 docosahexaenoic (DHA) and eicosapentaenoic (EPA) fatty acids. The fatty acid profile in this oil is variable depending on the raw material mix, which is relative to the seasonal fishing calendar for certain whitefish species. This ingredient is stabilized with ethoxyquin.

**Fish Oil** is a product of the United States of America. 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 Fat (min)	98.5 %
Moisture/Impurities (max)	1.5 %
Free Fatty Acid (max)	5.0 %

### Typical Composition

Free Fatty Acid (as oleic)	3.0 %
Iodine Value (Wijs)	115-160
Moisture Impurities	0.5 %
Vitamin A	900,000 IU / kg
Vitamin D	15,000 IU / kg

## Fat Stability

Preserved with Ethoxyquin	550 ppm
Peroxide Value	4.5 mEq / kg

## Fatty Acid Profile

		Range (% Oil)
Myristic	C14:0	3.0 – 7.0
Palmitic	C16:0	17.0 – 22.0
Palmitoleic	C16:1	7.0 – 8.5
Stearic	C18:0	3.3 – 3.8
Cis-Oleic	C18:1 n-9	23.5 – 30.0
Cis-Linoleic	C18:2 n-6	1.2 – 1.5
α-Linolenic	C18:3 n-3	0.7 – 0.9
Cis-11,14,17-Eicosatrienoic	C20:3 n-3	0.1 – 0.2
Arachidonic	C20:4 n-6	1.0 – 1.8
Eicopentaenoic (EPA)	C20:5 n-3	11.5 – 15.0
Erucic	C22:1 n-9	0.3 – 2.5
Docosahexaenoic (DHA)	C22:6 n-3	8.5 – 10.5
Saturated		29.0 – 30.0
Mono-unsaturated		38.0 – 40.0
Poly-unsaturated		27.5 – 30.0
Omega-3		24.0 – 27.0
Omega-6		2.5 – 3.5

## Product Characteristics

Color	Tan to amber
Odor	Mild fish
Physical	Liquid at room temperature
Density	7.25 – 7.75 lb / gal
pH	6.0 – 6.25
Storage	Store in a cool, dry location
Stability	6 months when appropriately stored

## Packaging

Bulk tankers or 2,000 lb liquid totes



## **AAFCO Definition**

Fish oil, marine fish oil

## **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 ethoxyquin 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 fatty acids, iodine, vitamins and product characteristics are typical and expected.

## **Manufacturer**

BioOregon Protein, Inc.

P.O. Box 429

1935 NW Warrenton Drive

Warrenton, OR 97146

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

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

p: 1-503-861-2256

## **Technical and Sales Inquiries**

Bing Brackeen

*Technical Product and Market Specialist*

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

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

September 3, 2019