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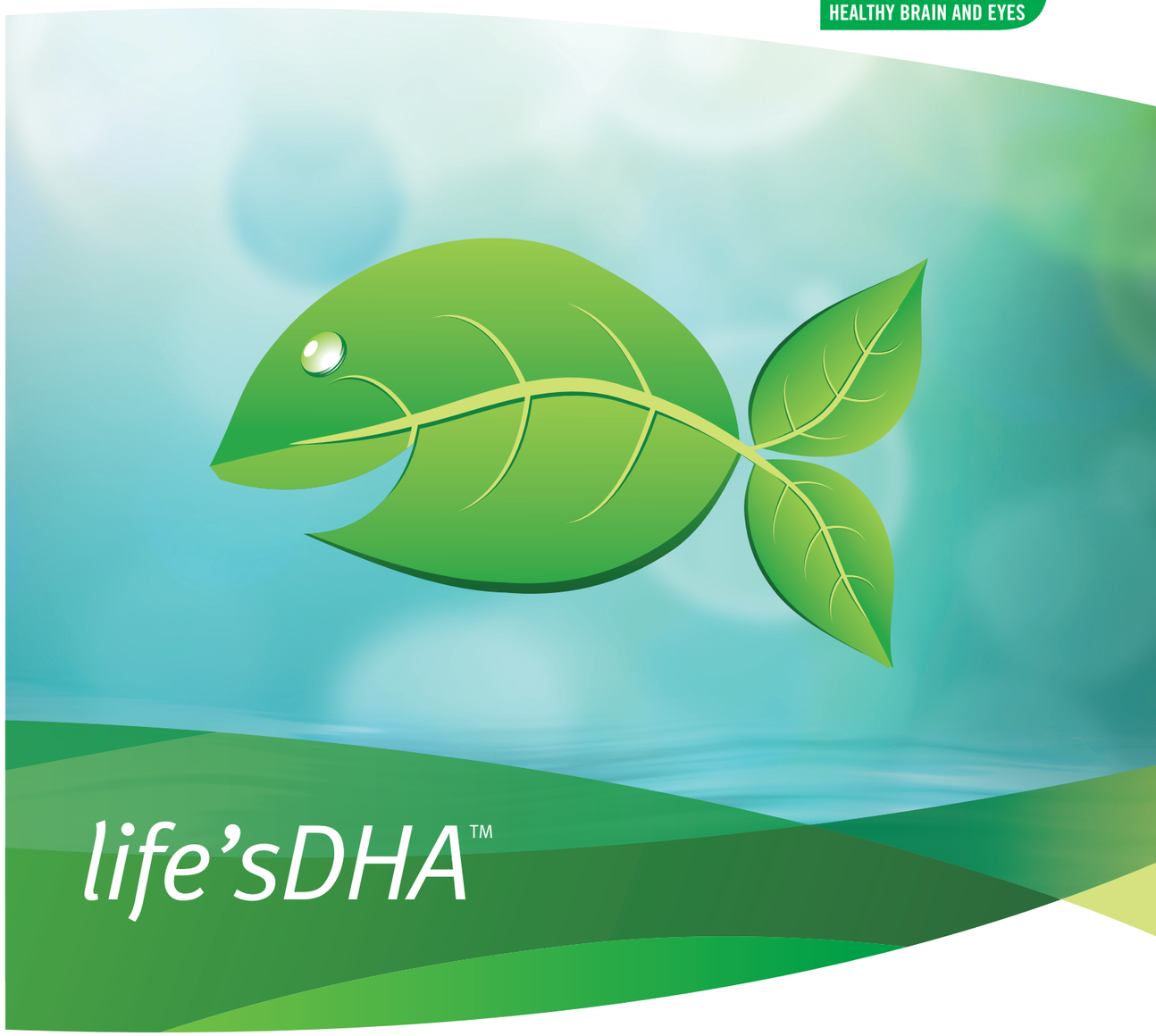
life's DHA™
HEALTHY BRAIN AND EYES



Sustainable, vegetarian algal source of DHA omega-3 for brain and eye health

HEALTH · NUTRITION · MATERIALS

DSM
BRIGHT SCIENCE. BRIGHTER LIVING.

What Is Docosahexaenoic Acid (DHA) Omega-3?

DHA is one of the "good" polyunsaturated fats. It is one of the three major omega-3 fatty acids and has been shown to have important brain and eye health benefits throughout life.

More specifically, DHA is:

- A major component in membranes of the brain and eyes, accounting for up to:
  - 97% of the omega-3 fatty acids in the brain
  - 93% of the omega-3 fatty acids in the eyes
- Naturally found in breast milk

Numerous scientific studies confirm that people of all ages, from infants to adults, benefit from an adequate supply of DHA. In fact, many governments and expert organizations recommend including DHA in a healthy diet.

Understanding the role that each omega-3 plays

There are three major omega-3s — DHA, eicosapentaenoic acid (EPA) and alpha-linolenic acid (ALA), each with distinct health benefits.

ALA is a source of energy, but the primary function of ALA is as a precursor to EPA and DHA. Unfortunately, the conversion of ALA to DHA is highly inefficient at less than 1%. EPA has been shown to support heart health, while DHA is important for brain and eye health throughout life.

There is also a common misconception that flaxseed and other vegetarian sources are a good dietary source of DHA. While flaxseed is a source of omega-3s, it is primarily a source of ALA, not DHA.

Dietary sources of DHA

Traditionally, the primary dietary source of DHA has been fatty fish and organ meats, making it difficult for most people to obtain recommended levels. Fortunately, DHA is now available from another source – microalgae. While most people believe that fish produce their own DHA, in fact, it's the algae they feed on that makes them a rich source of DHA. *life'sDHA* goes straight to the source, resulting in an oil naturally rich in DHA omega-3 that can readily be added to a variety of applications.

The best way to ensure a diet rich in DHA is to consume it directly through naturally occurring sources or foods, beverages, and supplements. As research continues to demonstrate just how important DHA is, more and more fortified foods, beverages and supplements are being introduced to the market, making it easy for people to increase their intake of this important nutrient.

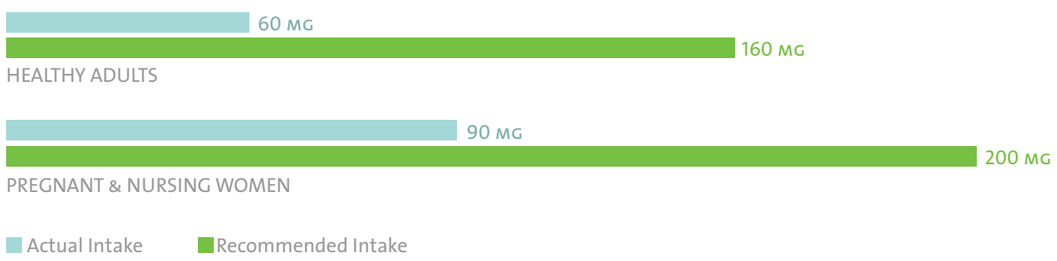
DHA research highlights

- Research shows that DHA is important for brain and eye development and function throughout life.[1]
- DHA supplementation during pregnancy and nursing has been associated with a positive effect on infant development, specifically the development and function of vision, problem solving abilities, hand-eye coordination, and improved scores on tests of brain function and development.[2-13]
- During pregnancy, DHA supports maternal health and promotes a full term gestational age (37-42 weeks).[14-18]
- Increased dietary/supplemental intake of DHA and high DHA levels are associated with beneficial effects on measures of cognitive health.[19-23]
- Low levels of DHA have been associated with increased risk of age related memory impairment and dementia.[24-26]
- Recently published research suggests that for children ages 7-9, who are underperforming in reading, a healthy diet that achieves 600 mg of DHA daily may support improvements in reading and behavior.[27]
- A study providing 900 mg algal DHA for 6 months suggests that DHA supplementation at this level may support the memory of healthy adults aged 55 and older.[28]

Amazing algae

- Algae have many biochemical pathways distinct from plants, animals, fungi and bacteria and are an untapped resource that could benefit human health.
- Originally studied by NASA for possible uses in long-term spaceflight, a strain of algae was identified as a naturally high producer of DHA rich oil.
- DSM currently maintains a library of more than 3,500 live microalgal species, one of the largest such resources available in the world.

U.S. DHA Intake Versus Recommendation[1–4]



life'sDHA — a Vegetarian Source of DHA Omega-3

Why *life'sDHA?*

- **Wide consumer appeal:** vegetarian, kosher, halal and major allergen-free
- **Science:** over 100 scientific studies using *life'sDHA*
- **Versatility:** suitable for food, beverage, infant formula and dietary supplement applications
- **Renewable, sustainable source:** beginning with an initial microalgae cell culture that is grown in fermentors that range in size from 80,000 to 260,000 liters
- **High quality, consistent product:** produced in FDA-inspected facilities with controlled production resulting in a highly concentrated, consistent product
- **Recognized brand:** featured in over 500 food, beverge and supplement products worldwide

Production of *life'sDHA*

DSM's manufacturing plants specialize in the production and refinement of DHA oil from algae. *life'sDHA* is produced, from start to finish, in an FDA-inspected facility with controls in place to ensure the highest quality. The process begins with an initial algae cell culture that is grown in a closed environment in fermentors ranging in size from 80,000 to 260,000 liters and results in a highly purified DHA-rich oil.

A solution for every application

life'sDHA has been successfully integrated into even the most complicated applications. The available oils, powders, emulsions and soft gels are used by leading companies around the world to fortify infant formulas, foods, beverages and dietary supplements. *life'sDHA* is the brand infant formula companies turn to, with over 60 million babies worldwide having consumed products containing *life'sDHA*.

DSM – The global leader in omega-3s

With an omega-3 product portfolio that includes market leading products *life'sDHA* and MEG-3, DSM is the global leader in providing omega-3 nutritional solutions. From foods, beverages, supplements and infant formulas worldwide, DSM has a solution to fit every omega-3 need.
To learn more, visit lifesDHA.com.

DHA is important through all stages of life.

PREGNANT WOMEN

DHA supports a healthy pregnancy, normal gestation period, and fetal brain and eye development.

INFANTS & CHILDREN

DHA is important for brain and eye development and function and may help improve visual acuity and promote cognitive development.

CHILDREN & ADULTS

DHA is important for ongoing brain and eye development and function.

ADULTS

DHA supports brain and eye health.

Also available from DSM — The global leader in nutritional lipids

life'sOMEGA is a vegetarian omega-3 containing high levels of both DHA and EPA omega-3 fatty acids to support heart health. Derived from algae, *life'sOMEGA* provides all the exciting benefits of *life'sDHA* with naturally occurring EPA resulting in a product that is the vegetarian alternative to fish oil. **To learn more, visit lifesDHA.com.**

life's OMEGA™

The most trusted source of EPA/DHA omega-3 fish oil in the world. Purified for safety, concentrated for potency and naturally sourced from clean, sustainable omega-3 rich ocean fish.
To learn more, visit MEG-3.com.

MEG-3™ *trust the source™*