



**EFA – With a New Fresh Mint Taste**

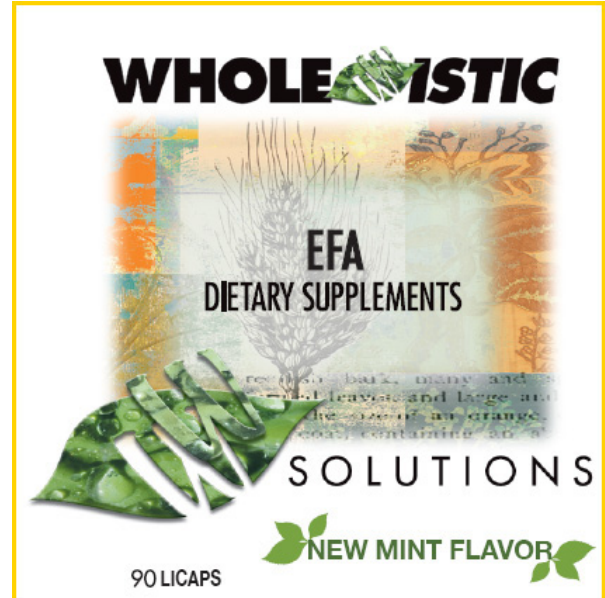
**Essential fatty acids (EFAs)** - are long-chain polyunsaturated fatty acids derived from linolenic, linoleic, and oleic acids. These are the good fats that are necessary for the body's normal growth and function. They are termed "essential" because they cannot be made by the human body and must be consumed in the diet. EFAs are integrated in most cell systems of the body and influence the cardiovascular system, the immune system, the joints, the brain and many others. These good fats also grab your bad fats (LDL) and take them to the liver where they are broken down and excreted.

There are two families of essential fatty acids:  
**Omega-6** including linoleic acid  
**Omega-3** including alpha-linolenic acid

**Omega-9** fatty acids are necessary but non-essential because the body can manufacture a modest amount on its own, provided the essential fatty acids are present.

**Omega-6**

Omega-6 - is a polyunsaturated essential fatty acid including linoleic acid (LA) and its derivatives: GLA and DGLA. Omega-6 is found abundantly in the average diet (vegetable oils, margarine and processed foods). Gamma-linolenic acid (GLA) can be formed from linoleic acid by the action of the delta-6-desaturase (D6D) enzyme. This enzyme reaction is often considered the "rate limiting", or slowest, step of the metabolic pathway.



<b>Supplement Facts</b>	
Serving Size: 1 Licap	
Servings Per Container: 90	
Amount Per Licap	% DV
Total Calories	6.48
Calories from Fat	6.48
Total Fat	0.72g 1.11%*
<b>Omega-3 Fatty Acids</b>	<b>355 mg †</b>
EPA (Eicosapentaenoic Acid) (Fish Oil 33/22 TG)	135 mg †
DHA (Docosahexaenoic Acid) (Fish Oil 33/22 TG)	90 mg †
ALA (Alpha Linolenic Acid) (Flax Seed Oil 50% ALA)	70 mg †
Other Omega 3 Fatty Acids	60 mg †
<b>Omega-6 Fatty Acids</b>	<b>67 mg †</b>
GLA (Gamma Linolenic Acid) (Evening Primrose Oil)	5 mg †
LA (Linoleic Acid) (Evening Primrose Oil, Flax Seed Oil)	62 mg †
<b>Omega-9 Fatty Acids</b>	
OA (Oleic Acid) (Fish Oil, Flax Seed Oil, Evening Primrose Oil)	30 mg †

\*% Daily Values are based on 2,000 calorie diet.  
 †Daily Value not established

**Other Ingredients:** Gelatin, Mixed Tocopherols (from soy), Peppermint Oil, Spearmint Oil.

Manufactured for **Whole-istic Health Solutions, LLC**, Irving, TX.  
 For more information or to contact us, visit our web site at [www.whole-isticsolutions.com](http://www.whole-isticsolutions.com)





The D6D enzyme functions at different rates in individuals based on environmental and lifestyle factors. Ideally, the body converts some LA to GLA, but many people cannot adequately convert LA. GLA is not common in the diet, but is found in evening primrose oil. Dihomogammalinolenic acid (DGLA) is an omega-6 fatty acid formed from GLA and is the precursor to the series 1 eicosanoids. Eicosanoids are a family of powerful, hormone-like compounds. Series 1 and 2 are formed from the omega-6 fatty acids and series 3 are formed from the omega-3 fatty acids. Eicosanoids include prostaglandins, leukotrienes and thromboxanes which are responsible for many of the beneficial effects of EFAs. Eicosanoids control numerous body processes such as inflammation, blood clotting, blood pressure, and immune response.

### **Omega-3**

Omega-3 - is a polyunsaturated fatty acid including ALA and its derivatives: EPA and DHA. It is estimated that 95-99% of the population gets too little omega-3 in their diet. Alpha-linolenic acid (ALA) is the parent omega-3 polyunsaturated essential fatty acid. It is the precursor to eicosapentaenoic acid (EPA), Docosahexaenoic acid (DHA) and some eicosanoids including prostaglandins of series 3 and leukotrienes of series 5. EPA and DHA are very long-chain fatty acids formed from alpha-linolenic acid through a series of steps also requiring the D6D enzyme reaction and, therefore, subject to the same metabolic conversion limitations.

*Fatty acids such as GLA, EPA and DHA that are manufactured in the body from the essential fatty acids LA and ALA are considered conditionally essential fatty acids, and due to limitations in the metabolism, need to be directly supplemented.*

### **Fish Oil**

*Fish Oil concentrates are distilled and refined during several processes in order to reduce saturates and contaminants that can remain in unrefined grades. Concentrating the EPA/DHA content of fish oils effectively multiplies the health benefits of omega-3 fatty acids. The fish oil in Whole-istic Solutions EFA has a minimum of 60% omega-3 fatty acids, increasing the availability of EPA and DHA in the body. This is double the amount found in many fish oil supplements which contain only 30% omega-3.*

### **Excellent Safety Profile**

*Concentrates, by their very nature, are highly purified, offering fewer contamination worries. The oil used for Whole-istic Solutions EFA is from anchovies and sardines from the clean waters of the Pacific Ocean. Other fish, which are higher up the food chain, such as sea bass, shark, swordfish and king mackerel, are at greater risk for accumulating high levels of pollutants. Pollutants such as dioxins, pesticides and PCBs are minimized to well below legislative and industry limits using advanced chromatographic and purification techniques.*

Proprietary concentration and purification technologies protect the lipid to yield omega-3 concentrates with excellent oxidative profiles. The oils are processed gently under an inert atmosphere, reducing exposure to high temperatures, eliminating exposure to oxygen and minimizing degradation. A unique refining process further purifies the oils to remove polar contaminants and refine taste, odor and color. The fish oils are further protected from oxidation using identity-preserved, non-genetically modified mixed





tocopherol antioxidants. Throughout production, the oil is rigorously controlled by quality standards, resulting in a pharmaceutical-grade product.

### **Greater health benefits**

*Much of the clinical research into the effect of omega-3s on specific health conditions has been carried out using concentrated fish oils.*

### **EPA**

*EPA is needed to make the health-protecting series-3 eicosanoid hormones, which balance cell metabolism and reduce inflammation and platelet aggregation. As a result, EPA has been shown to benefit conditions such as heart disease and arthritis.*

### **DHA**

*DHA concentrates are linked to healthier brain function, nervous system development, mood regulation and improved behavior. DHA is one of the building blocks for brain growth and development. Numerous animal studies show that DHA improves learning, memory, concentration and vision processes. Recent studies have linked low DHA levels with cognitive decline in the elderly. A Rotterdam study found that elderly men who consumed more DHA were better able to sustain their mental abilities including memory, concentration and their ability to communicate verbally. DHA is the primary structural fatty acid in the retina and is critical for eye development and health. Increased consumption of omega-3 fatty acids is associated with a reduction in the risk and symptoms of age-related macular degeneration, the most common cause of visual impairment and blindness in people over the age of 50.*

### **Flaxseed Oil**

*Flaxseed Oil is expeller-pressed without hexane or other harsh chemicals. Flaxseed oil is a remarkably good source of the essential fatty acid alpha-linolenic acid (ALA). In healthy individuals, as much as 20% of the ALA consumed is transformed into EPA and DHA (the same beneficial compounds found in fish oil). Again, the benefits of EPA and DHA include: protection from fatal heart attack, decreased inflammation and pain in arthritis, and protection from thrombotic disease. In the past, most research on ALA has been related to its role in producing EPA and DHA. Recent research also indicates that ALA has other beneficial functions. ALA is useful for improving immune function, treating male infertility and increasing protection from heart diseases and cancer.*

### **Evening Primrose Oil**

*Evening Primrose Oil is rich in essential fatty acids and contains 74% linoleic acid (LA) and 8-10% gamma-linolenic acid (GLA). Although other oils such as borage oil and black currant oil contain higher amounts of GLA, evening primrose oil is by far the best source. Evening primrose is naturally free of toxins, and its oil does not need to be refined. Research has shown that it works better than borage oil because other nutrients naturally present in the unrefined evening primrose oil aid in the metabolism of GLA. Evening primrose oil also contains 11% oleic acid, 6% palmitic acid, and 2% stearic acid.*

*Under ideal conditions, the body uses LA to produce GLA. In turn, GLA is used to produce beneficial hormone-like compounds called prostaglandins, specifically, series one prostaglandins such as prostaglandin E1. Prostaglandins affect the function of virtually*





every system in the body. They are used in the regulation of inflammation, pain, blood pressure, fluid balance, and blood clotting. Prostaglandins also affect hormone production and function. The importance of supplementing oils rich in GLA, is due to a widespread inability to convert LA to GLA efficiently. Dietary deficiencies, disease conditions, aging, viral infections and consumption of processed or heated oils, trans fatty acids, alcohol and sugar interfere with the enzyme that catalyzes the conversion of LA to GLA. The result is that virtually all North Americans are deficient in GLA. Supplementing with evening primrose oil can help restore the production of beneficial prostaglandins derived from GLA. Research completed over the last 20 years has confirmed that supplementation with evening primrose oil has beneficial effects in numerous diseases and conditions including: premenstrual syndrome, fibrocystic breast pain, eczema, rheumatoid arthritis, diabetes, heart disease, osteoporosis and ulcerative colitis. Other conditions for which it may provide benefit include menopause and pregnancy.

### **Peppermint Oil and Spearmint Oil**

Peppermint Oil and Spearmint Oil have been added to EFA to provide a fresh mint flavor.

Ensuring that the stability of the oils is maintained is just as important as choosing the proper oils. Throughout the manufacturing process, medical grade Nitrogen is utilized to displace oxygen that would otherwise come into contact with the raw materials. In the presence of oxygen, the delicate oils would degenerate and lose potency as a result

of oxidation (the reaction whereby a substance is broken down by losing electrons to oxygen molecules). To ensure that oxygen exposure is eliminated, nitrogen is used in the following processes:

- Nitrogen is placed on the oils after the containers are opened to sample for raw material testing.
- Nitrogen is placed in the mixing tanks during preparation of the oils to keep them under a nitrogen blanket the entire time they are in the vessel.
- Nitrogen is injected into the cap at the last station before closing on the capsule filling machine, displacing the air at capsule closure.

EFA is encapsulated in a patented sealed Licap®. This unique capsule design maximizes seal integrity, greatly reducing oxygen permeability. Licap capsules are sealed using an innovative technology on a machine known as LEMS - Liquid

Encapsulation Microspray Sealing. In the LEMS sealing process, sealing fluid is sprayed onto the joint between the cap and body of the Licap capsule. This lowers the melting point of gelatin in the wetted area. Gentle heat is then applied to fuse the cap to the body of the Licap capsule.

The result of this encapsulation process is a stabilized EFA product that has an extended shelf life and does not have to be refrigerated.





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