

The Original Award-winning and Great-tasting Cod Liver Oil



Carlson

Throughout the world, medical scientists are encouraging people to eat more fish as seafood is the only major source of the polyunsaturated omega-3s EPA and DHA. Cod liver oil is a naturally rich source of these important omega-3s, which are unique in their structure & function and aid in our well-being.*

EPA and DHA from fish oils have been used in several studies that show their beneficial effects. Studies have shown that omega-3 oils such as EPA and DHA are beneficial for promoting healthy heart rhythm, supporting improved endothelial function, promoting healthy triglyceride levels and supporting flexible joint function.*

EPA - Eicosapentaenoic Acid (20:5 ω3):

EPA promotes a healthy cardiovascular system by regulating the formation of healthy body prostaglandins. EPA plays a strong role in modulating inflammatory processes, including platelet aggregation. By competing with arachidonic acid in cell membranes, EPA has the ability to reduce the production of inflammatory eicosanoids such as prostaglandin E2, leucotriene B4, and proinflammatory cytokines.*

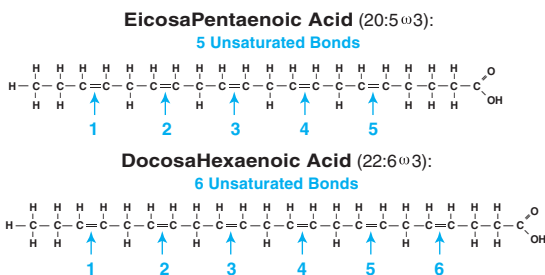
DHA - Docosahexaenoic Acid (22:6 ω3):

DHA supports normal growth and development, maintains brain and neural functions, and supports visual function. DHA is a vital component of tissue in the brain and retina of the eye and has a strong role in the function of the membranes of the central nervous system. Also, it is necessary for membrane fluidity and supports nerve cell communication.*

EPA

Enzyme Conversion

DHA



Why Fish is Preferable to Flax (18:3 ω3): While flax and soybeans are a source of ALA, a study comparing flax and fish oils showed that subjects given flax oil over a 4-week period did NOT have increased blood levels of DHA. Converting ALA into DHA is very slow due to the body's limited availability of conversion enzymes, especially delta-6-desaturase. Yet, subjects who were given fish oil did show increased blood levels of DHA and EPA. Taking fish oils directly bypasses any need for extra enzyme conversion and subjects had the benefits available immediately.

Vitamin A: In addition to DHA, EPA and ALA, Carlson Cod Liver Oil naturally contains the important vitamins A & D. Vitamin A has several important functions in the body, including the maintenance of proper vision.* When the body is deficient in vitamin A, the eye gradually loses its ability to adapt to changes in light, resulting in "night blindness." Another vital role of vitamin A concerns the formation, maintenance, and growth of skin and mucous membranes, which form the body's primary barrier to infection.*

Carlson Cod Liver Oil Promotes and Supports:*

- Cardiovascular Health
- Brain and Nerve Function
- Healthy Vision
- Immune System Health
- Bone Strength
- Healthy Joints & Movement

*These statements have not been evaluated by the F.D.A. Carlson products are not intended to diagnose, treat, cure or prevent any disease.

Vitamin D: Vitamin D helps regulate and control the metabolism of calcium and phosphorus by aiding in the absorption of these two minerals from the small intestine, and by directly affecting the rate at which these minerals form and maintain bone.*

The U.S. Recommended Dietary Allowance (RDA) values of nutrients are dictated by the Institute of Medicine (IOM), an independent, non-profit organizations part of the National Academy of Sciences. The RDA for infants and children has long been 400 IU of vitamin D. The scientific basis for this dose was that it approximated what was in a teaspoonful of cod liver oil, found effective to prevent the vitamin D deficiency disease called rickets. In 2010, the IOM raised the RDA for children and adults one to 70 years of age to 600 IU of vitamin D. The RDA for older adults (aged 71 and older) was raised to 800 IU of vitamin D. The U.S. upper limit for vitamin D is now 4,000 IU for those 9 years and older. However, the FDA set Daily Value (DV) of vitamin D is 400 IU. A Daily Value is a term used in food labeling to indicate the amount of a particular nutrient that is provided in a single serving of food. A daily value is helpful in comparing various foods or products for a particular nutrient.

How Much Vitamin D is Preferable? The need for vitamin D has been extensively studied by Reinhold Vieth and published in the prominent American Journal of Clinical Nutrition. Vieth finds 400 IU daily of vitamin D is too low to maintain preferred blood levels of vitamin D. He states, "The beneficial amount is more likely to be 800-1,000 IU per day on the basis of bone density measurements and fracture prevention in the elderly." Vieth reports the toxicity level is greater than 40,000 IU daily. However, vitamin D researcher Michael Holick states to raise the 25 (OH) D serum level to the 30 ng/ml desired level, one may require at least 1,500 - 2,000 IU/day. *The Journal of Clinical Endocrinology Metabolism.*

How is Carlson Cod Liver Oil Made? Purity and freshness of raw materials are top priorities for Carlson. For this reason, only livers of cod caught in the northern oceans are used. Here, in the cleanest seas in the world, the cold ocean waters contain ideal nutrition for the growth of healthy cod. Only fish harvested from nets in fresh, clean arctic waters far off the coast of Norway are used for Carlson Cod Liver Oil.

Carlson Quality: During the fishing season, cod are gathered and brought to the fishery daily, where workers immediately remove the liver from the cod and the liver oil from the liver tissues. Most other types of cod liver oil are not processed daily because they come from cod caught by large boats which set out to sea for ten to fourteen days, which delays the processing. This is an important difference as freshness of the oil depends on how fast the oil is removed from the liver tissue. By removing the oil from the liver tissue each day, Carlson Cod Liver Oil is protected from degradation.

Freshness, Potency and Purity Guaranteed: Carlson is committed to offering only the highest quality cod liver oil, which consistently provides the best results. Carlson Cod Liver Oil is regularly tested (using AOAC international protocols) for freshness, potency and purity by an independent, FDA registered laboratory and has been determined to be fresh, fully-potent and free of detrimental levels of mercury, cadmium, lead, PCB's and 28 other contaminants.

Norwegian Innovation: The Norwegian concern for freshness is part of a tradition that began over a century ago when an innovative pharmacist revolutionized the production of cod liver oil. This method effectively separates the oil from the liver tissues without the use of chemicals. The steam extraction process produced the first high quality cod liver oil, practically colorless and without the pungent smell and taste of earlier products.

This process is still used today in the production of Carlson Cod Liver Oil. The fishery collects the livers and places them into a funnel-shaped steam cone. In the pressurized chamber steam separates the oil from the cells of the cod liver. The oil is siphoned out of the cone as it forms and is put into containers, each capable of holding 2.5 tons of oil. Nitrogen is pumped into these containers to remove all of the oxygen. If left with the oil, oxygen could damage the valuable unsaturated fatty acids (DHA and EPA) of the cod liver oil.

The initial processing is called rendering, and its main function is to extract the oil from the liver and remove most of the protein content. The oil is cloudy at this stage due to saturated fats called stearins, which are removed later. The cod liver oil is also rich in natural antioxidants, which protect the oil from oxidation. Further purification and separation steps remove the remaining water and protein. These steps include molecular distillation when necessary. Then, by carefully cooling the oil, the stearins (solid fats) are solidified and separated from the oil through a mechanical filtering press. In Norway, the clear Carlson Cod Liver Oil is then bottled and nitrogen-sealed, removing all air from both the oil and bottle. Many other types of cod liver oil are shipped to the United States in large drums and then bottled at a later date. Having the cod liver oil bottled in Norway ensures freshness, eliminating any potential problems that could arise during storage or shipping.

Each teaspoonful (5 ml) of Carlson Cod Liver Oil provides:	
1100 mg of total Omega-3 fatty acids including:	
DHA (DocosaHexaenoic Acid).....	500 mg
EPA (EicosaPentaenoic Acid).....	400 mg
Vitamin A (17% DV*)	850 IU
Vitamin D ₃ (100% DV*).....	400 IU
Vitamin E (Natural d-alpha tocopherol, d-alpha tocopherol acetate and mixed tocopherols)	10 IU
100% Norwegian Cod Liver Oil.....	4.6 g
*Daily Value	

Triglyceride Form.

V.1351B-2a

Available in great tasting flavors for Adults & KIDS:
Unflavored • Lemon • Bubble Gum

Adult Unflavored	
Size	Code
250 ml liquid	1321
500 ml liquid	1322

Adult Natural Lemon Flavor	
Size	Code
250 ml liquid	1351
500 ml liquid	1352

Adult Bubble Gum Flavor from Natural Fruit Flavors	
Size	Code
250 ml liquid	1361

Carlson for KIDS Natural Lemon Flavor	
Size	Code
250 ml liquid	1353

Carlson for KIDS Bubble Gum Flavor from Natural Fruit Flavors	
Size	Code
250 ml liquid	1363

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