



GLOBAL ORGANIZATION FOR EPA AND DHA OMEGA-3s

# **Global EPA and DHA Omega-3 Ingredient Market Report**

## **2017-2018**



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# Executive Summary

The EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid) omega-3 industry is diverse in scope. With raw material sources originating from almost every region of the world and applications spanning the entirety of people's lives, from before birth until old age, the omega-3 market is well established in many regions of the world and continues to show strong growth potential in the others. It is not only people who benefit from ome-

US\$), up 2.1% from the value in 2017 (1,349 MM US\$).

In terms of volume, the largest source was common refined oils (XX.X% of the total volume), followed by concentrates (XX.X%), miscellaneous pet food oils (XX.X%), menhaden (X.X%) and cod liver oil (X.X%). The largest proportion of the value is commanded by concentrates, used primarily for dietary supplements and pharmaceu-

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The total volume of omega-3 ingredients  
in 2018 was **111,210 metric tons (mT)**,  
a 2.3% increase from 2017.

The total market value was **\$US1,377 million**,  
up 2.1% from 2017.

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ga-3 industry, but also our companion animals: there is a thriving segment of pet foods and supplements that include omega-3 oils.

The purpose of this report is to provide a detailed description of the volume and value of the ingredient omega-3 oils that are included in consumer products. For the purposes of this document, an omega-3 oil is an oil containing EPA and/or DHA as an ingredient for inclusion in a consumer product. This specifically excludes oils used as ingredients for feed in aquaculture or livestock/poultry production, as well as products that contain only alpha-linolenic acid (ALA), an omega-3 from vegetable sources.

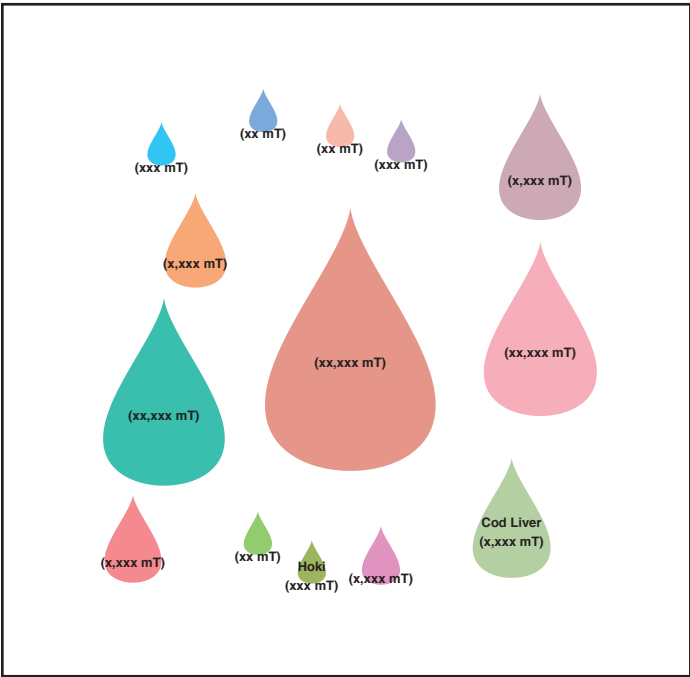
The total volume of omega-3 ingredients in 2018 was 111,210 metric tons (mT), representing a 2.3% increase from the 108,757 mT used in 2017. The total market value of these ingredients was 1,377 million US dollars (MM

ticals (XX.X%). This is followed by tuna and algae oil, which are important components of DHA-fortified infant formula (XX.X% and XX.X%, respectively), then common refined and krill oils, used primarily in dietary supplements (XX.X% and X.X%, respectively).

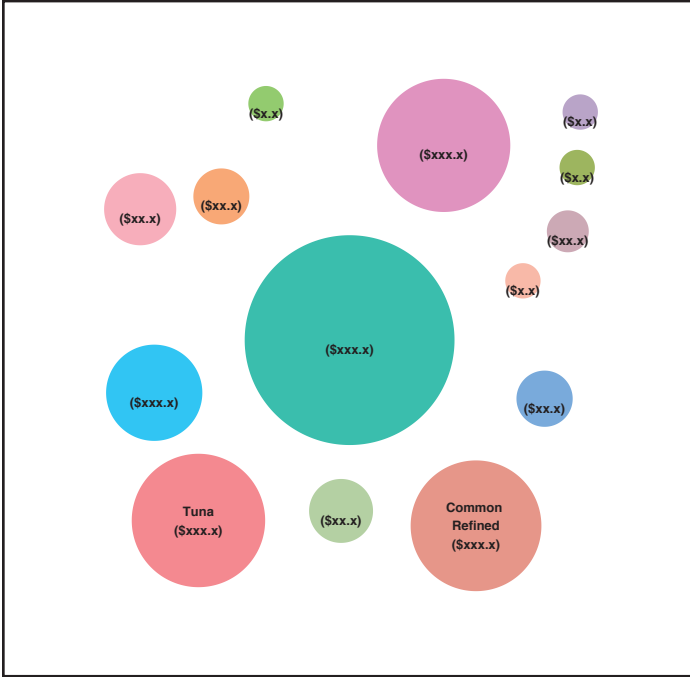
The three largest markets, both in terms of volume and value are the USA, Europe and China. The former two are mature, well-established markets whose volume and value change little from year to year. This does not mean that these markets are static; they are in fact undergoing profound transformations driven by changes in consumer preferences. Dietary supplement users are rapidly moving away from the traditional refined oils, seen as a "starter" product, and into forms that offer a different value proposition, including concentrates, krill, and other specialty sources. The Chinese market, in contrast, is growing in volume and value at an annual percentage rate approaching two digits. The driver for this growth is China's eco-

nomic development and the rapid emergence of a middle class. The USA represents XX.X% of the volume demand and XX.X% of the value, Europe commands 26.3% of the volume and XX.X% of the value, while China covers 13.6%

and XX.X% of the value, respectively. The higher share of the value commanded by the Chinese market is due to its very large infant formula segment, which requires high-priced ingredients.

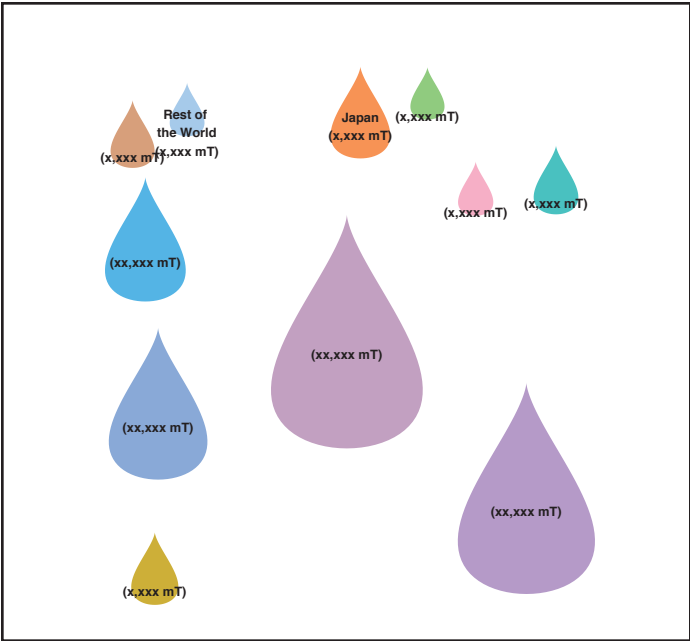


Omega-3 oil volume by source, 2018

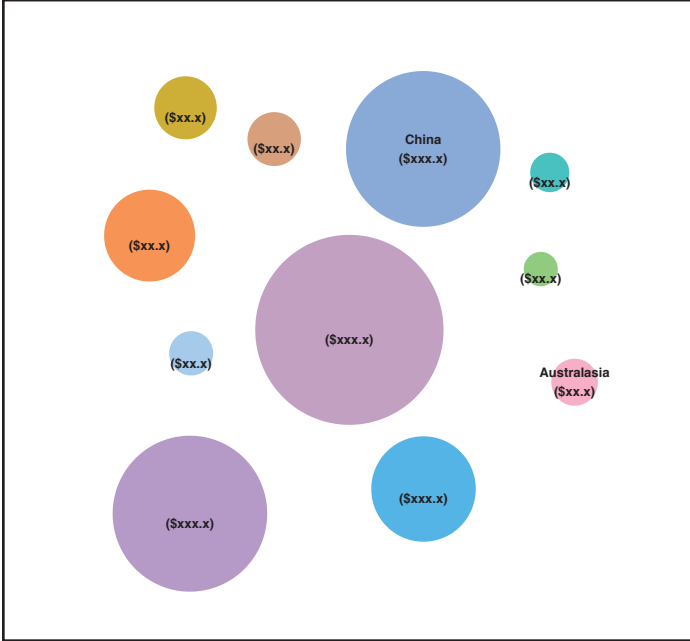


Omega-3 oil value by source, 2018

Omega-3 oil volume by geography, 2018



Omega-3 oil value by geography, 2018



# Report Scope, Methods and Definitions

## Scope and Methods

This report provides a detailed description of the size and value of the global market for (eicosapentaenoic acid) and/or DHA (docosahexaenoic acid) omega-3 oils.

An omega-3 oil is an oil containing EPA and/or DHA, used as an ingredient for consumer products, including dietary supplements, food additives, pharmaceuticals or pet food/supplements. This specifically excludes oils used as ingredients for feed in aquaculture or livestock/poultry production.

The years covered with historical estimates are 2017 and 2018. Forecasts for the years of 2019, 2020 and 2021 are also included.

Data is separated by source and oil type, geographic region, and application.

Volume figures are provided in metric tons (mT), values in millions of US dollars (MM\$).

### *Sources of information:*

- International trade and customs data
- National and international catch and production statistics
- Bills of Lading
- Financial statements of public companies
- Company financial and credit data
- Reports and databases from national and international agencies (Eurostat, FAO, NOAA, etc.)
- Sales data
- Business intelligence collected anonymously from GOED members
- GOED member interviews and feedback

Data was gathered and categorized according to the following criteria:

- Oil type (refined oil, concentrate, cod liver oil, etc.)
- Product category (concentrate, crude/refined/virgin, etc.)
- Form (ethyl ester, triglyceride)
- Region
- Application

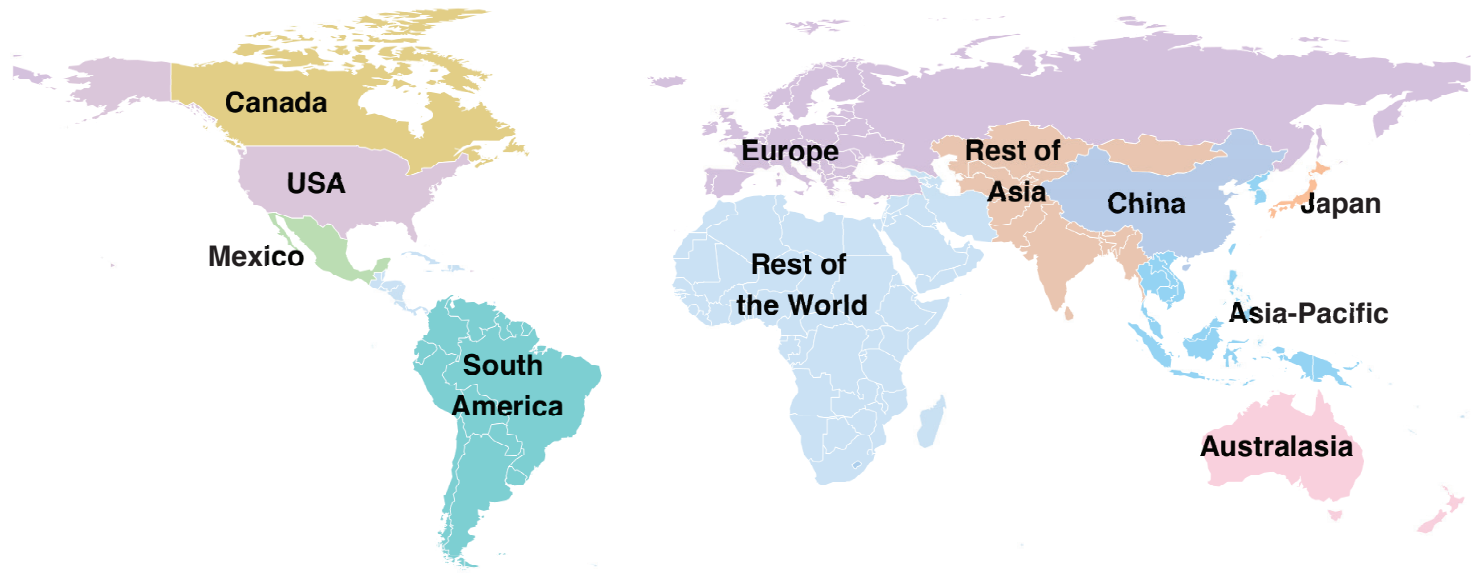
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## Changes from Previous Reports

Last year's Ingredient Market Report incorporated a category "Miscellaneous Pet Foods" for the first time. This has been continued this year.

The region formerly called "Australia" has been renamed as "Australasia" and includes Australia and New Zealand (please note that New Zealand numbers were formerly reported under Australia).

In previous reports, we reported concentrates by ranges of concentration of width equal to 10% (30-40%, 41-50%, etc.). Such excessive granularity introduced unnecessary uncertainty in the data, so it was replaced by more natural ranges. Starting with this year's report, we have changed our categorization protocols and now categorize concentrates as having low (30-60%), medium (61-80%) or high (above 81%) concentration.



## Geographic Regions

### **Europe:**

All European countries, both Eastern and Western, including Russia and Turkey

### **South America:**

All countries in South America

### **China:**

All regions under the current jurisdiction of the General Administration of Customs of the Peoples Republic of China and the China Food and Drug Administration, including Hong Kong and Macau

### **Asia Pacific:**

Includes Korea, Vietnam, Indonesia, Malaysia, Thailand and Singapore but not Japan and China

### **Rest of Asia:**

All Asian countries, except China, Japan, and the countries in the APAC region

### **Rest of World:**

All countries throughout the world not specifically addressed above





# Sources

**Algae oil:**

Oil obtained from any of several species of single cell organisms

**Calanus oil:**

Oil extracted from calanus, the common name for several species in a genus of small crustaceans. Currently, there a single product in this category, trademarked as Calanus® Oil.

**Common Refined oil:**

Crude oil from Peruvian anchoveta and other anchovy species that has been further processed or “refined”; this is often blended with sardine and/or mackerel oils as well.

**Cod liver oil:**

Virgin oil extracted from the liver of the Atlantic cod and other cod species

**Green-lipped mussel oil:**

Oil obtained from green-lipped mussel, a mollusk

**Concentrates:**

Oil obtained by chemical modification used to increase the level of EPA and/or DHA in the resulting oil (usually anchovy oil, sardine oil, pollock oil, tuna oil and/or a mixture). For purposes of this report, concentration is defined as the amount of EPA+DHA contained in the oil, expressed as a percentage of the mass.

**Hoki oil:**

Refined oil obtained from the liver of hoki

**Krill oil:**

Virgin oil extracted from Antarctic krill

**Menhaden oil:**

Oil (crude or refined) extracted from Gulf menhaden or Atlantic menhaden

**Miscellaneous pet food oil:**

Oil obtained from various sources, often partially refined, used specifically for pet foods

**Pollock oil:**

Refined or concentrated oil extracted from the liver of Alaska pollock

**Salmon oil:**

Virgin or refined oil extracted from any of several species of salmon

**Squid oil:**

Refined or concentrated oil obtained from any of several species of squid

**Tuna oil:**

Refined oil extracted from any of several commercially caught species of tuna