



NUMEGA 369 - Omega 369 1200mg Softgel

INDICATED CLAIMS

- Source of essential fatty acids that help maintain cardiovascular health

GENERAL INFORMATION

Fish oils, also known as marine oils, are lipids found in fish particularly cold water fish, and other marine life such, phytoplankton. These oils are rich sources of long chain polyunsaturated fatty acids (LCPUFA) of the n-3 (omega-3) type. The two most studied fish oils are the 20 Carbon eicosapentaenoic acid (EPA) and the 22-carbon docosahexaenoic acid (DHA). DHA is a vital component of the phospholipids of human cellular membranes, especially those in the brain and retina. Both EPA and DHA are found naturally in the form of triacylglycerols or TAGs.

Supplemental fish oils have triglyceride-lowering activity. They may also have anti-inflammatory, anti-thrombotic and immunomodulatory actions.

EPA and DHA are also important for maintenance of normal blood flow as they lower fibrinogen levels and prevent platelets from sticking to each other. DHA is vital for normal brain development for the fetus and infant and for the maintenance of normal brain function throughout life. DHA appears to be a major determinant of membrane fluidity in brain cells, and this could play a major role in the maintenance of normal cognition and mood.

Borage oil is derived from the seeds of the borage plant (*Borago officinalis*), a member of the Boraginaceae family and is a rich source of the long-chain polyunsaturated fatty acid gamma-linolenic acid (GLA). The possible health benefits of borage oil are attributed to GLA. GLA is an unusual constituent of living matter and is found in very few plants. These include, in addition to borage, evening primrose, blackcurrant and hemp. The amount of GLA in borage oil, as the percentage of total fatty acid content, ranges from about 20% to 27%. Typical borage oil supplements contain approximately 24% GLA. Borage oil may have anti-inflammatory and antithrombotic activities. Flaxseed, also known as flax oil and linseed oil, is derived from the seeds of the plant *Linum usitatissimum*. Flaxseed oil is a very rich source of alpha-

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linolenic acid. Alpha-linolenic acid concentration in flaxseed oil ranges from approximately 40 to 60%. Lower amounts of linoleic acid and oleic acid (each about 15%) are also present in flaxseed oil. In addition, flaxseed oil contains varying amounts of the lignan, secoisolariciresinol diglycoside (SDG). Alpha-linolenic acid (ALA) is an n-3(omega-3); Flaxseed oil may have anti-inflammatory, anti-atherogenic, anti-thrombotic and anti-proliferative activities.

PHARMACOKINETICS

Different forms of fish oil are commercially available. The natural forms of EPA and DHA, as found in fish and phytoplankton, exist in the form of triacylglycerols (TAGs). These are the forms most commonly available at present. More concentrated forms of EPA and DHA are the EPA and DHA ethyl esters and free EPA and DHA. The pharmacokinetics of these forms is similar.

EPA- and DHA-laden triacylglycerols, following ingestion, undergo hydrolysis via lipases to form monoglycerides and free fatty acids. In the enterocytes, reacylation takes place reforming TAGs, which are then assembled with phospholipids, cholesterol and apoproteins into chylomicrons. The chylomicrons are released into the lymphatics from whence they are transported to the systemic circulation. In the circulation, the chylomicrons are degraded by lipoprotein lipase, and EPA and DHA are transported by the circulation to various tissues of the body where they are used mainly for the synthesis of phospholipids. These phospholipids are incorporated into the cell membranes of red blood cells, platelets and CNS cells, among others. EPA and DHA are mainly found in the phospholipids components of the cell membranes. DHA is taken up by the brain in preference to other fatty acids. DHA can partially retro convert to EPA, and EPA may partially convert to DHA.

ALA-laden triglycerides in flaxseed oil and GLA-laden triglycerides in borage oil are absorbed from the small intestine aided by bile salts. During this process, there is some deacylation of the fatty acids of the triglycerides. Reacylation takes place within the mucosal cells of the small intestine, and the ALA-laden triglycerides and GLA-laden triglycerides enter the lymph system in the form of chylomicrons. ALA-laden chylomicrons

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and GLA, laden chylomicrons are transported from the lymph into the blood, where ALA and GLA are carried in various lipid particles to the various cells of the body.

Numega 369 with (omega 369 (1000mg)) formulated with source of essential fatty acids.

NUMEGA 369 Omega 369 1200mg Softgel

Product information

Available as 90 softgels

Each softgel contains:

Fish Oil Blend 400mg,

Flaxseed Oil (Linum usitatissimum L.) ... 400mg

Borage Oil 400mg

Essential Fatty Acid Profile:

Alpha Linolenic Acid 200mg

Eicosapentaenoic Acid (EPA) 72mg

Docosahexaenoic Acid (DHA) 48mg

Gamma Linolenic Acid 80mg

Linoleic Acid 180mg

Oleic Acid 140mg:

Non-medicinal ingredients: Bovine gelatin, Glycerin, and purified water.

Directions for use: Adults: take 2 softgels three times daily with food or as directed by your health care practitioner.

Benefits:

- Help maintain cardiovascular health.
- Helps reduce high blood pressure

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CONTRAINDICATIONS

Known hypersensitivity to a fish oil-containing product

Flaxseed oil is contraindicated in those who are hypersensitive to any component of a flaxseed oil-containing product.

Borage oil may have anti-inflammatory and antithrombotic activities.

PRECAUTIONS

Fish oil supplements should be used by children, pregnant women and nursing mothers only if recommended and monitored by a physician. Because of the possible antithrombotic effect of fish oil supplements, hemophiliacs and those taking warfarin (Coumadin) should exercise caution in their use. Fish oil supplements should be stopped before any surgical procedure. Conflicting results have been reported regarding the effects of fish oil supplements on glycemic control in those with glucose intolerance including type 2 diabetics. Some early studies indicated that fish oil supplements might have detrimental effects in those groups. Recently, better designed studies have not reported these adverse effects. There is no evidence that fish oil supplements have detrimental effects on glucose tolerance, insulin secretion or insulin resistance in non-diabetic subjects. Diabetics should discuss the use of these supplements with their physicians and note if the supplements affect their glycemic control. Diabetics who take fish oil supplements should be monitored by their physicians.

Those with a history of partial complex seizure disorders, such as temporal lobe epilepsy. Should avoid using borage oil. Likewise, those with other types of seizure disorders and schizophrenics who are being treated with certain neuroleptic drugs, such as aliphatic phenothiazines (e.g. chlorpromazine), which may lower seizure threshold, should avoid using borage oil. Because of possible antithrombotic activity of borage oil, those with hemophilia or other hemorrhagic diatheses and those taking

Warfarin users should exercise caution in the use of this supplement. Borage oil supplementation should be halted before any surgical procedure.

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Because of its possible inhibition of lymphocyte function, those with immune deficiency disorders, such as AIDS, should exercise caution in the use of borage oil.

Pyrrrolizidine alkaloids, such as amabiline, lycopsamine and Ines nine, are found in various parts of the borage plant. The unsaturated pyrrolizidine alkaloids, such as amabiline, are potentially hepatotoxic and carcinogenic. Amabiline has not neon detected in borage oil supplements down to five parts per million. However, chronic consumption of borage oil containing levels of amabiline of one part per million may prove harmful. Those who use borage oil chronically should only use products that are certified free of unsaturated fryuolizidine alkaloids.

Infants, young children, pregnant women and nursing mothers should avoid supplemental flaxseed oil pending long-term safety studies. Because of possible antithrombotic activity, those with hemophilia and those taking warfarin should be cautious about the use of supplemental flaxseed or flaxseed oil. Flaxseed oil intake should be halted in those having surgical procedures.

ADVERSE REACTIONS

There have been no reports of serious adverse events in [hose taking fish oil supplements, even up to 15 grams daily for prolonged periods of time. Those side effects that have been reported include mild gastrointestinal upsets such as dyspepsia, nausea and diarrhea, halitosis, eructation and "fishy" smelling breath, skin and even urine. The blood-thinning effects can cause occasional nosebleeds and easy bruising. Diabetics may experience worsening of glycemic control. Borage oil may cause such gastrointestinal symptoms as nausea, vomiting, flatulence, diarrhea and bloating. Similar to evening primrose oil, borage oil may precipitate symptoms of undiagnosed complex partial seizures and should be used, if at all, with extreme caution in those with a history of seizure disorders or those taking drugs that lower the seizure threshold, such as aliphatic phenothiazines (e.g., chlorpromazine). Flaxseed oil may cause mild gastrointestinal symptoms, such as diarrhea.

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INTERACTIONS: DRUGS

Interactions may occur between fish oil supplements and aspirin and other non-steroidal anti-inflammatory drugs and herbs such as garlic (*Allium sativum*) and ginkgo (*Ginkgo biloba*). Such interactions might be manifested by increased susceptibility to bruising, nosebleeds, hemoptysis, hematemesis, hematuria and blood in the stool: Most who take fish oil supplements and the above drugs or herbs do not suffer from these problems, and, if they occur, they are rare. If they do occur, the dose should be lowered or discontinued.

Use of borage oil in schizophrenics who are being treated with certain neuroleptic agents that lower seizure threshold - e.g. aliphatic phenothiazines, such as chlorpromazine - may cause partial complex seizures and possibly other types of seizures. Interactions may occur between borage oil and anticoagulants, such as warfarin, as well as antiplatelet drugs, such as aspirin and NSAIDs. Such interactions may enhance the effects of the anticoagulants and antiplatelet drugs. Manifestations of such interactions, if they were to occur, include nosebleeds, hematuria and increased susceptibility to bruising. Borage oil intake should be stopped if these symptoms occur.

Interactions may occur between flaxseed oil-ALA and its metabolites and warfarin, aspirin and NSAIDs. Such interactions, if they were to occur, might be manifested by nosebleeds and increased susceptibility to bruising. If this does occur, consideration should be given to lowering or stopping intake.

HERBS

Interactions may occur if borage oil is used with such herbs as garlic (*Allium sativum*) and ginkgo (*Ginkgo biloba*). Such interactions may be manifested by nosebleeds and easy bruising. Interactions may occur between ALA and its metabolites with such herbs as garlic (*Allium sativum*) and ginkgo (*Ginkgo biloba*). Such interactions might be manifested by nosebleeds and easy bruising

OVERDOSAGE

Not reported.

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