PURE ANIMAL WELLBEING
By BLACKMORES

# PAW FISH OIL 500:
## VETERINARY STRENGTH OMEGA-3 SUPPLEMENT

**PAW Fish Oil 500 is a concentrated blend of sustainably sourced liquid fish oil containing no artificial colours or flavours. It is rich in omega-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), and is formulated for dogs based on standard ratios recommended by the US National Research Council.**


### BENEFITS:

- Rich in omega-3 fatty acids, EPA and DHA to support joint, skin, heart, renal and bowel health.
- Formulated with EPA/DHA ratios recommended for dogs based on nutritional standards published by the National Research Council, USA.
- Concentrated low volume formulation to reduce diarrhoea risk and excessive calories.
- Mercury, dioxin, and PCB tested.
- Mild fishy odour.
- Convenient pump dispenser for easy dosing.
- Sustainably sourced, & rigorously tested to Blackmores quality and purity standards.
- No added colours or artificial flavours.

### WHEN TO RECOMMEND:

In consultation with a veterinarian, Fish Oil 500: Veterinary Strength can be used as adjunctive nutritional management for:

- Osteoarthritis
- Inflammatory or immunologic disease (atopy or inflammatory bowel disease)
- Cardiovascular disease
- Renal disease
- Idiopathic hyperlipidaemia

**Each pump (0.5 mL) of Fish Oil 500 contains:** 250 mg EPA+DHA

**Dosage:**

| Clinical indication for use | Daily dose ($mg/kg^{0.75}$) | Daily dose (per 10 kg dog body weight) |
|---|---|---|
| Osteoarthritis | 310 | 7 pumps |
| Inflammatory or immunologic disease (atopy, inflammatory bowel disease) | 125 | 3 pumps |
| Cardiovascular disease | 115 | 3 pumps |
| Renal disease | 140 | 4 pumps |
| Idiopathic hyperlipidaemia | 120 | 3 pumps |
| Maintenance | 30 | 1 pump every second day |

**Administration:** Pump directly onto pet's food as per recommended dosage
**Size:** 200mL pump bottle

**Warnings/Safety:**

- For animal consumption only.
- For veterinary supply only.
- Fish oil is generally safe and well tolerated. The NRC safe upper limit is 370 mg/kg$^{0.75}$.
- The most commonly expected adverse events are mild, self-limiting gastrointestinal signs. Gradually introducing the fish oil into the diet can help reduce the incidence of gastrointestinal signs.
- Other uncommon or rare side effects may include platelet inhibition, delayed wound healing, weight gain, and altered immune function. Consider discontinuing high doses of PAW Fish Oil 500 for 2-3 weeks prior to and following surgery.
- Hyperglycaemia is a potential adverse effect and as such, caution should be used in diabetic patients receiving insulin and PAW Fish Oil 500 supplementation concurrently.
- Always read the label and follow directions for use.

# EDUCATION

## What are essential fatty acids?

Omega-3 and omega-6 fatty acids are considered essential because dogs and cats are unable to synthesise them in sufficient quantities to meet their metabolic needs. Structurally, an essential fatty acid (EFA) has at least two double bonds and is named in accordance with there these double bonds occur.[1]

## The function of essential fatty acids

Omega-6 fatty acids; dihomo-gamma-linolenic acid (DGLA) and arachidonic acid (AA), as well as the omega-3 eicosapentaenoic acid (EPA), are incorporated into cellular membranes, and are released after stimulation of the cell by inflammation, hormones or trauma. They are oxidised by cyclooxygenase (COX) to prostaglandins and thromboxanes, or by lipoxygenase (LOX) to leukotrienes. These eicosanoids then function as intracellular signalling molecules or as paracrine hormones influencing neighbouring cells.[2]

## Which omega-3s are most suitable for osteoarthritis?

Given the strong evidence for their efficacy in osteoarthritis, the Canadian Consensus Guidelines on OA treatment 2022 recommends incorporating omega 3-fatty acids in the management of every COAST (Canine Osteoarthritis Staging Tool) stage.[3] Indications for omega-3's in the management of OA include as part of multi-modal therapy for mild-chronic disease, or potentially as an NSAID-sparing adjunct in severe cases.[4]

The evidence suggests that EPA is more efficient at protecting chondrocytes from inflammation than docosahexaenoic acid (DHA), which in turn is more effective than alpha-linolenic acid (ALA).[5]

Supplementation with EPA and DHA is beneficial as it reduces prostaglandin E2 (PGE2) production through competition with less inflammatory prostaglandins. In addition, it reduces thromboxanes, which may in turn suppress pro-inflammatory mediators, interleukin-1&2 (IL-1, IL-2), and tumour necrosis factor (TNF) in cartilage.[6]

## What about DHA?

DHA is a major component of cell membranes, and affects fluidity and stability. Quantitatively, it is the most important omega-3 fatty acid in the brain. DHA is essential for the growth and functional development of the brain and retinas in young mammals.[7]

Furthermore, DHA is essential for the maintenance of normal brain function in adults, with decreases in the brain being associated with age-related cognitive decline, and sporadic Alzheimer's disease in humans.[8]

## Essential fatty acid supplementation for Canine Atopic Dermatitis (CAD)

Both omega-3's EPA/DHA, and omega-6 linoleic acid (LA) are essential for optimal skin health. The International Task Force on CAD recommends dietary supplementation with essential fatty acids.[9] Whilst EPA and DHA are beneficial for their anti-inflammatory properties, LA is essential for ceramide production in the epidermis, and supports skin barrier function.[10]


**References:**

**1.** Bauer J. 2008. Essential fatty acid metabolism in dogs and cats. J Animal Science - REV BRAS ZOOTECN. 37. **2.** Sjaastad O. V., Hove K. & Sand O. 2004. Cells and Tissues. In: Physiology of Domestic Animals. Oslo: Scandinavian Veterinary Press:51-81. **3.** Mosley C. et al. 2022. Proposed Canadian Consensus Guidelines on Osteoarthritis Treatment Based on OA-COAST Stages 1–4. Frontiers in Veterinary Science. 9: Article 830098. **4.** Fritsch D. A. et al. 2010. A multicenter study of the effect of dietary supplementation with fish oil omega-3 fatty acids on carprofen dosage in dogs with osteoarthritis. Journal of the American Veterinary Medical Association, 236(5):535-539. **5.** Zainal A, et al. 2009. Relative efficacies of omega-3 polyunsaturated fatty acids in reducing expression of key proteins in a model system for studying osteoarthritis. Osteoarthr Cartil., 17:896–905. **6.** Bauer J. E. 2011. Therapeutic use of fish oils in companion animals. Journal of American Veterinary Medical Association, 239(11):1441-1451. **7.** Dyall SC. Long-chain omega-3 fatty acids and the brain: a review of the independent and shared effects of EPA, DPA and DHA. Front Aging Neurosci. 2015;7:52. Published 2015 Apr 21. doi:10.3389/fnagi.2015.00052 **8.** Horrocks LA, Yeo YK. Health benefits of docosahexaenoic acid (DHA). Pharmacol Res. 1999 Sep;40(3):211-25. doi: 10.1006/phrs.1999.0495. PMID: 10479465. **9.** Olivry T. et al. 2015. Treatment of canine atopic dermatitis: 2015 updated guidelines from the International Committee on Allergic Diseases of Animals (ICADA). BMC Veterinary Research 11:210 **10.** Outerbridge C. A. 2012. Nutritional Management of Skin Diseases. In: Applied Veterinary Clinical Nutrition. West Sussex: Wiley-Blackwell:158-159.