

# **Microalgae Market Forecasts to 2030 – Global Analysis By Type (Spirulina, Chlorella, Haematococcus Pluvialis, Dunaliella Salina and Other Types), Category (Organic and Inorganic), Form, Grade, Application, Distribution Channel and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Microalgae Market is accounted for \$12.7 billion in 2024 and is expected to reach \$20.7 billion by 2030 growing at a CAGR of 8.4% during the forecast period. Microalgae are considered the smallest, photosynthetic animals in freshwater and marine habitats. These organisms are basics to ecological systems, capable of producing oxygen and holding a basic position in the aquatic food webs. They are highly nutrient-rich and they can easily be replenished as a raw material for renewable biofuels, dietary supplements, cosmetics, and pharmaceuticals. Capable of carbon dioxide fixation, microalgae contribute to climate change mitigation, making them vital for environmental and industrial applications.

According to the U.S. Department of Energy (DOE), the total microalgae biomass production potential in the United States is estimated at 152 million tons per year (ash-free dry weight).

Market Dynamics:

Driver:

Increasing health consciousness

The rising health consciousness among consumers has significantly driven the microalgae market. Microalgae are rich in essential nutrients, including proteins, vitamins, and omega-3 fatty acids, making them a popular choice for health supplements and functional foods. This trend is further supported by the growing preference for plant-based diets and natural food ingredients. As awareness of the health benefits of microalgae continues to grow, demand for these products is expected to rise across various industries.

#### Restraint:

##### High production costs

High production costs remain a significant restraint for the microalgae market. Cultivating and processing microalgae require advanced technologies, controlled environments, and substantial energy inputs, leading to increased operational expenses. These costs are often passed on to consumers, limiting market penetration, particularly in price-sensitive regions. Reducing production costs through technological advancements and economies of scale is essential to overcoming this challenge and expanding the market.

#### Opportunity:

##### Expansion in pharmaceuticals and cosmetics

The growing application of microalgae in pharmaceuticals and cosmetics presents a lucrative opportunity for market growth. Microalgae-derived compounds, such as antioxidants and bioactive peptides, are increasingly used in skincare products and therapeutic formulations due to their anti-aging and healing properties. The rising demand for natural and sustainable ingredients in these sectors further drives innovation and investment in microalgae-based solutions, creating new avenues for market expansion.

#### Threat:

##### Lack of standardization

The lack of standardization in microalgae cultivation, processing, and quality assessment poses a significant threat to the market. Variability in product quality can undermine consumer trust and hinder regulatory approvals, especially in food and

pharmaceutical applications. Establishing standardized practices and certifications is critical to ensuring consistency, enhancing product credibility, and fostering wider adoption of microalgae-derived products across industries.

#### Covid-19 Impact:

The COVID-19 pandemic positively impacted the microalgae market as consumers increasingly prioritized health and immunity-boosting products. The demand for dietary supplements containing microalgae surged during this period. Additionally, disruptions in traditional food supply chains highlighted the potential of alternative protein sources like microalgae. These factors collectively accelerated the adoption of microalgae-based products across various sectors.

The food & beverages segment is expected to be the largest during the forecast period

The food & beverages segment is expected to dominate the market due to the increasing use of microalgae as a functional ingredient in health foods, beverages, and dietary supplements. Its high nutritional value makes it an ideal choice for addressing consumer demand for natural and plant-based products. The segment's growth is further driven by innovations in incorporating microalgae into mainstream food applications.

The chlorella segment is expected to have the highest CAGR during the forecast period

The chlorella segment is expected to witness the highest CAGR due to its extensive health benefits, including detoxification, immune support, and improved digestion. Its high protein content also makes it a preferred choice for vegan diets. The increasing use of chlorella in dietary supplements, cosmetics, and animal feed highlights its versatility and potential for rapid growth across multiple applications.

#### Region with largest share:

Over the forecast period, the Asia Pacific region is anticipated to account for the largest market share due to its well-established aquaculture industry and high consumption of algae-based products. Countries like China, Japan, and India drive regional growth through their strong demand for functional foods, dietary supplements, and cosmetics. Additionally, government initiatives promoting sustainable agriculture further support market expansion in this region.

### Region with highest CAGR:

The North America region is anticipated to register the highest growth rate over the forecast period owing to increasing consumer awareness about health benefits associated with microalgae. The region's robust demand for plant-based proteins and natural ingredients drives innovation in food & beverages as well as nutraceuticals. Moreover, advancements in cultivation technologies contribute to the rapid growth of this market in North America.

### Key players in the market

Some of the key players in Microalgae Market include DIC Corporation, Cyanotech Corporation, Corbion N.V., AlgaEnergy S.A., Cellana Inc., Euglena Co., Ltd., Algaecytes, Parry Nutraceuticals, Allmicroalgae, Kuehnle AgroSystems, Algatech, Algorith, Sunrise Nutrachem Group Co., Ltd., BASF SE, Koninklijke DSM N.V., Solabia Group, TerraVia Holdings, Inc. and Roquette Freres.

### Key Developments:

In August 2024, Euglena Co., Ltd. signs with Petronas Research Sdn. Bhd. a subsidiary of Petroliam Nasional Berhad (hereafter 'Petronas Research') that have entered into a Joint Development Agreement on August 21st , 2024 to implement a joint research with a mission to materialize the future large-scale commercial production of microalgae oil for SAF and other biofuels.

In July 2024, Parry Nutraceuticals, a division of EID Parry (I) Ltd, based in Chennai, has become a world leader and expert in micro-algal technology. Parry is the only micro-algal innovator in the world producing all three microalgae—spirulina, haematococcus (astaxanthin), and chlorella. The company works with ecologically sustainable cultivation practices that help preserve nutrients for optimum absorption.

In March 2024, Kuehnle AgroSystems ('KAS'), a leading microalgal innovation and production company, today announced that it has raised a \$3 million Series A2 funding round led by S2G Ventures. The funding will accelerate the commercialization of KAS's pioneering method for producing natural astaxanthin from microalgae, a key component in sustainable aquaculture systems as well as a clinically proven human nutraceutical.

### Types Covered:

Spirulina

Chlorella

Haematococcus Pluvialis

Dunaliella Salina

Isochrysis

Phaeodactylum Tricornutum

Chlamydomonas Cruentum

Nannochloropsis

Other Types

**Categories Covered:**

Organic

Inorganic

**Forms Covered:**

Powder/Dry

Liquid

**Grades Covered:**

Food Grade

Cosmetic Grade

Feed Grade

Fuel Grade

Other Grades

Applications Covered:

Dietary Supplements

Cosmetics & Personal Care

Food & Beverages

Pharmaceuticals

Animal Feed

Bio-Fuel

Inks

Other Applications

Distribution Channels Covered:

Direct

Indirect

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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