# WHY NORDIC NATURALS

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Why are so many medical professionals and research institutions choosing Nordic Naturals fish oil and fish oil blends?

NI85 BØ



WHY CHOOSE Nordic Naturals?

Stamsund

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VERON

Purity, freshness, taste, compliance, results

he Omega-3 fatty acids, EPA and DHA, are essential for maintaining optimal mental and physical health. To date, over 2,000 in vitro studies document the health-promoting effects of Omega-3 fatty acids. Every year additional studies continue to be published, focusing on the mental and physical health benefits of EPA and DHA.

Nordic Naturals was founded by Norwegian native, Joar Opheim, and his wife, Michele, in response to a lack of quality Omega-3 fish oils in the US. For almost ten years, Nordic Naturals has set the standard for freshness, purity, and taste in Omega-3 supplements. Today, we are the leading supplier of fish oils to the professional market as prominent research organizations and medical facilities around the world rely on Nordic Naturals for extraordinary results.

Nordic Naturals' products are produced with exclusive raw materials and a multi-patented manufacturing processes, which deliver freshness and purity levels unheard of only a few years ago.

In the competitive Norwegian market, leading medical doctors are describing Nordic Naturals products as "**simply the best fish oils in the world**." The following sections highlight the various quality aspects of fish oils we feel need to be optimized in order to deliver exceptional products, which lead to improved patient compliance and results.

## 1 Exceeds International Pharmaceutical Standards

Standards are set to protect consumers

Fish oil quality standards do not exist in the United States. To ensure ongoing quality, Nordic Naturals adheres to and exceeds the stringent Norwegian Medicinal Standard (NMS) and the European Pharmacopoeia Standard (EPS) for all products. These standards guarantee quality products by setting maximum allowances on peroxides, heavy metals, dioxins, furans, and PCBs.

The following table highlights the limits set by the NMS and EPS for freshness and purity.

Measurement	NMS	EPS	U.S.
Freshness (peroxide value) measured in milliequivalents per kilo (mEq/kg)	10	10	N.A.
Heavy Metals measured in parts per billion (ppb)	100	100	N.A.
Dioxins and Furans measured in parts per trillion (ppt)	2	2	N.A.
PCBs measured in parts per trillion (ppt)	3	N.A.	N.A.



Freshly caught fish go directly from the sea to the fish oil factory in Andenes, Norway. (above)

### **Exceptional Freshness Levels**

Freshness, which ensures product integrity and biological efficacy, may be the single most important quality of fish oils. Nordic Naturals' patented, oxygen-free manufacturing process delivers peroxide values (indicators of freshness) down to absolute 0.0 mEq/kg, with an average of 0.75 mEq/kg, or approximately 14 times below the Norwegian Medicinal Standard and European Pharmacopoeia Standard limits. The lower the peroxide value, the fresher the fish oil.

**Freshness is crucial for several reasons.** It eliminates patients' key complaints, which are fishy taste and fishy repeat. On the physiological level, a low peroxide value prevents free radical formation, which has been shown to have a negative effect on the human body.

A low peroxide value may be the key reason why so many patients, who previously did not benefit from fish oil supplementation, report extraordinary results when using the Nordic Naturals brand.

### Effects of Rancid Oils

Aside from fishy taste and smell, ingesting rancid oils has a negative effect on the human body. In vitro studies show that oxidated DHA, known as F4neuroprostanes, has been detected in patients with Alzheimer's disease at levels higher than in control groups. It has been determined that the formation of F4-neuroprostane might adversely effect neuronal function as a result of the alterations they induce in the biophysical properties of neuronal membranes. Several aldehyde compounds that result from oxidative degradation of Omega-3 fatty acids have been shown to be harmful to human cells.<sup>1</sup>

1. Roberts LJ *et al.* Formation of isoprostane-like compound (neuroprostanes) in vivo from docosahexaenoic acid. *J Biol Chem* 1998, 273, 13605

Product	Reference #	Peroxide
Arctic Omega	121405	0.51 mEq/kg
ProEFA	121405	1.09 mEq/kg
ProOmega	121405	1.03 mEq/kg
ProEPA	121405	0.53 mEq/kg
ProDHA	121405	1.06 mEq/kg
Arctic Cod Liver Oil	121405	0.55 mEq/kg
Balanced Omega Combination	121405	0.56 mEq/kg

#### The following table shows peroxide values for Nordic Naturals products.

#### FRESHNESS ANALYSIS: PEROXIDE

Norwegian Medicinal Standard Limit: 10.0 mEq/kg

European Pharmacopoeia Limit: 10.0 mEq/kg

## **Q** Exceptional Purity Levels

Purity is a significant concern among fish oil consumers

Nordic Naturals' raw material is harvested from some of the cleanest waters in the world, and is tested by independent laboratories for heavy metals and over 210 other environmental contaminants.

#### Heavy Metals

Nordic Naturals' products show no detectable lead or mercury when tested down to 10 ppb, or 10 times below the Norwegian Medicinal Standard and European Pharmacopoeia Standard limits.

The following table shows test results for mercury and lead for all Nordic Naturals products.

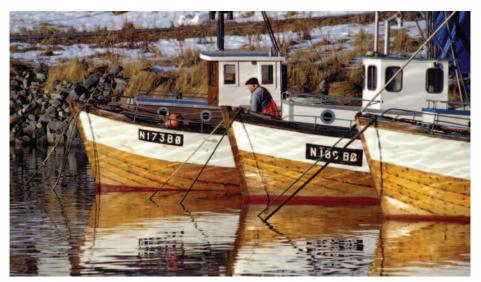
### PURITY ANALYSIS: MERCURY AND LEAD

Product	Mercury	Lead
Arctic Omega	None detected	None detected
ProEFA	None detected	None detected
ProOmega	None detected	None detected
ProEPA	None detected	None detected
ProDHA	None detected	None detected
Arctic Cod Liver Oil	None detected	None detected
Balanced Omega Combination	None detected	None detected

Norwegian Medicinal Standard Limit: 100 ppb

European Pharmacopoeia Limit: 100 ppb

Test Limit 10 ppb



#### Dioxins and Furans

Nordic Natural oils have been tested down to 0.5 ppt with zero detection of dioxins and furans. The Norwegian Medicinal Standard and European Pharmacopoeia Standard limits for dioxins are 2 ppt. Analysis is based on the toxicity equivalent testing methodology established by the World Health Organization (WHO).

#### PCBs

Nordic Naturals' oils show no detectable PCBs when tested down to 0.5 ppt. The Norwegian Medicinal Standard limit for PCBs is 3 ppt. No Limit has been established by the European Pharmacopoeia Standard. Analysis is based on the toxicity equivalent testing methodology established by the WHO.

The following table shows the results for dioxins, furans, and PCBs for all Nordic Naturals products.

#### PURITY ANALYSIS: DIOXINS, FURANS, AND PCBs

Product	Dioxins	Furans	PCBs
Arctic Omega	None detected	None detected	None detected
ProEFA	None detected	None detected	None detected
ProOmega	None detected	None detected	None detected
ProEPA	None detected	None detected	None detected
ProDHA	None detected	None detected	None detected
Arctic Cod Liver Oil	None detected	None detected	None detected
Balanced Omega Combination	None detected	None detected	None detected

DIOXINS: Norwegian Medicinal Standard Limit: 2.0 ppt PCBs: Norwegian Medicinal Standard Limit: 3.0 ppt Testing based on WHO toxicity equivalents model European Pharmacopoeia Limit: 2.0 ppt European Pharmacopoeia Limit: N.A. Test Limit 0.5 ppt Test Limit 0.5 ppt

### Award-Winning Taste

The key objections to taking fish oils are taste and aftertaste. Nordic Naturals utilizes a proprietary enzymatic process to ensure a completely repeat-free product. Our patented manufacturing process adds natural fruit essences into both the capsule and oil for a light, fruity taste.

Years of feedback from professionals and individual consumers indicate that children, teenagers, and adults of all ages enjoy the clean, natural taste of Nordic Naturals fish oils.

Most importantly, a pleasant tasting and burp-free product dramatically increases compliance and results. Nordic Naturals was ranked #1 out of the top 10 fish oil brands in Norway for highest concentration, freshness, and purity.



# S Exclusive and Exceptional Raw Material

A great finished product starts with the best

Nordic Naturals starts with the best raw materials available: fish low on the food chain, which naturally contain low levels of impurities. All of our products are made exclusively from three fish species: Arctic Cod, Anchovies, and Sardines, as they are naturally high in the Omega-3 fatty acids, EPA and DHA. Additionally, we use organic evening primrose and borage oils whenever possible for our fish oil blend products. In fact, Nordic Naturals is one of the largest buyers of organic primrose and borage oils in the world.

### Not all Cod Liver Oils are created equal

Few customers are aware of the fact that many cod liver oil (CLO) products are mostly made from fish other than cod, such as seit or haddock, as Arctic Cod is by far the most expensive raw material available. Since only cod liver contains high levels of naturally occurring vitamins A and D, other cod liver oil manufacturers have to add back synthetic vitamins to standardize the fish oil as cod liver oil. **Nordic Naturals uses 100% Arctic Cod for all of its cod liver oil products.** Our Arctic Cod Liver Oil contains the highest Omega-3 level of any CLO product and is tested to ensure healthy levels of 100% naturally occurring vitamins A and D.

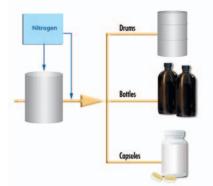
### Multi-Patented Manufacturing Process

Without chemicals or excessive heat



Nordic Naturals' multi-patented manufacturing processes, accompanied by leading edge processing technologies, deliver fish oil with exceptional freshness and purity levels. Nordic Naturals uses several steps in processing the oils, from water and clay filters to an enzymatic molecular distillation process.

Nordic Naturals aims to minimize heat and preserve the natural constituents of the oil to the highest degree possible. We only use natural enzymes to form triglycerides for all our high concentrate products, with no chemicals or excessive heat. All our products are manufactured in triglyceride form in order to best preserve the oil and enhance absorption and utilization.



### Triglyceride versus Ethyl Ester Form

### We use only the natural triglyceride form of fish oil

Triglycerides contain a glycerol backbone, stabilizing the oil molecules in their natural form. Fish oils in ethyl ester form are highly unstable and rapidly break down during storage. They are prohibited in Sweden and Denmark, and soon in Norway and the UK.

Additionally, when fish oils are digested they are converted into free fatty acids. After absorption through the epithelial cells, free fatty acids are immediately converted into triglycerides. If the glycerol backbone is missing (as they are with ethyl esters), and no other glycerol backbones are available, the oil cannot be converted back to triglyceride form. Fatty acids not converted to triglycerides pose an oxidation burden in the form of free radical formation.



### Backed by Extensive Research Formulations are driven by the latest developments

Nordic Naturals is a research driven company, where processing technology and product formulations are driven by the latest developments. Without solicitation, leading research institutions such as Harvard University, Georgetown University, Columbia University, and the National Institute of Health have chosen the Nordic Naturals brand for clinical studies. Nordic Naturals products are currently used in fourteen clinical studies at various research facilities and universities around the world. More studies are added every month.

Organization	Investigation	Study type	Product / Dose
University of Pittsburgh	Fish oil and inflammation; reduction of NSAID use	open label	ProEPA 2—4 caps/day
Pediatric Clinic, Arizona	Fish oil + GLA for language and learning	open label	ProEFA Junior 2 caps/day
VA New York Harbor Healthcare System	Fish oil and anger measures	double blind, placebo-controlled	ProEPA 5 caps/day
HANDLE® Institute	Fish oil and functional behavior measures	open label; program evaluation	ProEFA Junior 2 caps/day
Duke University	Fish oil and Anxiety	open label	ProOmega 6 caps/day
UC Davis	Fish oil on exercise tolerance and vascular function	blinded, placebo-controlled	ProOmega 9 caps/day
Cedars-Sinai Medical Center	Fish oil as adjunct therapy in major depression	randomized, blinded, placebo-controlled	ProEPA 2 caps/2x
Texas A & M University	Fish oil and glucose uptake/insulin action	in vitro; dose finding	ProEFA vs. ProDHA vs. ProOmega
Confidential Site, Ohio	Fish oil and serum C-reactive protein levels	double blind, placebo- controlled, prospective	ProEPA 3 caps/day
Oregon Health Sciences University (OHSU)	Fish oil and Alzheimer's Disease	randomized, double blind, placebo-controlled	ProOmega 3 caps/day
OHSU	Fish oil as adjunct therapy for depression in people with MS	double blind, placebo-controlled	ProOmega 6 caps/day
Pittsburgh, Penn	Fish oil for cardiac protection and joint pain	blinded, placebo-controlled	ProEPA 5 caps/day
Mass Gen Hospital & Cedars-Sinai Med Ctr	Fish oil and clinical depression	randomized, double blind, placebo-controlled	ProEPA Xtra and ProDHA

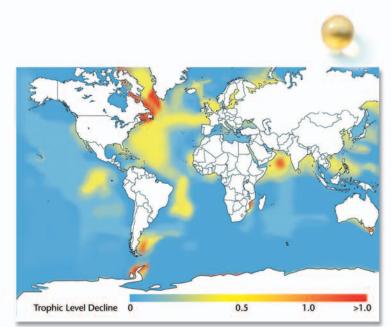
Published Studies

### Environmental Responsibility

### Only harvest in areas that have a plentiful supply

Overfishing is a global issue that needs immediate attention by local governments and the international community. Since our inception, Nordic Naturals' policy has always been to choose fish that are not endangered and to harvest them from waters that are not overfished. Our Arctic Cod is harvested in Arctic Norway between the Lofoten islands outside of Bodø, Norway. Nordic Naturals also ensures that the fish harvested are utilized 100% for human or animal consumption.

Nordic Naturals is greatly concerned about overfishing and receives updated information on fish stock in Norway and neighboring waters every week. Consequently, Nordic Naturals only harvests fish in areas that have a plentiful supply and that are not the subject of overfishing.





### Optimal Blend of Natural Stabilizers

Nordic Naturals has spent over five years researching the impact of various natural stabilizers on fish oil. A recent study completed at Nutrasource Diagnostics in 2005 showed that Nordic Naturals' product freshness level (measured by peroxide value) increased only 6% over a 36-month period, compared to other products showing an increase of more than 50% over an 18month period. Exceptional freshness means no fishy smell or odor, and improved compliance and results.

In summary, there are many reasons to choose the Nordic Naturals brand of fish oils and fish oil blends for your patients. When you choose Nordic Naturals, you have our guarantee that compliance issues will be eliminated for patients of all ages. You will be using one of the highest quality fish oil products available.



#### Nordic Naturals provides:

- Exceptional taste—leading to improved compliance and results
- Unsurpassed freshness and purity
- 100% triglyceride form—optimizing absorption and minimizing oxidative stress
- Fish oils chosen by leading researchers around the globe
- Patented manufacturing process optimizing overall product quality
- A wealth of research articles and consumer information highlighting the benefits of Omega-3 fatty acids on the human body





Nordic Naturals, Inc., 94 Hangar Way, Watsonville, CA 95076 Toll Free: 800.662.2544 • Fax: 831.724.6600 • admin@nordicnaturals.com • nordicnaturals.com

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