

A BRAND NEW DIETARY SUPPLEMENT FOR PETS  
RICH IN MARINE ASTAXANTHIN AND OMEGA-3S



 **QRILL<sup>TM</sup> PET**  
AstaOmega Oil

Pure Astaxanthin / Marine Omega-3s / All natural / Sourced from Krill

## The new dietary supplement for pets

Pet owners are increasingly aware of the nutritional needs of their pets and are on the look out for natural, do it all, sustainable supplements. QRILL Pet AstaOmega Oil offers a natural combination of omega-3s and the powerful antioxidant astaxanthin, both derived from one unique source. Not only do pets get to enjoy the health benefits of these components, but pet owners can rest assured that their pets are benefitting from a sustainable and natural supplement.

### What does the product offer?

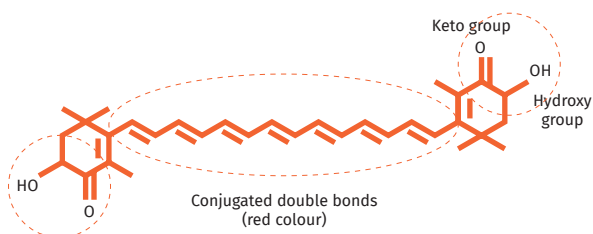
QRILL Pet AstaOmega Oil is an all natural supplement sourced from Antarctic krill (*Euphasia superba*), rich in the best nutrients nature has to offer. A part from the fat fraction of krill provides this powerful dark red oil which offers pets a compelling combination of the antioxidant astaxanthin and marine omega-3s, EPA and DHA. The unique advantage of AstaOmega is that all its nutrients come from a single source, free from preservatives or additives.

### Astaxanthin – a powerful antioxidant

Astaxanthin is a powerful antioxidant known to protect the body's cells and boost the immune system. Antioxidants are essential for optimal health of pets, cognition and longevity by preventing oxidative stress. The astaxanthin found in AstaOmega Oil is natural and both, sustainable and traceable. Produced onboard our vessels, AstaOmega also has a very short production cycle.

Natural astaxanthin is more than 95% esterified, meaning fatty acids are attached to one or both ends, and it is shown to be well absorbed by dogs.

### Astaxanthin & its chemical structure



Astaxanthin contains a unique molecular structure due to the presence of double bonds in the centre, and a hydroxyl and keto group on each end. These are responsible for its antioxidant properties.

### Marine omega-3s

» Omega-3s are shown to provide numerous health benefits.

Pets are not able to develop essential omega-3 fatty acids in their bodies naturally and require supplements for a long and healthy life. Numerous clinical studies have proven the health benefits of long chain omega-3 fatty acids EPA and DHA. They are vital components in every cell membrane supporting cell survival, growth, renewal and other critical functions. EPA and DHA positively effect several organs, including the heart, kidney, liver, joints, brain, eyes and skin, and are beneficial to maintain a healthy coat.

### Keeping the right balance



Omega-6

5-6 : 1  
Desired ratio



Omega-3

1. Hall JA, Wander RC, Gradin JL, Du SH, Jewell DE. Effect of dietary n-6-to-n-3 fatty acid ratio on complete blood and total white blood cell counts, and T-cell subpopulations in aged dogs. *Am J Vet Res.* 1999 Mar;60(3):319-27.

2. Giacomo Biagi, Attilio Mordenti, Massimo Cocchi The role of dietary omega-3 and omega-6 essential fatty acids in the nutrition of dogs and cats: A review. *PROGRESS IN NUTRITION VOL.6,N.2,000-000, 2004*

» Omega-3s have anti-inflammatory properties and are critical to balance omega-6 rich pet diets.

Many pet diets contain excessive amounts of omega-6 fatty acids. Current research indicates that a balanced ratio of omega-6 to omega-3 fatty acids of 5-6:1 is most beneficial for pets. Too many omega-6 fatty acids promote inflammation and may worsen conditions, such as skin disease, arthritis, and renal problems. Achieving the right fatty acid balance is therefore important for maintaining good health. Many pet foods contain plant-based omega-3s, however pets are not able to convert plant-based omega-3s to EPA and DHA well and therefore most health care providers recommend a marine sourced omega-3 supplement.

## Why AstaOmega Oil?

AstaOmega Oil is a natural combination of omega-3s and astaxanthin combining an anti-inflammatory with an antioxidant component. The first pilot study on active Alaskan Huskies, has shown promising results. 10 dogs received a supplementation with AstaOmega Oil, while the other 10 dogs in the control group received flaxseed oil. All dogs that received AstaOmega Oil had a significant increase in astaxanthin levels in their plasma, as well as an increase in omega-3 levels in red blood cells. There was no increase in the flaxseed group, which supports earlier findings that plant-based alpha-linolenic acid converts poorly into EPA and DHA. Marine omega-3s have shown to be a more efficient source of the omega-3 fatty acids EPA and DHA.

## Recommended Application

The results of the pilot study indicate that astaxanthin and omega-3 levels can be significantly increased by the supplementation of AstaOmega Oil, which makes it an attractive feed supplement. AstaOmega Oil can be marketed as a stand-alone supplement for pets or used as an ingredient in pet food or treat formulations.

## Pure, sustainable and traceable

AstaOmega is a clean, sustainable and traceable supplement for pets. Antarctic krill are so low in the marine food chain and live in the pristine waters of the Southern Ocean, that are naturally low in accumulated contaminants. The Antarctic krill fishery is one of the most precautionary and best performing fisheries in the world. Not only is the krill fishery strictly regulated, it is also the only "A" rated reduction fishery in the world.



Aker BioMarine developed the patented technology, ECO Harvesting that allows for effective commercial harvesting while protecting the environment, by virtually eliminating by-catches. Aker BioMarine controls the whole supply-chain of all products and is therefore proud of providing a fully transparent and traceable operation.

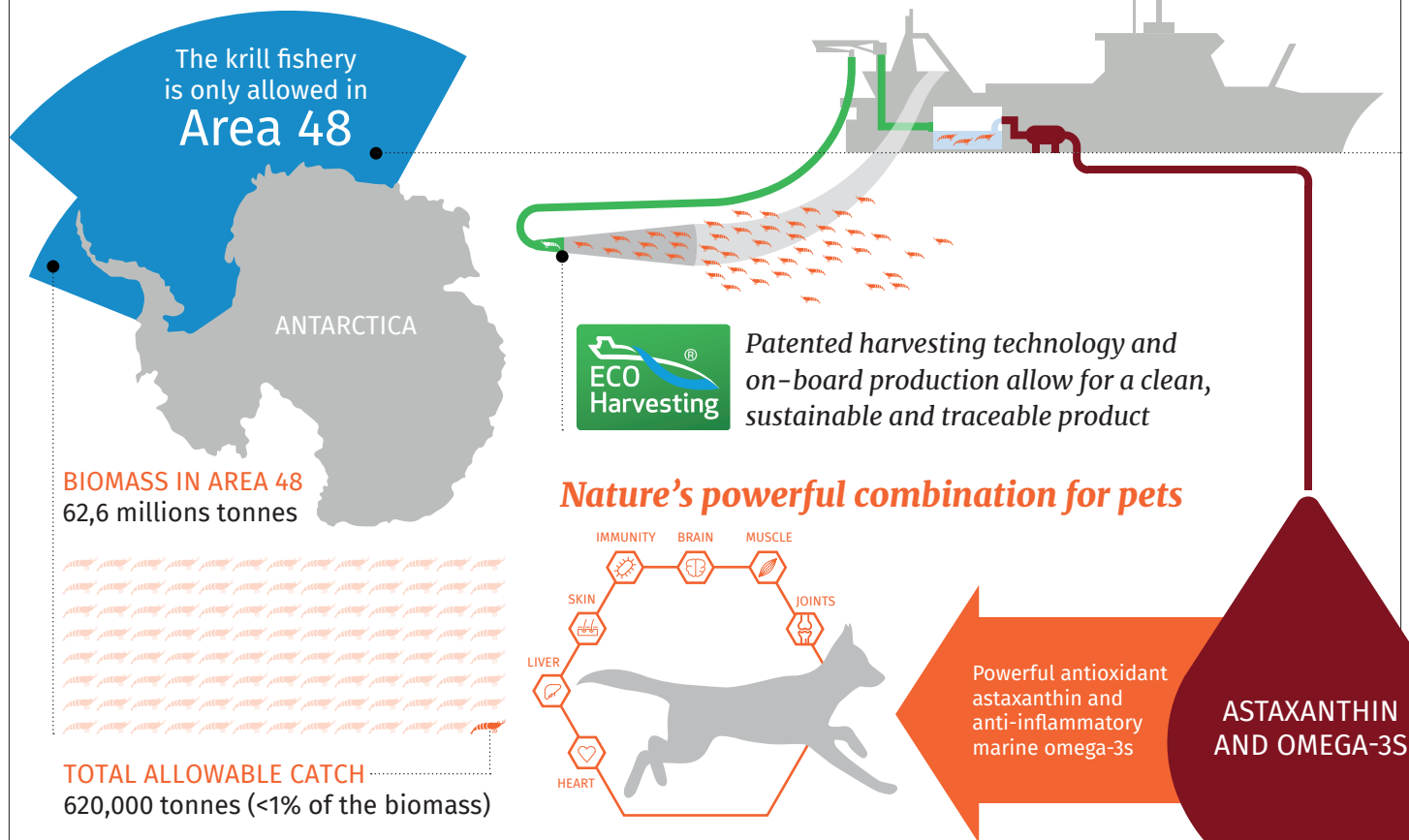


Aker BioMarine, was the first krill harvesting company to get MSC certification due to the high standard fishing operations and sustainable practices.

Read more about our environmental commitments:

[qrillpet.com/why-krill-sustainability](http://qrillpet.com/why-krill-sustainability)

## Discover the story of QRILL Pet AstaOmega Oil



# PRODUCT DATA SHEET

## Astaxanthin Oil from Antarctic Krill (*Euphausia superba*)

Key nutrient composition	Typical value	Unit
Neutral lipids	100	%
Total saturated	37.5 ± 2	%
Total monounsaturated	32 ± 2	%
Total polyunsaturated	18 ± 5	%
Total omega-6 fatty acids	1.8 ± 0.5	%
Total omega-3 fatty acids	13 ± 5	%
EPA	5 ± 2	%
DHA	2 ± 1	%
Astaxanthin esters	1250 ± 450	mg/kg
Proteins	0	%
Carbohydrates	0	%

Product characteristics	Typical value	Unit
Viscosity	50-60	mPa s
Density	0.93	g/cm <sup>3</sup>
Water activity	< 0.7	–
Water content	≤ 0.5	%

### Description

Clear and dark red coloured oil. Antarctic krill (*Euphausia superba*) contains high levels of natural Astaxanthin and omega-3 fatty acids EPA and DHA.

### Application

For adult dogs as a omega-3 and antioxidant pet food enrichment or as a stand-alone supplement. Astaxanthin also acts as a highly effective antioxidant to protect the oil from oxidation.

### Packaging

6x1,2kg pouches

25kg drums

185kg drums

### Handling and storage

Store at room temperature below 25C.

Do not freeze.

Two years shelf life from date of manufacture.

### Producer and registration

**Producer:** Aker BioMarine Antarctic AS

**Country of origin:** Norway

**Harvesting system:** Aker Eco-harvesting™ Pelagic Trawl

