

**TRUST.**  
**IN NUTRITIONAL HEALTH.**

**QÜELL**

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**FISH OIL®**

SUPERCRITICAL CO<sub>2</sub> TRIGLYCERIDE



You trust Douglas Laboratories. Your patients trust you.

# QÜELL FISH OIL®



*The upwelling of deep ocean waters against the South American continent creates a pristine, nutrient rich and plentiful environment for the small-bodied fish used in the extraction of QÜELL Fish Oil.*

# The QÜELL Fish Oil Difference

Triglyceride form

Fish gelatin softgel

Supercritical CO<sub>2</sub> extraction

- No use of chemical solvents
- Minimal use of heat
- No risk of isomer formation
- No risk of undesired exposure to oxygen
- Extremely efficient removal of contaminants (heavy metals, pesticides, PCBs, dioxins)
- Ultra-high concentrations of EPA and DHA
- Low environmental impact



# QÜELL FISH OIL®

## Critical Extraction

QÜELL Fish Oil uses a Supercritical Dual-Process CO<sub>2</sub> technology to gently extract, concentrate, and purify the omega-3 fatty acids without applying excessive heat and/or chemical solvents. The CO<sub>2</sub> technology prevents oxygen from being exposed to the oil, therefore protecting the oil from degradation and oxidation. This process minimizes the possibility of the formation of isomers (structural changes) or other unwanted by-products and does not expose the oil to solvents such as hexane or ethanol.

1. The first step is called Supercritical Fluid Extraction. In this step, CO<sub>2</sub> under high pressure is pumped through minimally processed fish oil. Certain components of the oil including EPA and DHA are soluble in the supercritical CO<sub>2</sub> and can be separated from the insoluble and less desirable fractions (saturated fats, cholesterol, contaminants). Once the pressure is reduced, the CO<sub>2</sub> exits its supercritical state and returns to a gas to be re-circulated through the system. The EPA and DHA is collected and moved to the second step in the purification process.
2. The second step is called Supercritical Fluid Chromatography, in which CO<sub>2</sub> is used as the solvent to separate and further purify and concentrate EPA and DHA.

## Comparison of Supercritical Fluid Extraction to Molecular Distillation

	Supercritical CO <sub>2</sub> Technology	Molecular Distillation
Use of chemical solvents	NO	YES
Exposure of oil to high temperatures	NO (<50°C)	YES (160-200°C)
Risk of isomer formation	NO	YES
The ability to produce extremely concentrated EPA and DHA	YES	NO
Environmental Impact	LOW	MODERATE

# QÜELL FISH OIL®

## Critical Purity

Supercritical Fluid Extraction involves using CO<sub>2</sub> as a medium to extract the omega-3 fatty acids and separate them from other parts of the oil, such as free fatty acids and cholesterol. This not only protects the oils from oxidation, but also protects the oil from contamination with microorganisms that can't survive without oxygen. Unlike other extraction methods, no chemical solvents, cholesterol, or other undesirable compounds are found in the oil and there is no need for chemical preservatives. QÜELL Supercritical CO<sub>2</sub> oils have extremely low levels of contaminants (PCBs, dioxins) and/or heavy metals (such as mercury).

Selecting the right quality and species of fish is one of the factors leading to the exceptional purity of QÜELL Fish Oil. Anchovies, sardines and mackerel caught off the coast of South America, are rich in oil yet low on the food chain, which means less exposure to environmental toxins and less contaminants. QÜELL FISH OIL is encapsulated in fish gelatin from Tilapia, eliminating all bovine or porcine by-products.

QÜELL Fish Oil is purified multiple times throughout the CO<sub>2</sub> extraction process. In addition, the complete QÜELL Fish Oil line is tested in-house and at third-party laboratories to ensure low levels of oxidation, heavy metals, pesticides, dioxins, and other potential contaminants.

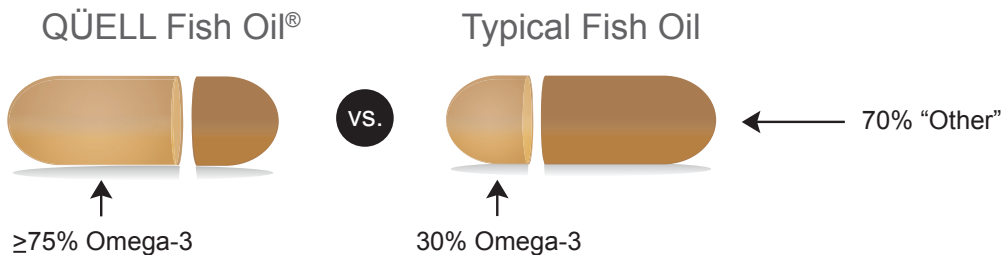
# Critical Concentrations

The Supercritical CO<sub>2</sub> process is able to create highly concentrated levels of EPA and DHA in triglyceride form. The result is a product that can deliver significant amounts of EPA and DHA in easy to swallow softgels.

## High EPA/DHA Concentrations

Many fish oils contain only about 30% omega-3 fatty acids, of which roughly 18% is EPA and 12% DHA. The remaining 70% is a varying mixture of other components. In other words, regular fish oil contains less than a third of the desired active ingredients and more than two thirds of “other” components. These other components may include cholesterol, omega-6 fatty acids, saturated fatty acids, oxidation products and contaminants. Highly concentrated omega-3 products, like QÜELL Fish Oil, provide at least 75% active ingredients, leaving less room for nonessential compounds.

QÜELL Fish Oil softgel formulations deliver highly concentrated EPA and DHA in easy to swallow softgels.



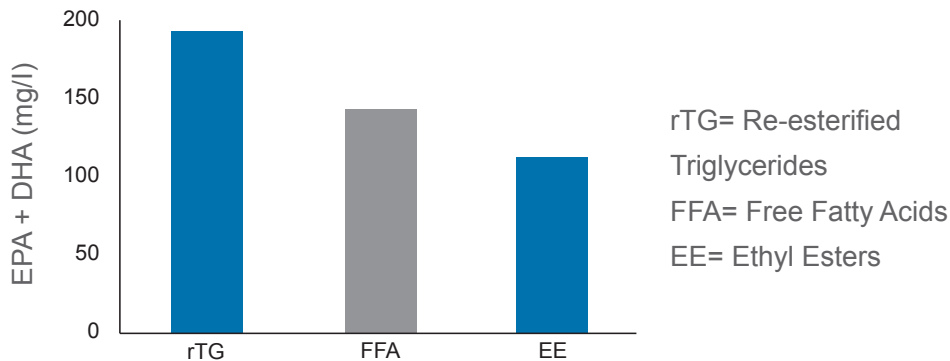
# QÜELL FISH OIL®

## Critical Bioavailability

Scientific data continues to emerge showing the triglyceride form of fish oil is better absorbed compared to ethyl esters. Fish oil in the form of triglycerides has been shown to increase plasma EPA and DHA, as well the omega-3 index to a greater degree compared with the ethyl ester form of fish oil.

### Enhanced Absorption

Re-esterified triglycerides have been shown to be superior in absorption when compared to ethyl esters and free fatty acids.<sup>1</sup>



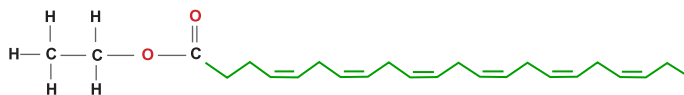
Data represent the change from baseline in cholesterol ester, phospholipid and triglyceride fractions. Data do not represent the QÜELL product specifically.

<sup>1</sup>Adapted from Dyerberg J. Bioavailability of marine n-3 fatty acid formulations. Prostaglandins Leukot Essent Fatty Acids. 2010 Sep;83(3):137-41.

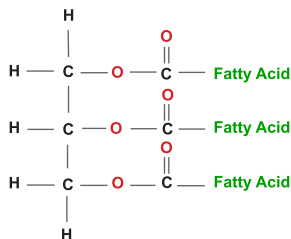


## Ethyl Esters vs. Triglycerides

The chemical structure in which the omega-3 fatty acids are delivered can play an important role in their absorption. Recent data has demonstrated that omega-3 fatty acids delivered in a triglyceride form may result in greater plasma levels and a higher omega-3 index compared with omega-3 fatty acids delivered in the form of ethyl esters.



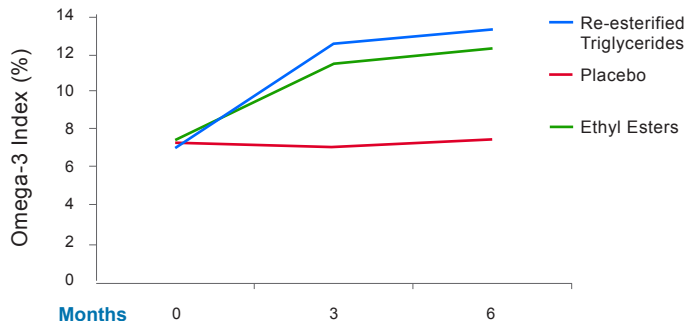
Fatty Acid Ethyl Ester



Triglyceride Structure

## Omega-3 Index After Supplementation with rTG or EE Omega-3 Fatty Acids

Re-esterified triglycerides lead to a faster and higher increase in the omega-3 index (the percentage of EPA+DHA in red blood cell membranes) when compared to ethyl ester fish oil concentrate at the same dose.<sup>2</sup>



<sup>2</sup>Adapted from Neubronner et al. Eur J Clin Nutr 65 (2010) 247-254  
Data do not represent the QÜELL product specifically.

# QÜELL FISH OIL®

## QÜELL Fish Oil® Benefits

### Omega-3 Supplementation

The benefits of omega-3 fatty acids continue to emerge and numerous health organizations around the world recommend increasing the daily intake of EPA and DHA. Data continues to accumulate that supports EPA and DHA in cardiovascular health as well as many other areas, including neurological, vision, and joint health.<sup>†</sup> The omega-3 fatty acid EPA is the direct precursor for the prostaglandins which are involved in helping to maintain the body's normal inflammatory processes.<sup>†</sup> DHA plays a major role in the structural integrity of neuronal membranes. DHA is essential for neurological and visual development and is vital throughout pregnancy to support fetal brain growth and formation of the retina and visual cortex.<sup>†</sup> As the most abundant fatty acid in the brain, adequate amounts of DHA are needed throughout infancy and adulthood for ongoing optimal function. Low levels of DHA may adversely influence behavior and mental performance and have been correlated with changes in disposition, memory, visual and other neurological parameters.<sup>†</sup>

### Environmental Impact

QÜELL Fish Oil uses wild fish such as anchovies, sardines and mackerel that are recognized as not being endangered species. The production process produces no toxic impurities or solvents and all waste and waste water are recycled or transformed into energy.

### No Fishy Smell

The QÜELL Fish Oil is naturally free of odor and taste due to the supercritical CO<sub>2</sub> purification process which allows for a pleasant experience when consuming fish oil.

# QÜELL Fish Oil® Choice

Four QÜELL Fish Oil Formulas Designed to Meet Your Specific Needs

	High EPA	High DHA	EPA/DHA Plus D	Junior
<b>General Health</b>	•	•	•	•
Cardiovascular Health	•		•	
<b>Cognitive Function</b>		•	•	•
Maternity Nutrition		•	•	
<b>Immune System Support</b>	•	•	•	•
Joint Health	•		•	
<b>Children's Health</b>				•

# QÜELL FISH OIL®

## QÜELL Fish Oil® EPA/DHA Plus D



**Formula# 200981      30 Softgels / 60 Softgels**

QÜELL Fish Oil EPA/DHA Plus D provides a high concentration of omega-3 fatty acids EPA and DHA in just one fish gelatin softgel. Additionally, 1,000 IU of Vitamin D3 are included in the formula since fatty acids can help aid in the absorption of vitamin D.

### SUPPLEMENT FACTS

Serving Size 1 Softgel • Servings Per Container 30

Approximate Amount Per Serving	%DV
Calories from Fat .....	10
Total Fat.....	1.25 g      2%
Vitamin D3 .....	1,000 IU      250%
Omega-3 Supercritical CO <sub>2</sub> Triglyceride Concentrate .....	1,250 mg      *
Providing:	
EPA (Eicosapentaenoic Acid) .....	600 mg      *
DHA (Docosahexaenoic Acid).....	400 mg      *

\*Daily Value not established

Other Ingredients: Gelatin (capsule, from fish [Tilapia]), glycerin, water, natural-source mixed tocopherols, rosemary extract (leaf). This product contains fish oil (anchovies, sardines, mackerel).

## QÜELL Fish Oil® JUNIOR



**Formula# 201398      60 Softgels**

QÜELL Fish Oil Junior is a small, pure, and potent softgel that is high in omega-3 DHA for the general health of children and teens.

### SUPPLEMENT FACTS

Serving Size 1 Softgels • Servings Per Container 30

Amount Per Serving	%DV
Calories.....	5
Calories from Fat .....	5
Total Fat.....	0.6 g      1%
Omega-3 Supercritical CO <sub>2</sub> Triglyceride Concentrate .....	625 mg      *
Providing:	
DHA (Docosahexaenoic Acid).....	387 mg      *
EPA (Eicosapentaenoic Acid).....	100 mg      *

\*Daily Value not established

Other Ingredients: Gelatin (capsule, from fish [Tilapia]), glycerin, water, natural-source mixed tocopherols, rosemary extract (leaf). This product contains fish oil (anchovies, sardines, mackerel).

## QÜELL Fish Oil® High EPA



Formula# 200979

60 Softgels

QÜELL Fish Oil High EPA provides a high concentration of the omega-3 fatty acid EPA in just 2 small fish gelatin softgels.

### SUPPLEMENT FACTS

Serving Size 2 Softgels • Servings Per Container 30

Approximate Amount Per Serving	%DV
Calories.....	10
Calories from Fat.....	10
Total Fat.....	1.25 g    2%
Omega-3 Supercritical CO2 Triglyceride Concentrate ....	1,250 mg    *
Providing:	
EPA (Eicosapentaenoic Acid).....	800 mg    *
DHA (Docosahexaenoic Acid).....	150 mg    *

\*Daily Value not established

Other Ingredients: Gelatin (capsule, from fish [Tilapia]), glycerin, water, natural-source mixed tocopherols, rosemary extract (leaf). This product contains fish oil (anchovies, sardines, mackerel).

## QÜELL Fish Oil® High DHA



Formula# 200980

60 Softgels

QÜELL Fish Oil High DHA provides a high concentration of the omega-3 fatty acid DHA in just 2 small fish gelatin softgels.

### SUPPLEMENT FACTS

Serving Size 2 Softgels • Servings Per Container 30

Approximate Amount Per Serving	%DV
Calories.....	10
Calories from Fat.....	10
Total Fat.....	1.25 g    2%
Omega-3 Supercritical CO2 Triglyceride Concentrate ....	1,250 mg    *
Providing:	
DHA (Docosahexaenoic Acid).....	775 mg    *
EPA (Eicosapentaenoic Acid).....	200 mg    *

\*Daily Value not established

Other Ingredients: Gelatin (capsule, from fish [Tilapia]), glycerin, water, natural-source mixed tocopherols, rosemary extract (leaf). This product contains fish oil (anchovies, sardines, mackerel).

# QÜELL FISH OIL®

## How to Order with Douglas Laboratories



Call into our friendly Customer Service professionals to place your orders or to check on order statuses



Create an online username for easy ordering at [douglaslabs.com](http://douglaslabs.com)



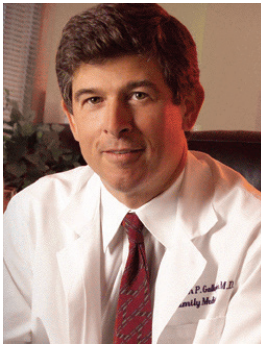
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Pittsburgh, PA 15275 USA



Martin P. Gallagher, M.D., D.C., has the unique distinction of being triple licensed as a board certified family physician, a chiropractor, and a medical acupuncturist. During his distinguished career, he has treated more than 300,000 patients using an integrative medicine approach to well-being. He is the clinic director of Medical Wellness Associates, a multidisciplinary integrative health care facility located just outside of Pittsburgh, Pennsylvania.

*Martin P. Gallagher, M.D., D.C.*

## **Dr. Gallagher on QÜELL Fish Oil®**

“There’s growing evidence that the re-esterified triglyceride form of fish oil has the greatest absorption and it increases significantly the omega-3 index of EPA and DHA.”

“It’s important for myself as well as my patients to have the purest form of essential fatty acids from fish oil, and it happens to be that the CO<sub>2</sub> extraction process is the ideal extraction method. It uses the least amount of heat, without chemical residue, and in-turn extracts the purest EPA and DHA.”

Douglas Laboratories  
600 Boyce Road  
Pittsburgh, PA 15205

## TRUST. IN MANUFACTURING EXCELLENCE

- NSF International cGMP Registration
- FDA-Audited Facilities
- Audited by International Health Organizations for Product Safety and Quality
- ISO 9001-Certified Laboratories
- Approved facility to produce organic certified products
- ISO 17025-Accredited Testing Laboratories
- Approved to produce NSF sport certified products
- Danish medicine agency GMP certified



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