

DISTILLING FACT FROM FICTION

Fish Oil Manufacturing Clarified

NORDIC[®]
NATURALS



Many producers of fish oil eliminate important steps during the manufacturing process, sacrificing product quality along the way. Nordic Naturals is committed to making the best-tasting and most effective omega-3 fish oils possible, knowing that what matters most are results. That's why we follow production methods backed by the latest science and proven to yield supplements superior in taste, purity, and efficacy, and always manufactured in the triglyceride molecular form.

RESULTS MATTER!

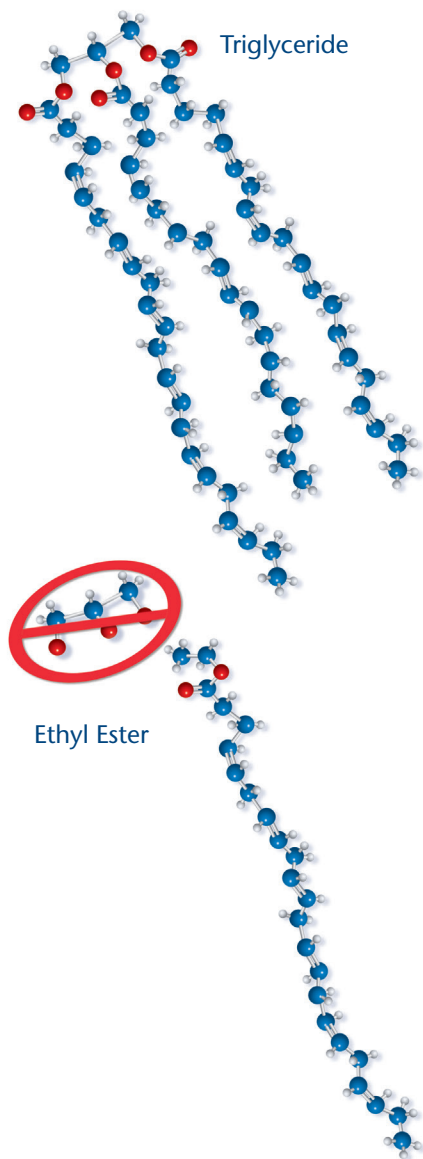


Ask for a certificate of analysis on any Nordic Naturals product.

THE IMPORTANCE OF THE TRIGLYCERIDE FORM

Our bodies have been efficiently digesting and metabolizing essential fatty acids (EFAs) for thousands of years. We transport and use these essential fats—including the omega-3s EPA and DHA found in fish oil—in the triglyceride form, which resembles three parallel chains of molecules connected at one end by a molecular (glycerol) backbone.

However, some synthetic fatty acid compounds on the market lack the molecular backbone of triglycerides. This “new to nature” form of omega-3 EFAs is called an ethyl ester, and it constitutes most omega-3 concentrates on the market today. Because ethyl esters lack the molecular backbone naturally found in triglycerides, these synthetic molecules are less effective at delivering omega-3s to the body during digestion and metabolism. As a result, ethyl esters are not absorbed as readily as the triglyceride form, which is the form naturally found in fish, and the only form of omega-3s in Nordic Naturals products.

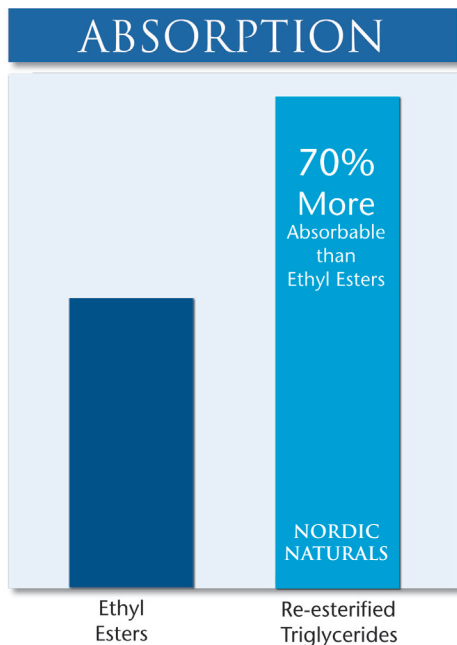


THE IMPORTANCE OF THE TRIGLYCERIDE FORM

Research confirms that concentrated fish oil is absorbed 70% more as triglycerides than as ethyl esters.¹ Because of this, overall levels of EPA and DHA in people who consume triglyceride-based fish oils far surpass the levels in people who choose ethyl ester products. Furthermore, ethyl esters have only been in the human diet for a few decades, so the long-term effects of these synthetic molecules are unknown.

As research continues to affirm the advantage of the triglyceride form, Nordic Naturals continues to innovate in order to deliver omega-3 fish oil with superior absorption and proven results.

Be sure to look for “triglyceride form” when choosing a fish oil supplement.

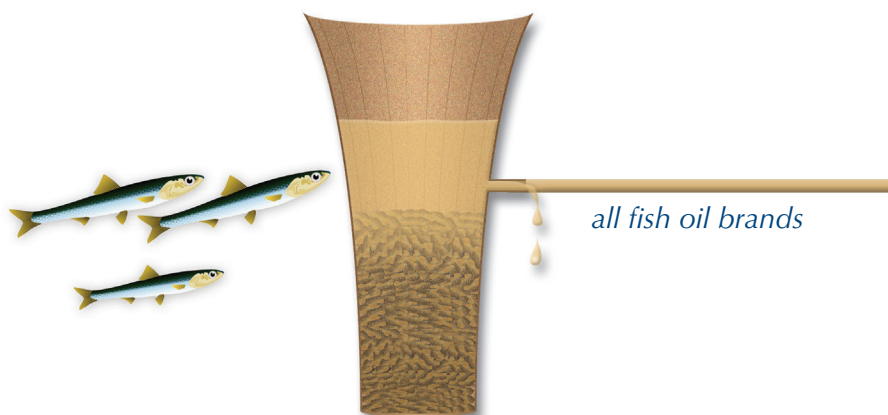


1. Dyerberg J, et al. Bioavailability of marine n-3 fatty acid formulations. *Prostaglandins Leukot Essent Fatty Acids* 2010 Sep;83(3):137-141.

THE FACTS ABOUT

Despite what you may have been told, all manufacturers use heat in the production of their fish oil supplements, as all oils must be cleaned, and all concentrated oils must be molecularly distilled. In the fish oil manufacturing business, this is true across the board. Regardless of whether some brands choose enzymatic or CO₂ (a.k.a. Supercritical CO₂ Extraction) processes for concentration, no brand can avoid heat during the manufacturing process.

The oils used in our products are consistently rated as some of the purest and freshest available—and always meet the strictest international standards for quality—because we focus on results, taking great care to avoid rancidity and to remove harmful contaminants during processing. Third-party analyses confirm the Nordic Naturals advantage.

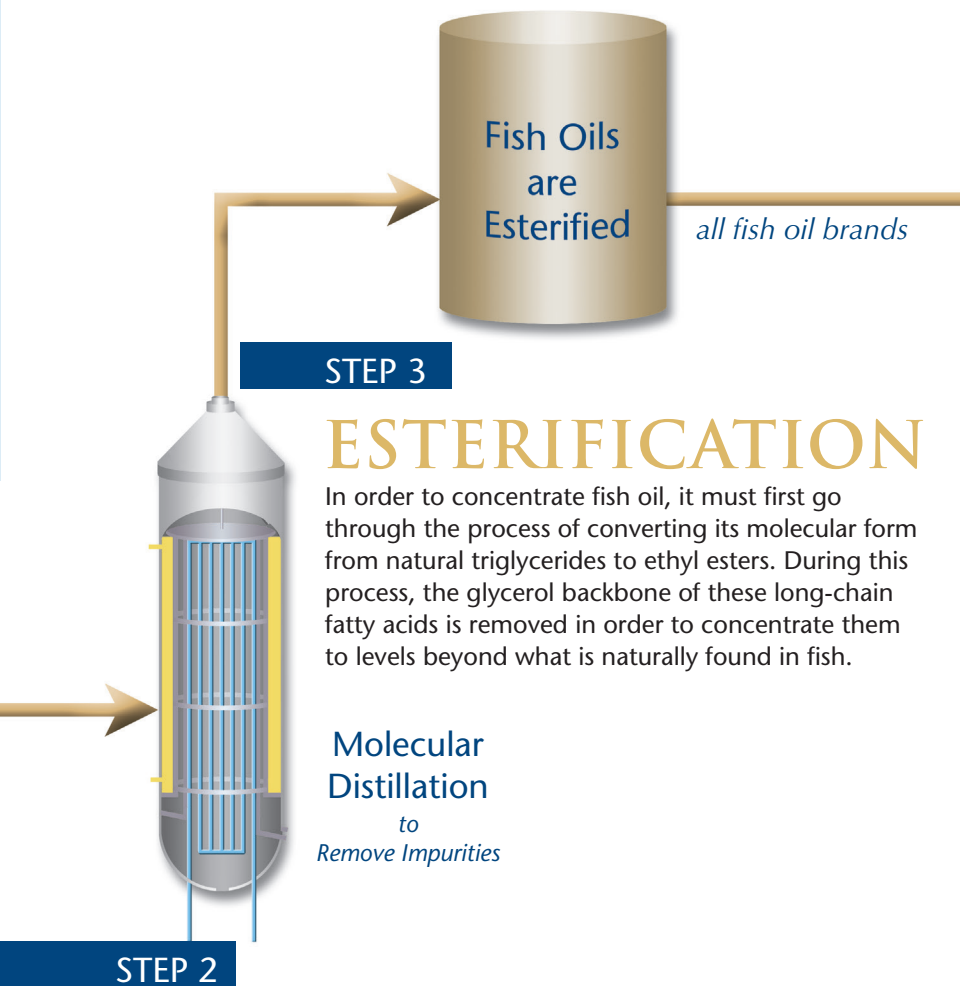


STEP 1

EXTRACTION

After sourcing, manufacturers boil and press fish to extract raw oil rich in omega-3s. Nordic Naturals' oxygen-free processing environment ensures that our oils remain fully protected from the oxidation that causes the fishy smell and taste you find in inferior supplements.

THE FISH OIL MANUAL



STEP 3

Fish Oils
are
Esterified

all fish oil brands

ESTERIFICATION

In order to concentrate fish oil, it must first go through the process of converting its molecular form from natural triglycerides to ethyl esters. During this process, the glycerol backbone of these long-chain fatty acids is removed in order to concentrate them to levels beyond what is naturally found in fish.

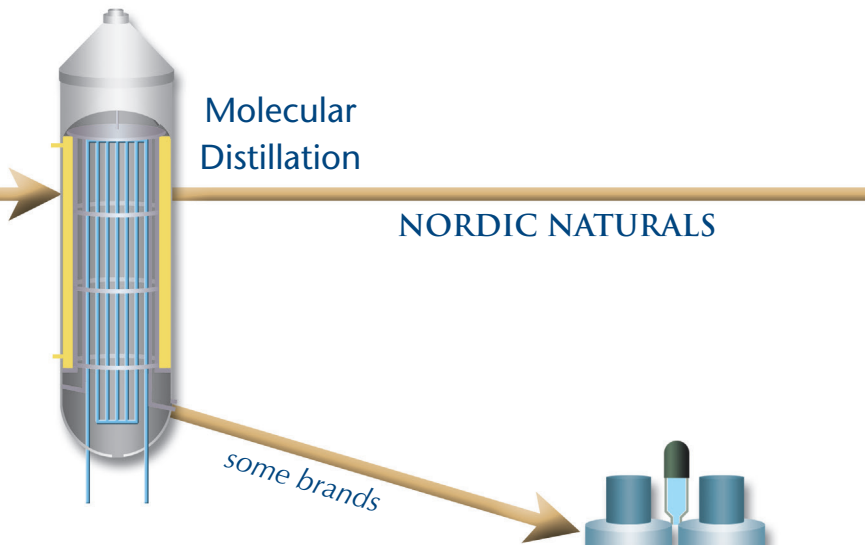
Molecular
Distillation
to
Remove Impurities

STEP 2

PURIFICATION

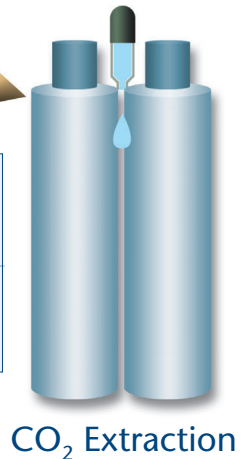
Fish oils are then purified (i.e. “stripped”) of heavy metals, including mercury, PCBs, and other contaminants, through the process of molecular distillation. All quality manufacturers employ this technique prior to any chosen concentration method—be it further molecular distillation, enzymatic processing, or CO₂ extraction.

FACTURING PROCESS



NORDIC NATURALS Molecularly Distilled Fish Oil	CO ₂ Extracted Fish Oil
Total PCBs: 0.0002 ppm	Total PCBs: 0.021 ppm*

*Feb 22, 2011 Nutrasource Diagnostics, Inc.



STEP 4

CONCENTRATION

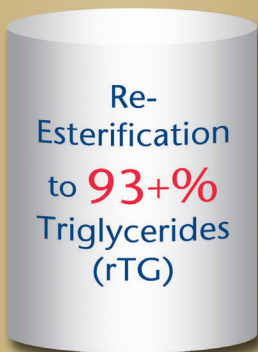
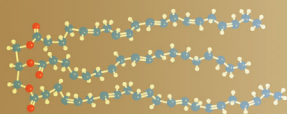
Purified fish oil is concentrated to yield high percentages of the omega-3s eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Here, some brands choose enzymatic or CO₂ concentration techniques. However, Nordic Naturals has determined that single-step molecular distillation yields the best results, as it avoids unnecessarily reheating and transporting the oil in order to finalize the concentration process.



very few other brands



NORDIC NATURALS®



STEP 5

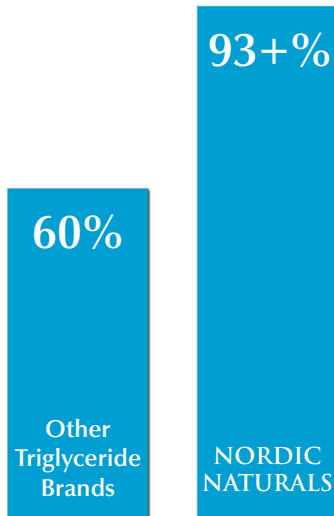
RE-ESTERIFICATION

After concentration, our purified oils are carefully returned to their superior triglyceride form—the only form in which they exist in fish, and can be properly metabolized by the human body. Few other brands take this extra step, preferring instead to market their products as ethyl esters. By re-esterifying our oil in phases, we are able to deliver over 93% triglycerides—far beyond those of other brands.

RESULTS MATTER WHEN MAKING PREMIUM FISH OIL

Research confirms that concentrated fish oil in the triglyceride molecular form is 70% more absorbable than in ethyl ester form, leaving you with higher levels of omega-3s.¹ However, few brands on the market today take the time to manufacture concentrates in the triglyceride form. Among those that do, their products typically contain no more than 60% true triglycerides, with the other remaining 40% diglycerides and monoglycerides. Nordic Naturals' evidence-based processing attains over 93% triglycerides in our concentrated fish oils, for superior absorption and proven results.

GET THE TRIGLYCERIDE ADVANTAGE!



THE NORDIC NATURALS ADVANTAGE

PROVEN PURITY

All our oils surpass strict international standards for purity and freshness

EXCEPTIONAL FRESHNESS

Oxygen-free, proprietary processing for exceptional freshness from boat to bottle

GREAT TASTE

Leading freshness and 100% natural flavoring ensure no fishy smell, taste, or aftertaste

TRIGLYCERIDE FORM

Superior triglyceride form for up to 70% better absorption than ethyl ester omegas²

BACKED BY RESEARCH

A research leader in demonstrated product efficacy

RESPONSIBLE DOSING

An effective, expert-recommended daily dose of at least 500 mg EPA+DHA

SUSTAINABLE PRACTICES

100% of our fish is wild caught, sourced in line with the Norwegian fisheries management system, and processed with minimal environmental impact

INDEPENDENT TESTING

Independent labs test our oils for heavy metals, dioxins, and PCBs to guarantee purity, freshness, and quality in every batch. Request a certificate of analysis, and compare

2. Dyerberg J, et al. Bioavailability of marine n-3 fatty acid formulations. *Prostaglandins Leukot Essent Fatty Acids* 2010 Sep;83(3):137-141.

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