

Healthier Pets and Thriving Oceans

The Smarter Way to Source Omega 3s

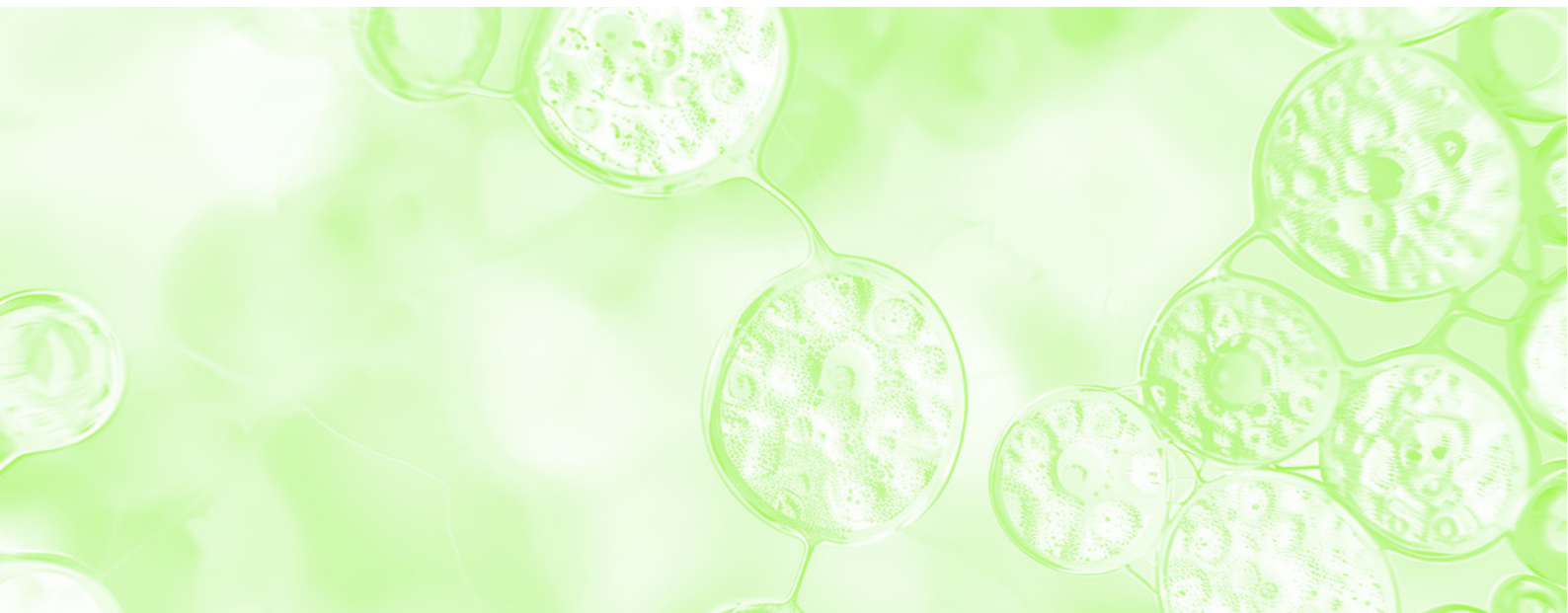


Why marine Omega 3s are essential for pet health and why they don't need to come from fish

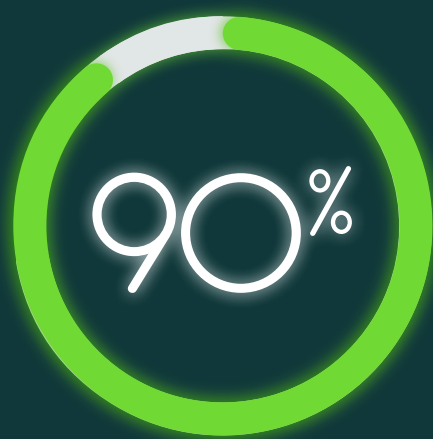
Omega 3 fatty acids are essential for the health and well-being of pets, just as they are for humans. From reducing inflammation to promoting brain function and maintaining a healthy coat, Omega 3s play a vital role in supporting physiological functions in dogs and cats¹.

Traditionally, the primary source of these long-chain marine Omega 3 fatty acids in pet food has been fish oil. However, with the growing global population, the demand for Omega 3s continues to rise, placing significant strain on ocean fish populations. Currently, nearly 90% of global marine fish stocks are fully exploited or overfished². This has created a pressing need for sustainable alternatives to fish-derived Omega 3s.

MiAlgae offers a groundbreaking solution: microalgae, rich in marine Omega 3s, cultivated sustainably using by-products from the whisky industry. This microalgae-based Omega 3 can be incorporated into pet food and supplements, providing all the health benefits of traditional fish oil, while being cleaner, more sustainable, and free from the contaminants typically associated with fish products.



Environmental Impact



90% of global marine fish stocks are fully exploited or overfished.

Global pet populations

900

million dogs



600

million cats³



That's a lot of Omega 3s needed to keep them all healthy

Microalgae with big impact

1

tonne of microalgae produced



30

tonnes of fish saved



What are Omega 3 fatty acids?

Omega 3 fatty acids are essential fats that both people and animals need to stay healthy. Since the body cannot produce them, they must be obtained through diet.

Omega 3s are 'polyunsaturated' fats.

This refers to their specific structure that makes them good for heart and brain health. Fish derive Omega 3s from the algae they consume, making it the direct source of these beneficial fatty acids.

There are three main types of Omega 3s:

- 1 **Docosahexaenoic acid (DHA):**
Predominantly found in fatty fish, seaweed and microalgae, DHA is crucial for brain function, vision, and overall cellular health.
- 2 **Eicosapentaenoic acid (EPA):**
Also found in fatty fish such as salmon, mackerel, sardines and microalgae.
- 3 **Alpha-linolenic acid (ALA):**
Primarily found in plant-based sources like flaxseeds, chia seeds, and walnuts.

The beneficial effects of Omega 3 fatty acids in animals are primarily associated with the long-chain forms, DHA and EPA. These are the biologically active Omega 3s that directly influence cell membrane fluidity, inflammatory pathways, cognitive function, and skin and coat health.

ALA is the shorter-chain Omega 3 found in plant oils such as flaxseed or rapeseed. ALA has none of the physiological benefits of DHA or EPA and must first be converted by the body into EPA and DHA before it can exert similar benefits. However, this conversion is extremely inefficient in dogs and cats meaning that dietary sources providing preformed DHA and EPA are essential to achieve measurable health outcomes⁴.



'Fish derive Omega 3s from the algae they consume, making it the direct source of these beneficial fatty acids.'

Health Benefits of Omega 3s for Pets

Omega 3s are proven to provide numerous health benefits for pets, supporting their joints, skin, cardiovascular systems, and cognitive health¹.



Some key benefits of Omega 3s



Anti-Inflammatory Effects

Pets, particularly dogs, often suffer from osteoarthritis, a chronic and degenerative joint disease that impacts mobility⁵. Omega 3s have been shown to alleviate symptoms of osteoarthritis by reducing inflammation and improving joint function. Research published in the Journal of the American Veterinary Medical Association found that dogs on an Omega 3 enriched diet showed increased mobility within 6 weeks, and after 12 weeks, the severity of osteoarthritis was significantly reduced.



Kidney Disease

Omega 3s can help prevent elevated levels of protein in the urine in dogs with chronic kidney disease⁶. This is supported by an experimental study using fish oil (Brown et al 1998)



Skin and Coat Health

Omega 3s help reduce inflammation, improving skin conditions like eczema and itchy skin in pets. Clinical trials have shown that dogs with higher Omega 3 levels in their blood had healthier, shinier coats and improved skin conditions⁷.



Cardiovascular Health

Omega 3 supplementation has been linked to improved heart function and heart rate variability in dogs with heart disease. By reducing inflammation, Omega 3s help maintain cardiovascular health and protect against conditions like heart failure. Evidence from human medicine and studies in healthy dogs show that Omega 3 supplements can reduce triglyceride levels – this refers to the amount of triglycerides in the blood (a type of fat that can increase levels of heart disease)⁶.



“I regularly prescribe Omega 3 fatty acids supplements which can drastically improve the quality of a pet’s skin and fur. These fatty acids also possess anti-inflammatory properties that help reduce arthritis pain and support heart, brain and eye health.”

Sebastian Kneitz BVM&S, MRCVS, BSc (Hons)



Cognitive Function

Omega 3s, especially DHA, play a critical role in maintaining brain health. For puppies and kittens, DHA is essential for brain development, learning ability, and visual acuity. Studies show that puppies fed DHA-rich diets exhibit better cognitive function and trainability. Older pets may also benefit, as Omega 3s can reduce neuroinflammation and support memory retention⁸.



“For puppies and kittens supplementing DHA is important for optimal development. Puppy performance of reversal task learning, visual contrast discrimination and navigation of obstacles is significantly better after early DHA supplementation. Maternal supplementation of DHA has even shown improvements in developing these areas in puppies.”

Laura Ward, Pet Nutritionist, Rewarding Pet Nutrition



Eye Health

DHA is a major component of the retina, and Omega 3s help maintain eye function by reducing inflammation and promoting healing. They are particularly beneficial in treating ocular conditions like conjunctivitis and dry eye⁹.



Weight Management and Digestive Health

Omega 3s help regulate metabolism and may reduce the risk of obesity. Additionally, they support digestive health by soothing inflammation in the gastrointestinal tract and promoting a balanced gut microbiome¹⁰



Immune System Support

Omega 3s support the immune system by enhancing the function of immune cells, reducing chronic inflammation, and boosting antioxidant activity. This can help pets fight infections and reduce allergic reactions¹¹.



“Omega 3 fatty acids from fish oil are widely recognised for their broad health benefits in animals. One most notable action is their powerful anti-inflammatory effect, which helps support overall health and function across many body systems, from joints and skin to the heart, kidneys, and beyond.”

Emma Passman, Pet Nutritionist

Sources of Omega 3s for pet food



Fish

Fatty fish like anchovies, sardines, mackerel, and salmon are excellent sources of Omega 3s. However, there are concerns about overfishing, heavy metal contamination and microplastics. In the majority of fish oils that were tested by MiAlgae, the Omega 3 content was vastly overestimated while the Omega 6 and Omega 9 content were underestimated.



Krill

Krill oil is another marine source of DHA and EPA, with improved bioavailability compared to fish oil. Krill are a keystone species which means removing them from the marine ecosystem is highly disruptive and damaging. They are a crucial food source for many animals, and they help to regulate energy and carbon in the ocean.



Plants

Plants from different genera are rich in Omega 3s including vegetables, herbs, nuts and seeds offering an alternative source of Omega 3s. However, unlike fish sources, plants are typically poor in DHA and EPA but rich in the Omega 3 Alpha Linoleic Acid (ALA). This lack of DHA and EPA is a common trait in almost all plants, except for seaweed and microalgae.



Seaweed

Certain seaweeds, like the red seaweed *Palmaria palmata* (dulse), contain high levels of EPA — more than seven times that found in sardines. Other seaweeds, such as *Undaria pinnatifida* (wakame), also provide EPA, while smaller amounts of DHA are present in green seaweeds like *Caulerpa taxifolia*.



‘Microalgae-derived Omega 3 oil is not only natural and highly concentrated, but also free from contaminants like heavy metals and microplastics.’

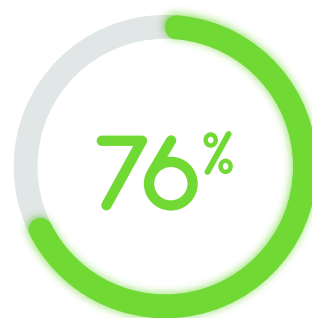


Microalgae

Microalgae is the real game-changer as these microorganisms are the original source of Omega 3s in the ocean. Fish only contain Omega 3s because they eat microalgae. That means we can go straight to the source, so no fish needed. Microalgae-derived Omega 3 oil is not only natural and highly concentrated, but also free from contaminants like heavy metals and microplastics. It can also be extracted using water-based methods instead of harmful solvents, making it a cleaner, more sustainable, and ethical alternative to fish oil.

As the world grows increasingly unpredictable - with rising climate disasters, geopolitical conflicts, and global uncertainty – microalgae stands out as a stable, resilient ingredient. Unlike traditional sources, it can be locally produced in controlled environments, making it less vulnerable to external disruptions.

Sustainable Choices



76% of pet owners considered sustainability a key factor in their pet food choices*



34% of UK dog food buyers believe its better for pets to have regular plant based meals**



60% of pet owners are willing to pay more for eco-friendly products***

*<https://www.letsrecycle.com/news/76-of-pet-owners-prioritise-sustainability-with-pet-food-choices>

**<https://www.newfoodmagazine.com/news/104798/a-third-of-dog-owners-believe-plant-based-is-better-for-pets-research-finds>

***<https://gitnux.org/sustainability-in-the-pet-industry-statistics>

Why choose MiAlgae?

MiAlgae offers a sustainable, clean, and plant-based alternative to fish oil, providing all the essential Omega 3s pets need. Our microalgae-based product, MiAlgaePet™, is grown using by-products from the whisky industry, contributing to a circular economy.

Our Omega 3-rich microalgae is free from contaminants, including microplastics, heavy metals, and other toxins, ensuring the highest quality for your pets. Choosing MiAlgaePet™, not only supports pet health but also contributes to a cleaner, greener planet.

Our key goals:



To produce

53,000 tonnes

annually of marine Omega 3 microalgae



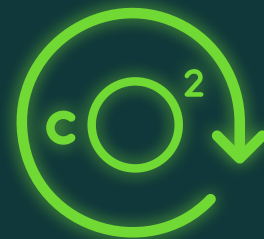
10% Reducing global dependence on fish oil by 10%

Achieving Our Goals Means:



639 million

litres of whisky by-products used



2.1 million

tonnes equivalent of CO₂ saved



1.6 million

tonnes of wild fish replaced

Key Benefits of Omega 3s with MiAlgae

Omega 3s from MiAlgae provide a wide range of benefits, including:

- Brain health
- Anti-inflammatory effects
- Joint health
- Healthy skin and coat
- Better immune function
- Eye health
- Weight management
- Reduced anxiety and stress
- Improved digestive health

As the global demand for Omega 3s grows and the pressure on marine fish stocks increases, MiAlgae provides a sustainable, fish-free alternative that delivers all the same health benefits.

**Get in touch to find out
more at mialgae.com**



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