
INDUSTRY OVERVIEW

The information and statistics set out in this section and other sections of this document were extracted from the industry report commissioned by us and independently prepared by Frost & Sullivan, in connection with the [REDACTED]. In addition, certain information is based on, or derived or extracted from, among other sources, publications of different government authorities and internal organizations, market statistics providers, communications with various PRC government agencies or other independent third-party sources unless otherwise indicated. We believe that the sources of this information and statistics are appropriate sources for such information and statistics and have taken reasonable care in extracting and reproducing such information. We have no reason to believe that such information and statistics are false or misleading or that any fact has been omitted that would render such information and statistics false or misleading. The information and statistics from official government sources has not been independently verified by us, the Sole Sponsor, the [REDACTED], [REDACTED], [REDACTED], [REDACTED], and the [REDACTED] or any other party involved in the [REDACTED] and no representation is given as to its accuracy.

SOURCE OF INFORMATION

We commissioned Frost & Sullivan, an independent market research and consulting company, to conduct an analysis of, and to prepare a report on, the maternal and children nutritional product industry in the PRC for the period from 2018 to 2028. We agreed to pay Frost & Sullivan a fee of HK\$1,020,000, which we believe reflects market rates for reports of this type.

We have included certain information from the Frost & Sullivan Report in this document because we believe this information facilitates an understanding of the maternal and children nutritional product industry in the PRC for the prospective investors. Frost & Sullivan’s independent research consists of both primary and secondary research obtained from various sources in respect of the maternal and children nutritional product industry in the PRC. Primary research involved in-depth interviews with leading industry participants and industry experts. Secondary research involved reviewing company reports, independent research reports and data based on Frost & Sullivan’s own research database.

In compiling and preparing the research, Frost & Sullivan has developed its forecast on the bases and assumptions that (i) the economy in the PRC is likely to maintain stable growth in the next decade; (ii) the country and regions’ social, economic and political environment are likely to remain stable in the forecast period; and (iii) the maternal and children nutritional product industry in the PRC is expected to grow based on the key industry drivers including rising national health and nutritional awareness as well as purchasing power of consumers and the Chinese culture of longing for children to thrive.

ABOUT FROST & SULLIVAN

Founded in 1961, Frost & Sullivan has more than 45 offices with more than 3,000 industry consultants, market research analysts, technology analysts and economists globally. Frost & Sullivan’s services include technology research, independent market research, economic research, corporate best practices advising, training, client research, competitive intelligence

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and corporate strategy. Frost & Sullivan has been covering the Chinese market since the 1990s. Frost & Sullivan has seven offices in the PRC and direct access to the knowledgeable experts and market participants in the maternal and children nutritional product market and its industry consultants, on average, have more than three years of experience.

DIRECTOR’S CONFIRMATION

Our Directors have confirmed that after taking reasonable care, there is no adverse change in the market information since the date of the Frost & Sullivan Report which may qualify, contradict or have an impact on the information in this section.

OVERVIEW OF NUTRITIONAL PRODUCT INDUSTRY IN THE PRC

Definition and Segmentation of Nutritional Products

Nutritional products refer to products that are designed to provide essential nutrients and bioactive substances to balance the intake of nutrition and regulate bodily functions for specific groups of people. They are not intended to treat diseases, nor can they replace a normal diet, and they should not cause any acute, subacute, or chronic harm to the human body.

Nutritional products can be categorized into vitamins, animal and botanical products, minerals, and other nutritional products:

- Vitamin products include common ones like vitamins A, B, C, and D, which are mainly used to supplement essential nutrients needed by the body.
- Animal and botanical products include items such as fish oil, collagen, and herbal extracts, which are typically used to support cardiovascular health and joint care.
- Mineral products include elements like calcium, magnesium, and zinc, which help maintain bone health and promote metabolism.
- Other nutritional products encompass proteins, amino acids, probiotics, antioxidants, and fibers, which help enhance immunity, aid digestion, improve physical performance, and provide antioxidant benefits.

Market size analysis

Market size analysis of nutritional products in the PRC

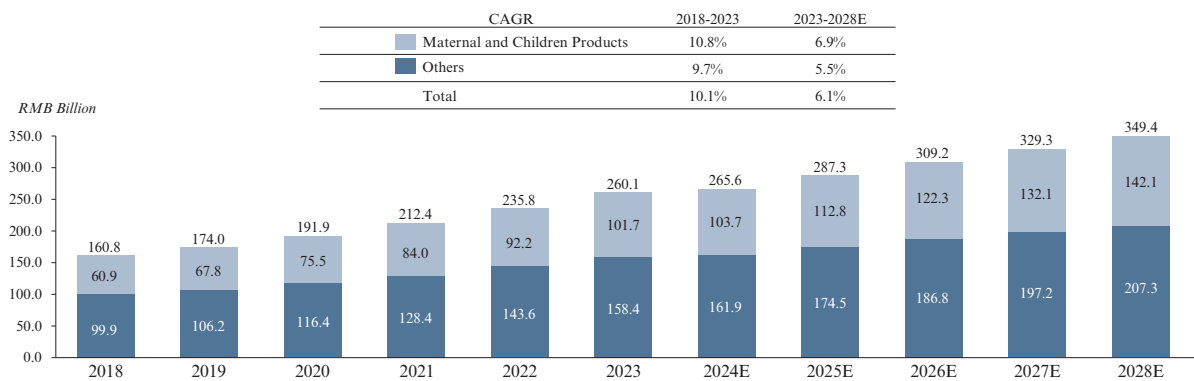
The nutritional product industry is divided into the maternal and children product market and the general market based on the target audience. The general market includes adults, seniors, and specific groups of people, with primary purposes such as supplementing an insufficient daily diet, improving health status, and preventing or promoting recovery from diseases. From 2018 to 2023, the overall market size of nutritional product in the PRC grew significantly, with the maternal and children product market increasing from RMB60.9 billion to RMB101.7 billion, representing a CAGR of 10.8% and accounting for 39.1% of the nutritional market in 2023. The general market, which includes all other target groups, also saw notable growth, contributing to the industry’s expansion.

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The nutritional product industry is highly competitive, with thousands of companies vying for market share, ranging from established brands to new entrants. Key challenges include regulatory changes, shifting consumer preferences, and fluctuating raw material costs, all of which are important risk factors to be considered.

In the future, as Generation Z becomes the main childbearing population with a more scientific approach to nutrition, the maternal and children product market is expected to become more segmented and professional. This segment is projected to continue growing at a CAGR of 6.9% from 2023 to 2028 supported by increasing health awareness and the rising demand for dietary supplement, reaching RMB142.1 billion by 2028. Meanwhile, the general market is anticipated to grow at a moderate pace among adults and seniors.

Market Size Breakdown of Nutritional Product Industry in the PRC by Audience, by Retail Sales Value, 2018–2028E



Source: Frost & Sullivan

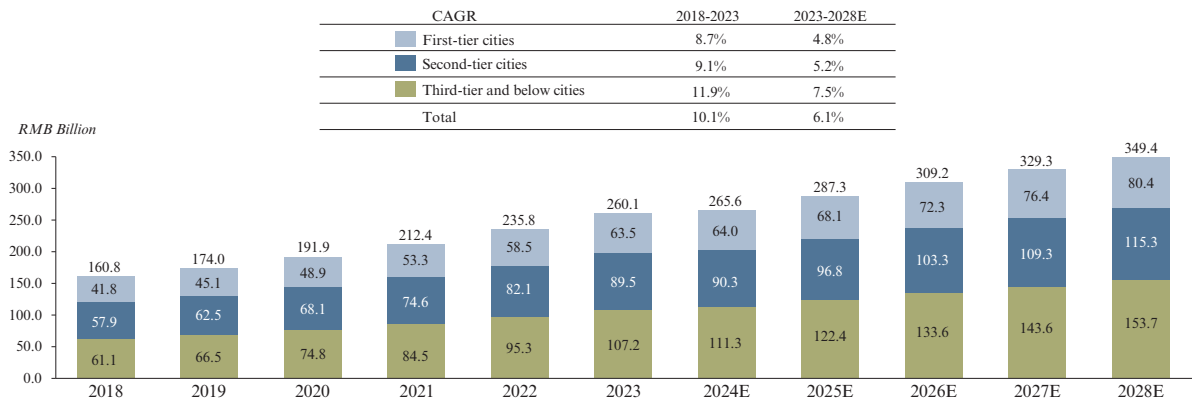
In the past five years, the nutritional product industry in the PRC has experienced significant growth across different city tiers. Third-tier and below cities have shown the most remarkable expansion, driven by increasing health awareness and improving access to health products. The market size in these cities increased from RMB61.1 billion in 2018 to RMB107.2 billion in 2023, reflecting a robust CAGR of 11.9%. This growth is expected to continue, with a projected CAGR of 7.5% from 2023 to 2028, reaching RMB153.7 billion by 2028.

Second-tier cities have also seen substantial growth due to rapid economic development and rising consumer purchasing power. The market size in these cities grew from RMB57.9 billion in 2018 to RMB89.5 billion in 2023, representing a CAGR of 9.1%. This growth is expected to moderate, with a projected CAGR of 5.2% from 2023 to 2028, reaching RMB115.3 billion by 2028.

First-tier cities, characterized by higher economic levels and greater per capita consumption capacity, have experienced consistent growth. The market size in these cities increased from RMB41.8 billion in 2018 to RMB63.5 billion in 2023, with a CAGR of 8.7%. Moving forward, growth in first-tier cities is anticipated to be moderate, with a CAGR of 4.8%, reaching RMB80.4 billion by 2028.

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Market Size Breakdown of Nutritional Product Industry in the PRC by City Tier, by Retail Sales Value, 2018–2028E



Note: New first-tier cities are included in the second-tier cities.

Source: Frost & Sullivan

Market size analysis of nutritional products in the selected third and fourth-tier cities

The nutritional product market in the third and fourth-tier cities in Guangdong Province, Jiangsu Province, Shandong Province, Zhejiang Province and Anhui Province has the potential for growth. Taking advantage of lower cost of living especially in accommodation, in lower-tier cities, consumers in the third and fourth-tier cities in Guangdong Province, Jiangsu Province, Shandong Provinces, Zhejiang Province, and Anhui Province can afford to live comfortably and have all the trappings of an upper-middle class lifestyle as these five provinces are considered as economically developed provinces in the PRC. The annual disposable income per capita in first-tier and second-tier cities of Guangdong Province, Jiangsu Province, Shandong Province, Zhejiang Province, and Anhui Province ranged from approximately RMB35,000 to RMB76,000, whereas the annual disposable income per capita in third-tier and fourth-tier cities of the above-mentioned five provinces ranged from approximately RMB25,000 to RMB68,000.

The total market size of nutritional products in the third and fourth-tier cities in Guangdong Province, Jiangsu Province, Shandong Province, Zhejiang Province, and Anhui Province increased impressively from approximately RMB14.3 billion in 2018 to RMB50.3 billion in 2023, representing a CAGR of approximately 28.6%. Stimulated by the growing income level and rising health awareness, it is anticipated that the market size of nutritional products in the third and fourth-tier cities in Guangdong Province, Jiangsu Province, Shandong Province, Zhejiang Province, and Anhui Province could continue to grow and reach approximately RMB149.1 billion in 2028.

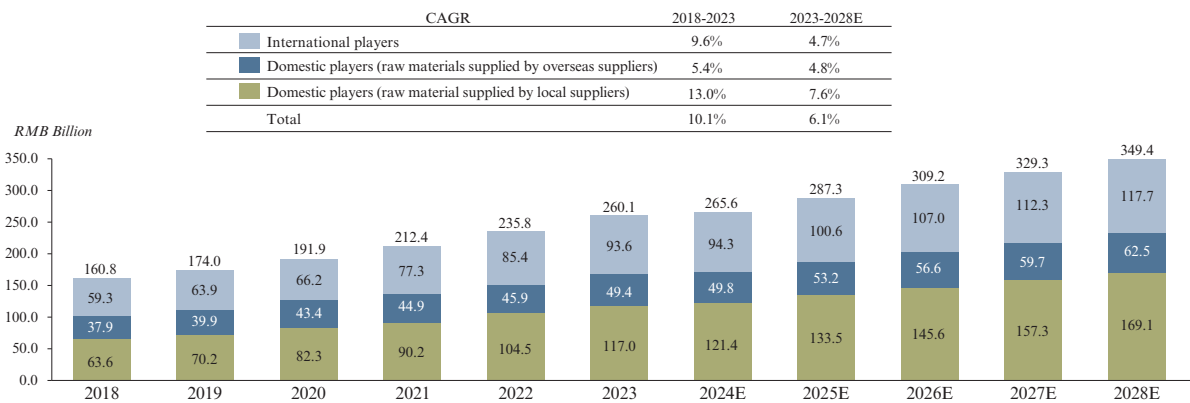
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Market size analysis of nutritional products breakdown by type of players

Between 2018 and 2023, the nutritional product industry in the PRC exhibited substantial growth from RMB160.8 billion in 2018 to RMB260.1 billion in 2023, with a CAGR of 10.1%. The market size of domestic players increased from RMB101.5 billion in 2018 to RMB166.4 billion in 2023, representing a CAGR of 10.4%. In particular, the domestic players sourcing raw materials locally saw a significant rise in market share. The market size of domestic players using locally supplied raw materials grew from RMB63.6 billion in 2018 to RMB117.0 billion in 2023, representing a CAGR of 13.0%. This shift is driven by several factors, including technological advancements, increased consumer trust in domestic products, and supportive government policies. Meanwhile, international players also experienced robust growth, with the market size increasing from RMB59.3 billion in 2018 to RMB93.6 billion in 2023, reflecting a remarkable CAGR of 9.6%. The market size of domestic players using raw materials supplied by overseas suppliers increased from RMB37.9 billion in 2018 to RMB49.4 billion in 2023, with a slower CAGR of 5.4%.

Looking ahead, the market for domestic players using locally supplied raw materials is projected to continue its upward trend, with the market size expected to reach RMB169.1 billion by 2028. The market size of international players are anticipated to grow to RMB117.7 billion by the same year, while that of domestic players using overseas-supplied raw materials are projected to grow to RMB62.5 billion. This ongoing growth highlights the increasing prominence of domestic brands and the evolving dynamics of the nutritional product industry in the PRC.

Market Size Breakdown of Nutritional Product Industry in the PRC by Type of Players, by Retail Sales Value, 2018–2028E



Source: China Chamber of Commerce for Import and Export of Medicines and Health Products, Frost & Sullivan

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Overview of Algal Oil

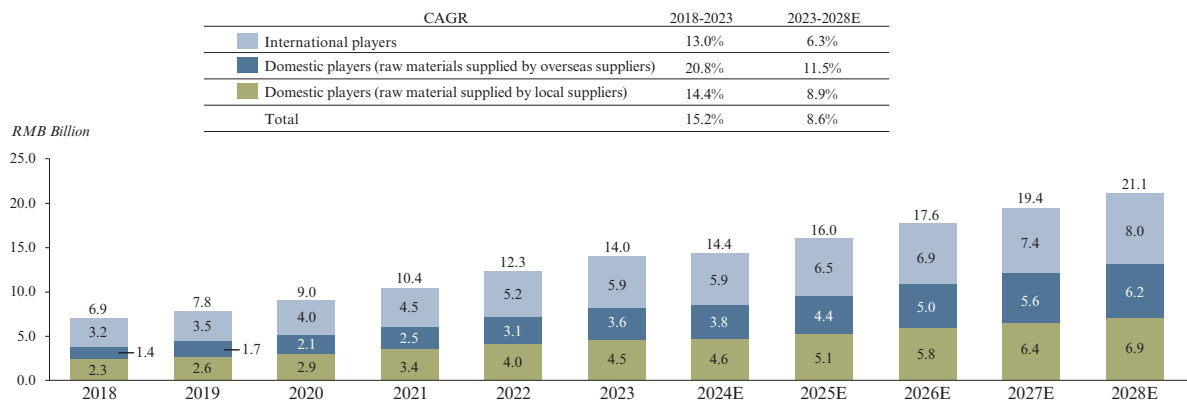
DHA market size analysis

International brands have traditionally relied on high-quality raw materials, continuous investment in research and development, and higher product quality to hold a significant market share in the early days. However, with technological breakthroughs by domestic algae oil DHA enterprises, the purity and quality of extracted DHA are continuously improving, and production costs are decreasing, boosting the growth of domestic players.

The market size of international players saw an incremental trend, climbing from RMB3.2 billion in 2018 to RMB5.9 billion in 2023, suggesting a CAGR of 13.0%. The retail sales value of domestic-branded algal oil DHA products made with raw materials imported from overseas accounted for 1.4% of the entire nutritional product industry in the PRC in 2023. In the next five years, the market is expected to expand to RMB8.0 billion by 2028. With the rise of domestic products and growing consumer recognition, the CAGR during this period is expected to moderate to 6.3%.

Conversely, the market size of domestic players increased from RMB3.7 billion in 2018 to RMB8.1 billion in 2023, and the robust growth is anticipated to continue, reaching RMB13.1 billion by 2028. Specifically, the market size of domestic players with raw materials supplied by overseas suppliers grew from RMB1.4 billion in 2018 to RMB3.6 billion in 2023, representing a robust CAGR of 20.8%, and it is expected to reach RMB6.2 billion by 2028. Meanwhile, the market size of domestic players with raw materials supplied by local suppliers increased from RMB2.3 billion in 2018 to RMB4.5 billion in 2023, with a CAGR of 14.4%, and it is anticipated to continue with a CAGR of 8.9% from 2023 to 2028, reaching RMB6.9 billion by 2028.

Market Size Breakdown of Algal Oil DHA industry in the PRC by Type of Players, by Retail Sales Value, 2018–2028E



Source: Frost & Sullivan

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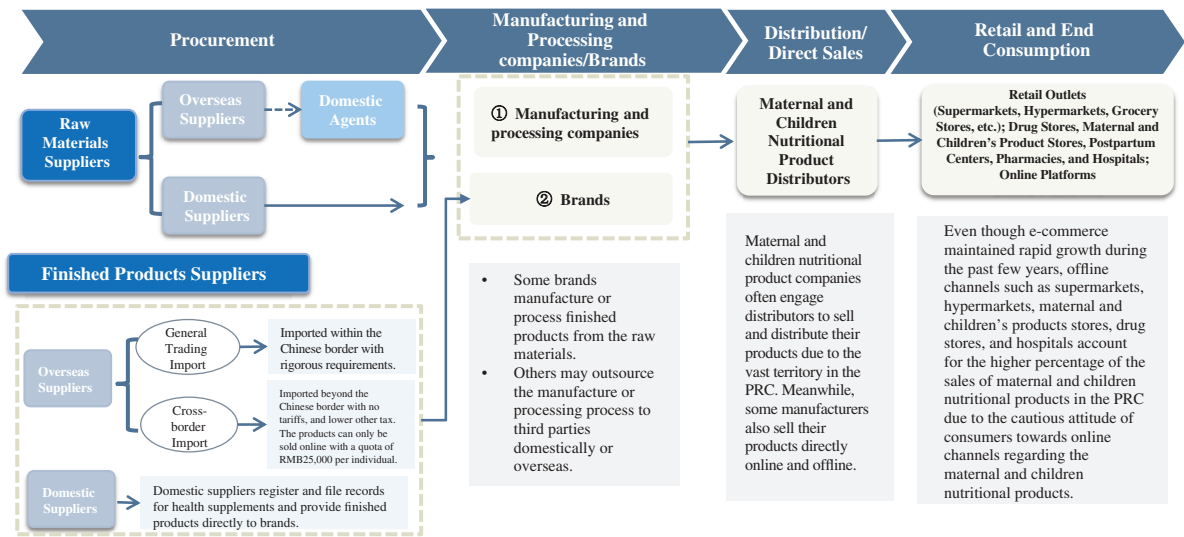
OVERVIEW OF MATERNAL AND CHILDREN NUTRITIONAL PRODUCT INDUSTRY IN THE PRC

Definition

Nutritional products refer to products taken orally that contain one or more ingredients such as DHA, vitamins, probiotics, or other supplements containing calcium, iron, etc., or any combination thereof that are intended to supplement the diet of the consumers. Maternal and children nutritional products are intended to supplement the nutrition apart from the daily diet for mothers in pregnancy preparation, child-bearing and of both mothers and children in early parenting stage (children aged 0–6).

Industry value chain analysis

Value Chain of Maternal and Children Nutritional Product Industry



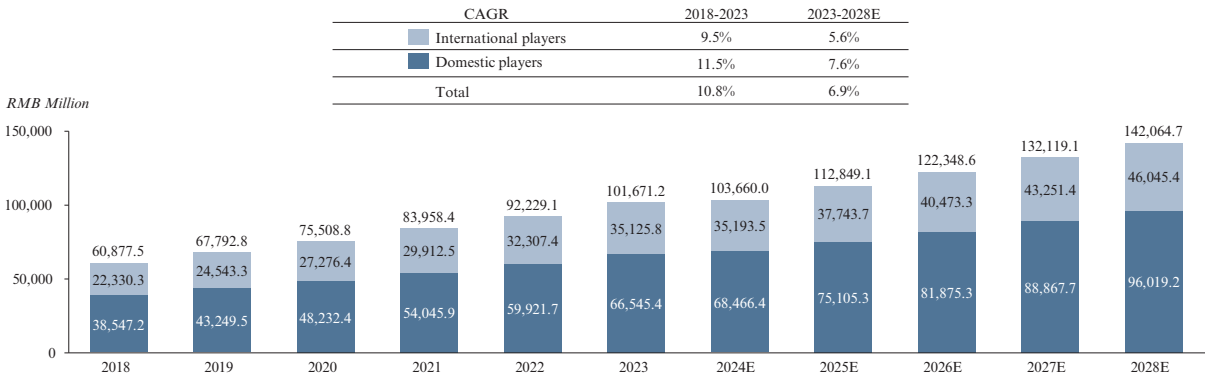
Source: Frost & Sullivan

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Market size analysis

Market size of maternal and children nutritional product industry

Market Size Breakdown of Maternal and Children Nutritional Product Industry in the PRC by Type of Players, by Retail Sales Value, 2018–2028E



Source: Frost & Sullivan

During the period from 2018 to 2023 the market size of maternal and children nutritional product industry steadily increased from approximately RMB60.9 billion in 2018 to RMB101.7 billion in 2023, representing a CAGR of approximately 10.8%, which was mainly contributed by the increasing health and nutritional awareness as well as purchasing power of customers and the Chinese culture of longing for children to thrive. As the market become mature, it is forecasted that the market size of maternal and children nutritional product industry will continue to increase and reach approximately RMB152.7 billion in terms of retail sales value by the end of 2028, representing a CAGR of approximately 8.5%. The market size generated from international players increased from RMB22,330.3 million in 2018 to RMB35,125.8 million in 2023, achieving a CAGR of 9.5%. This growth can be attributed to their strong brand equity, superior product quality, and effective marketing strategies. However, the growth rate for international players is projected to moderate to a CAGR of 5.6% from 2023 to 2028, with the market size expected to reach approximately RMB46,045.4 million by 2028.

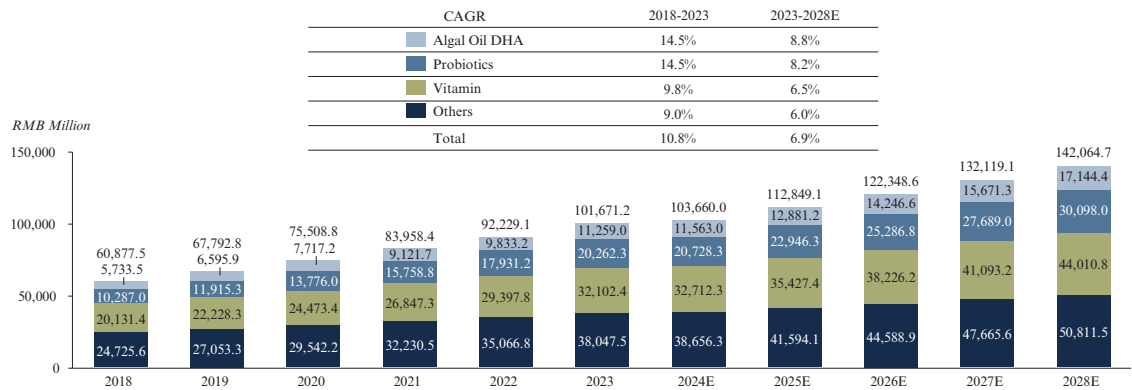
In contrast, domestic players demonstrated a more robust growth trajectory, with their market size rising from RMB38,547.2 million in 2018 to RMB66,545.4 million in 2023, corresponding to a CAGR of 11.5%. This significant growth is driven by domestic players’ in-depth understanding of local consumer preferences, competitive pricing strategies, and expanding distribution networks. Moving forward, domestic players are projected to maintain a strong growth rate with a CAGR of 7.6%, reaching RMB96,019.2 million by 2028. Although the decline in the birth rate may negatively affect the maternal and children nutritional product industry, the growing appreciation of the multi-faceted importance of maternal nutrition to the health and development of infants and toddlers is stimulating the demand for maternal and children nutritional products. Meanwhile, parents born in the 1990s and 1995s have taken over

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as the core consumer group, which generally emphasises scientific and delicate parenting. Thus, the spending on maternal and children nutritional products has increased and is expected to continue to increase substantially.

Market size breakdown of maternal and children nutritional product industry

Market Size Breakdown of Maternal and Children Nutritional Product Industry in the PRC by Product Category, by Retail Sales Value, 2018–2028E



Note: Others include minerals, protein powder, folic acid, and special formula nutritional products, etc.

Source: Frost & Sullivan

During the period from 2018 to 2023, the maternal and children algal oil DHA segment demonstrated the fastest growth among all maternal and children nutritional products in the PRC in terms of retail sales value, which increased from approximately RMB5,733.5 million in 2018 to approximately RMB11,259.0 million in 2023, representing a CAGR of 14.5%. Meanwhile, the market size of the probiotics segment increased from approximately RMB10,287.0 million in 2018 to RMB20,262.3 million in 2023, representing a CAGR of 14.5%. The rapid growth of algal oil DHA and probiotics as compared to other maternal and children nutritional products was mainly contributed by the rising health consciousness among consumers, higher spending power, the development of new biotechnologies, and years of consumer education. Vitamin has been the largest sub-segment of the maternal and children nutritional product market and is likely to continue to be the largest sub-segment due to increased awareness about the prevalence of vitamin deficiencies and their effect during pregnancy. Due to the economic downturn, consumers’ willingness to spend on non-essential goods decreased. As a result, the growth of the maternal and children’s nutritional product market in the PRC slowed in 2024, as households prioritized essential expenditures and became more cautious with their spending on non-essential health products. Particularly in the first half of 2024, as the strong release of consumer demand in 2023 further dampened spending willingness, leading to an additional reduction in non-essential purchases. Moreover, it is forecasted that algal oil DHA and probiotics will maintain high growth rates than other sub-segments and reach approximately RMB17,144.4 million and RMB30,098.0 million in retail sales value in 2028, respectively.

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OVERVIEW OF MATERNAL AND CHILDREN ALGAL OIL DHA INDUSTRY IN THE PRC

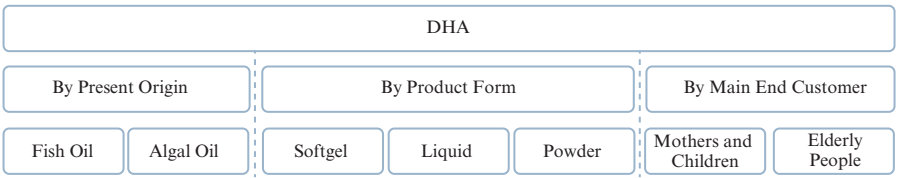
Definition

DHA refers to docosaheaxaenoic acid, which is an essential fatty acid, widely present in algae, certain fishes, marine animal oils, etc. Low content of DHA is related to the occurrence of cognitive decline for elderly people, supported by several observational studies. Regular DHA intake for elder people can considerably reduce the risk of developing Alzheimer’s and other age-related cognitive decline.

The end products of DHA can be presented in the form of liquid, softgel and powder to meet different demands from downstream customers, while the largest proportion is presented in softgel form.

DHA can be classified into fish oil DHA and algal oil DHA by present origins. Algal oil DHA is more suitable for pregnancy women and toddlers while fish oil DHA is for elderly people, with regards to the effects of each category. In addition, the recent release of nuclear contaminated wastewater by Japan has raised some concerns on fish-related products in the PRC.

Classification



Source: Frost & Sullivan

Market size analysis

Market segmentation of maternal and children algal oil DHA industry

According to the origins of the algal oil DHA products, the maternal and children algal oil DHA market can be divided into products launched by international players and domestic players, where products labelled with domestic brands could be further categorised into products with the introduction of locally produced and imported algal oil DHA raw material.

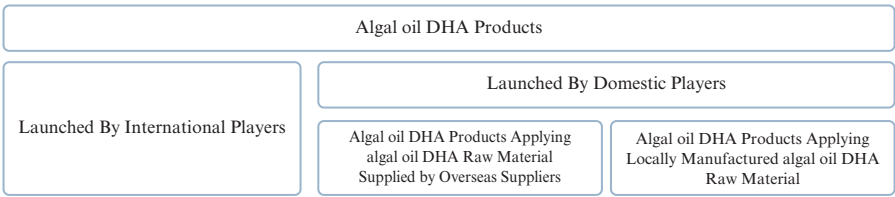
International Players

Maternal and children algal oil DHA products launched by international players are transacted via cross-border trade between countries mainly through business-to-business and business-to-consumer by business form, which are mostly traded via online channels in the PRC market. As food security of maternal and children related products has been a cause of concern, products launched by international players are progressively gaining popularity in the PRC market.

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Domestic Players

As for the finished maternal and children algal oil DHA products, including imported finished and domestically processed, released by domestic brands, the quality is variable among products, where the supplier of the algal oil DHA raw material is considered as the main indicator. Specifically, products made from algal oil DHA raw material supplied by overseas suppliers are regarded as having higher quality than those made from locally produced algal oil DHA raw material among counterparties.



Source: Frost & Sullivan

Market size analysis of maternal and children algal oil DHA industry

The maternal and children algal oil DHA market in the PRC has experienced continuous growth over the past five years from 2018 to 2023, with the retail sales value rising from approximately RMB5,733.5 million in 2018 to approximately RMB11,259.0 million in 2023, representing a CAGR of 14.5%. Thanks to the rapid development of multi-channels over the past few years, the sales channels to the end customers were remarkably broadened and diversified, covering these territories that offline stores alone were used to be incapable of deployment. In addition, consumption upgrading, which can be indicated by the fact that the per capita disposable income of residents nationwide and per capita consumption expenditure have both represented a robust CAGR of 6.8% and 6.2% from 2018 to 2023, and growing awareness of algal oil DHA were also attributing factors. The maternal and children’s algal oil DHA product market was driven by contributions from international players, domestic suppliers using overseas-sourced algal oil DHA raw materials, and those utilizing locally manufactured algal oil DHA raw materials, accounting for approximately 37.8%, 28.5%, and 33.7% of the market, respectively.

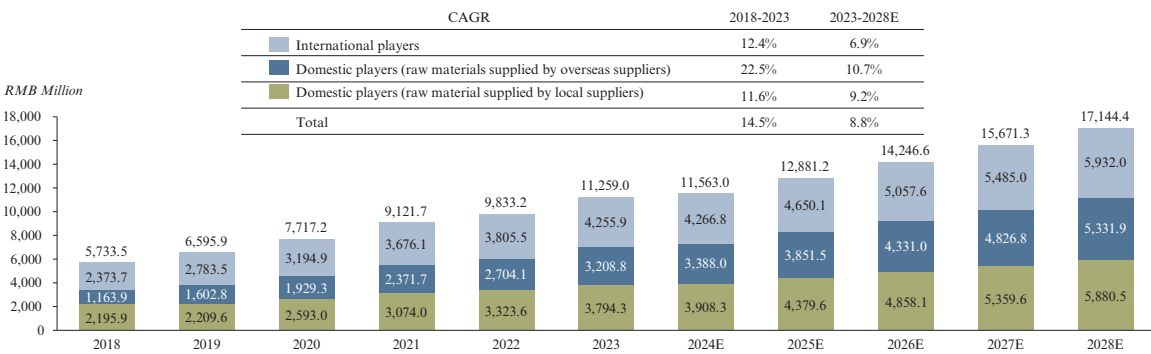
In the first half of 2024, domestic consumption weakened due to the economic downturn in China, leading to softened demand for algal oil DHA as a non-essential product. In 2024, the economic downturn resulted in weak consumer expenditure, with per capita consumer expenditure nationwide rising by 6.8% from the six months ended 30 June 2023, to the six months ended 30 June 2024. This reflects a slowdown in growth compared to the 8.4% increase observed from the six months ended 30 June 2022, to the six months ended 30 June 2023, contributing to weaker market performance in the first half of 2024 compared to the same period in 2023. This trend is further reflected in total retail sales of consumer goods in the PRC, which reached RMB23.6 trillion in the first half of 2024, marking a modest increase of just 3.7% compared to the previous year. In contrast, retail sales in the first half of 2023 had risen by 8.2% from the first half of 2022, highlighting the impact of the economic downturn on consumer confidence and expenditure. In addition, the discharge of contaminated water from Japan’s nuclear facilities has significantly raised safety concerns among consumers, prompting an

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increase in stockpiling behavior in 2023 as individuals sought to secure their supply of algal oil DHA products. As a result, this led to a substantial surge in demand for these products that year, ultimately having a negative impact on sales in 2024.

The per capita food & tobacco & liquor expenditure in the PRC has grown from RMB5,631 in 2018 to RMB7,983 in 2023 at a CAGR of 7.2%, indicating an increasing purchasing power of consumers. In response to the consumption upgrading, the average price of the maternal and children algal oil DHA product consumed in Chinese market is estimated to increase accordingly. From the demand end, the benefit of intake of algal oil DHA is progressively cultured in the Chinese market, which increases the penetration rate of the products, especially into lower-tier cities, indicating a growing demand in the future. Upheld by the sound and healthy economy in the PRC, the growth of the maternal and children algal oil DHA market is expected to continue with the upward momentum, with the market size reaching approximately RMB17,144.4 million in 2028 at a CAGR of 8.8% over the period from 2023 to 2028.

Market Size Breakdown of Maternal and Children Algal Oil DHA Product Industry in the PRC by Type of Players, by Retail Sales Value, 2018–2028E



Source: Frost & Sullivan

Market drivers of the maternal and children algal oil DHA industry in the PRC

Increasing purchasing power

According to NBSC, the disposable income per capita in the PRC increased from approximately RMB28.2 thousand in 2018 to approximately RMB39.2 thousand in 2023, representing a CAGR of 6.8%, indicating a higher purchasing power of PRC consumers. As a result, the sales of consumer goods in the PRC increased from approximately RMB37.8 trillion in 2018 to approximately RMB47.1 trillion in 2023. In the first half of 2024, the per capita disposable income of residents nationwide was RMB20,733, representing a growth of 5.4%, however, the total retail sales of consumer goods in the PRC, which amounted to RMB23.6 trillion in the first half of the year, reflecting a modest increase of only 3.7%. With increasing disposable income and purchasing power, consumers in the PRC tend to pay more attention to their health issues, and are more willing to purchase nutritional products in the hope of

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maintaining or improving their physical conditions. Benefiting from the climbing income and purchasing power of domestic consumers, the maternal and children algal oil DHA market in the PRC is likely to further flourish in the foreseeable future.

Rising awareness over algal oil DHA

With the development of new media, people are gaining awareness of algal oil DHA through the flush information from all aspects of life, such as word of mouth between friends, advertisements in diversified platforms, etc. Moreover, in response to the unprecedentedly fast improving life quality, the health topic is overwhelmingly drawing people’s attention especially in relation to pregnant women and children. The fast-improving life quality is reflected in some economic indicators of the PRC, such as the increased disposable income per capita and expenditure on consumer goods over the past five years as indicated above. On one hand, the growing awareness over health, environment protection, social responsibility, etc., facilitate the improvement of life quality. On the other hand, these brand owners are cultivating the public on the benefit of algal oil DHA intake, in the hope of enlarging their range of target customers.

Future Trends of the maternal and children algal oil DHA industry in the PRC

Expanding online channels

The online channels of maternal and children algal oil DHA have witnessed rapid growth over the past few years and the trend is expected to continue in the following few years. The increasing popularity of online channels of maternal and children algal oil DHA is greatly driven by the advantageous word of mouth that imported products have received more preferences than products made domestically. Besides, consumers are more inclined to purchase products directly based on referrals from friends or KOLs on social media platforms.

Major brands of nutritional products have been investing more and more on marketing and promotion in recent years for strengthening their brand recognition, in particular for online marketing and promotion on different social media platforms and attracting traffic to online sales channels. For example, one of the major brands of nutritional products incurred marketing and promotion expenses which account for approximately 28.9% of the revenue in 2023. There is a correlation between the level of marketing and promotion expenses devoted to online marketing channels and the amount of sales recognised on online channels, provided the right marketing strategies and channels are adopted.

More mature regulatory system

Due to the complicated registration process and divergent regulatory system from international standards, the development of the maternal and children algal oil DHA market has been significantly impeded, discouraging the launch of products from other countries. End customers have no choice but to purchase these products even without obtaining certificate or getting inspected, further hindering the overall product quality of maternal and children algal oil DHA. Looking forward, both the regulatory system and market itself are progressively becoming more mature and efficient, inviting more domestic and international players to engage in the market.

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Opportunities of the maternal and children algal oil DHA industry in the PRC

Great potential in lower-tier cities

Maternal and children algal oil DHA market is relatively mature and saturated in tier 1 cities, including Shanghai, Beijing, Guangzhou and Shenzhen, where the awareness of preventative healthcare has been cultivated, calling for product upgrading. By comparison, the formation of DHA market in lower tier cities is in progress under the widespread marketing on new product innovation, enhanced effectiveness and product safety from the manufacturers. Lower tier cities can be exploited with attractive potential for the early movers.

Omni-channel retail

In order to reach a broad set of customers, maternal and children nutritional product companies are trying to diversify the sales channels. Given that the internet provides customers with better price transparency, more convenient shopping experiences and detailed product information than offline shopping, it is expected that distribution channels of maternal and children algal oil DHA will undergo revolutionary transformation to omni-channel retailing with an increasing proportion of sales revenue realised in online channels. Specifically, companies culture the public on maternal and children algal oil DHA and increase product stickiness by offline channels from hospitals, pharmacies and maternal and baby stores, while online channels focus on closing deals.

Production diversification

Organic concept has swept the whole food related industries, which is regarded as an assurance of food quality, especially in the tier 1 cities, where people place emphasis on food quality and prefer natural biodiverse over genetically engineered sources. Replacement with the organic raw material can be an opportunity for the manufacturers. Apart from the category sophistication in raw material, that in packaging, product appearance, product flavour and element containment of product also provide the chance for players to capture as a possible source of incremental growth especially in the market for children and pregnant women.

Threats of the maternal and children algal oil DHA industry in the PRC

Varied product quality

Over the past few years, the regulatory institution has continuously detected certain algal oil DHA that might contain unauthorised elements in the products for pregnant women and children. In response to such findings, the customers might be reluctant or more cautious towards taking algal oil DHA, which jeopardises the development of the maternal and children algal oil DHA market. This issue needs to be addressed by the coordination between leading players and government to set up a stringent standard for maternal and children algal oil DHA market. On the other hand, these algal oil DHA products bought from the unofficial channels should be regulated and under surveillance in order to guarantee the overall product quality in the PRC.

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Ranking in the algal oil DHA industry in the PRC

The total retail sales value of algal oil DHA products was approximately RMB14,045.4 million in 2023, which was contributed by international brands and domestic brands. The competition in the algal oil DHA market is intensifying, leading to a relatively fragmented market share. Competitors differentiate their products by emphasizing the source of algae oil DHA, dosage levels, taste profiles, innovative shapes (such as small fish shapes for easy dispensing), and forms of intake (such as gummy candies or strip supplements).

For FY2023, the aggregate value generated from the sales of algal oil DHA products from the top five brands was approximately RMB2,579.9 million, contributing 18.4% to the entire market. The Group ranked first in terms of retail sales value of RMB658.8 million generated and took up a share of approximately 4.7% in the algal oil DHA market in the PRC in 2023.

Top 5 Algal Oil DHA Brands in the PRC in 2023

Ranking	Brand Name	Listing Status	Retail sales value of algal oil DHA products in 2023 (RMB million)	Market share in 2023
1	The Group	Private	658.8	4.7%
2	Brand A ¹	Private	585.7	4.2%
3	Brand B ²	SZ.300146	576.2	4.1%
4	Brand C ³	Private	397.2	2.8%
5	Brand D ⁴	Private	362.0	2.6%
Top 5			2,579.9	18.4%
Total			14,045.4	100%

Notes:

- (1) It is an Australian brand headquartered in Sydney with nutritional products for children and adults as main products.
- (2) It is a leading supplier of dietary nutritional products and sports foods in China.
- (3) It is a leading German brand focusing on nutritional products for infants, children, and adolescents.
- (4) It is a nutritional product brand in China targeting pregnant women and infant.

Source: Frost & Sullivan

For FY2023, the aggregate value generated from the sales of algal oil DHA products from the top five domestic brands was approximately RMB1,999.6 million, contributing 24.5% to the relevant market. The Group ranked first in terms of retail sales value of RMB658.8 million generated and took up a share of approximately 8.1% in the algal oil DHA market in the PRC in 2023.

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Top 5 Algal Oil DHA Domestic Brands in the PRC in 2023

Ranking	Brand Name	Listing Status	Retail sales value of algal oil DHA products in 2023 (RMB million)	Market share in 2023
1	The Group	Private	658.8	8.1%
2	Brand B	SZ.300146	576.2	7.1%
3	Brand D	Private	362.0	4.4%
4	Brand E ¹	Private	246.1	3.0%
5	Brand F ²	Private	156.5	1.9%
Top 5			1,999.6	24.5%
Total			8,146.3	100%

Notes:

- (1) It is a pharmaceuticals company in the PRC primarily providing medicine and nutritional products.
- (2) It is a company that serves pregnant women, infants, and children in China, with main products imported in original packaging.

Source: Frost & Sullivan

Ranking in the maternal and children algal oil DHA industry in the PRC

The total retail sales value of maternal and children algal oil DHA products was approximately RMB11,259.0 million in 2023, which was contributed by international players and domestic players made from algal oil DHA raw material supplied by overseas suppliers and those supplied by domestic players applying locally manufactured algal oil DHA raw material at approximately 37.8%, 28.5% and 33.7%, respectively. Considering that the food security of maternal and children-related products is given special attention, people are more inclined to purchase products launched by international players and domestic players with the application of algal oil DHA raw material supplied by overseas suppliers, the aggregate share of which accounted for 66.3% in terms of retail sales value in 2023.

In 2023, the market size of the maternal and children algal oil DHA products made from algal oil DHA raw material supplied by overseas suppliers among domestic brands in the PRC in terms of retail sales value was approximately RMB3,208.8 million. This specific market was considered concentrated for FY2023 in terms of retail sales value. The market was shared by approximately 35 players with maternal and children algal oil DHA made from raw materials supplied by overseas suppliers. Leading players who have formed stable contracts with world-famous algal oil DHA suppliers display a strong market presence in the PRC and benefit from the established reputation and recognition of their products. There are currently about 100 participants in the maternal and children algal oil DHA industry. These players face risks related to high production costs, which can squeeze profit margins, especially as raw materials and technology costs rise. Additionally, the market is sensitive to consumer awareness and education, meaning shifts in public perception about the health benefits of DHA could impact demand. For FY2023, the aggregate value generated from the sales of maternal and children

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algal oil DHA products with algal oil DHA raw material supplied by overseas suppliers from the top five domestic brand names was approximately RMB1,997.4 million, contributing 62.3% to the entire relevant market.

Top 5 Maternal and Children Algal Oil DHA Domestic Brands with the Application of Algal Oil DHA Raw Material Supplied by Overseas Suppliers in the PRC in 2023

Ranking	Brand Name	Listing Status	Retail sales value of maternal and children algal oil DHA products in 2023 (RMB million)	Market share in 2023	Average Product Price and Price Range (RMB per capsule)
1	The Group	Private	658.8	20.5%	Average price: 5.4 Price Range: 2.0-9.5
2	Brand B	SZ.300146	574.0	17.9%	Average price: 5.9 Price Range: 2.6-10.1
3	Brand D	Private	362.0	11.3%	Average price: 5.9 Price Range: 4.3-12.5
4	Brand E	Private	246.1	7.7%	Average price: 3.3 Price Range: 1.7-5.0
5	Brand F	Private	156.5	4.9%	Average price: 5.2 Price Range: 3.3-7.8
Top 5			1,997.4	62.3%	
Total			3,208.8	100%	

Note:

Brand B: It is one of the top nutritional brands in China, known for high-quality DHA products for mothers and children.

Brand D: It is a brand that focuses on innovative health products, including algal oil DHA for child development.

Brand E: It is a brand known for premium algal oil DHA supplements for maternal and infant nutrition.

Brand F: It is a brand that offers family health products, emphasizing high-quality algal oil DHA for optimal growth.

Source: Frost & Sullivan

Our Group ranked first in terms of retail sales value of RMB658.8 million generated and took up a share of approximately 20.5% for FY2023.

Historical price trends of algal oil DHA raw material

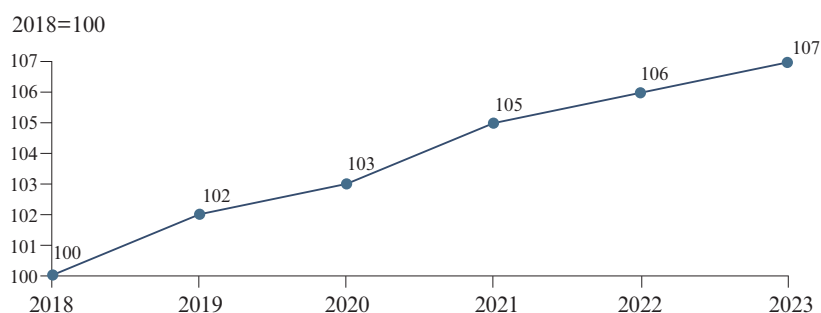
The main purpose of the procurement is to source algal oil DHA raw material or the finished products incorporated into diversified forms internationally or domestically, the prices of which co-move in the PRC market. As for algal oil DHA industry, the price of the algal oil DHA raw material in the PRC is determined by the balance between the demand and supply, and exchange rate, which witnessed a CAGR of approximately 1.4% from 2018 to 2023. Mainly driven by the growing awareness and consumption upgrading in the PRC, the price of algal oil DHA raw material is expected to continue with the upward trend in the following years.

The contracts of algal oil DHA raw material between suppliers and downstream brand-owners are mostly locked on a long-term basis in algal oil DHA industry. In other words, from the demand side, the prices of algal oil DHA raw material among brand owners are distinctive, which is driven mainly by two reasons. Firstly, there is no standardised contract with

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regards to the duration and the initiation time in the industry, leading to the diversified periodicity of risk exposure in relation to the price fluctuation in raw material. Secondly, the bargaining power among downstream brand owners is not identical, where brand owners with large volume on purchasing orders are able to negotiate with the suppliers at a concession price and even enact supplementary clauses on co-undertaking potential risks embedded in the procurement.

Price Index of Algal Oil DHA Raw Material in the PRC, 2018–2023



Source: Frost & Sullivan

OVERVIEW OF MATERNAL AND CHILDREN PROBIOTICS INDUSTRY

Definition and classification

Probiotics are live microorganisms that confer a health benefit on the host when administered in adequate amounts. These microorganisms are typically bacteria but can also include certain yeasts. Probiotics are often called “good” or “friendly” bacteria because they help maintain a healthy balance of microorganisms in the gut microbiome. They can be found in certain foods such as yoghurt, kefir, and sauerkraut or taken as supplements. The potential health benefits of probiotics include improved digestion, enhanced immune function, and the prevention and treatment of certain gastrointestinal disorders. Due to its diversified functions, it has been one of the most popular functional food additives.

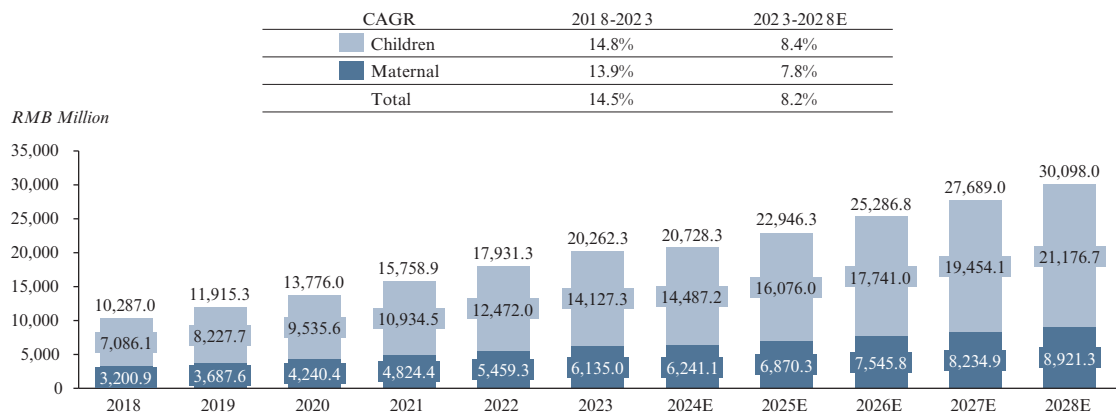
The end products of probiotics can be presented as liquid and powder to meet different demands from end customers. Dairy products account for approximately 80% of probiotic food products in daily life, especially fermented milk and lactobacillus beverage products. The most commonly consumed probiotics are strains of two main species: *Bifidobacterium* and *Lactobacillus*. Each probiotic strain has a different effect on the body.

With increasing healthcare awareness and the intensified promoting activities on the healthcare function of probiotic products, Chinese consumers (infants, children and adults) have become interested in probiotics products, especially in the middle-sized and large-sized cities. Probiotic supplements are specifically suitable for infants and children of a young age when their immune systems are undergoing development.

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Market size analysis of maternal and children probiotics industry

Market Size Breakdown of Maternal and Children Probiotics Industry in the PRC by Audience, by Retail Sales Value, 2018–2028E



Source: Frost & Sullivan

From 2018 to 2023, the market size of the maternal and children probiotics industry in the PRC increased at a double-digit CAGR of 14.5%, mainly driven by the development of the children probiotics sub-segment. The market size of children’s probiotics in terms of retail sales value increased from approximately RMB7,086.1 million in 2018 to approximately RMB14,127.3 million in 2023, representing a CAGR of 14.8%. The rapid increase was underpinned by the strong demand and rising awareness of maintaining digestive health and boosting children’s immune systems in higher-income families. In the first half of 2024, the economic downturn led to overall weak consumption, prompting consumers to reduce spending on non-essential goods, which negatively impacted the maternal and children probiotics market. It is forecasted that the growth trend may continue in the next five years due to the accelerating penetration of online channels, making good quality probiotics products more accessible to consumers in lower-tier cities. The retail sales value of children’s probiotics products in the PRC is projected to achieve approximately RMB21,176.7 million in 2028 with a CAGR of 8.4% from 2023 to 2028.

Major drivers of maternal and children probiotics industry in the PRC

Favourable policy environment

In 2017, China released the “National Nutrition Plan (2017–2030)”, which first proposed to “integrate nutrition into all health policies”. Subsequently, President Xi Jinping officially proposed the “Healthy China 2030” strategy in the report of the 19th National Congress. Since then, various policies related to reasonable nutrition have been intensively implemented and interconnected, creating a favourable environment and opportunities for probiotic products. Heavy investment directed towards research and development of probiotics products has led to the development of more effective species, which drives the development of the probiotic nutritional product market.

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Growing concern for the gut health

The growing consumer awareness about gut health is expected to fuel the growth of the probiotics market. Guts are 70% responsible for keeping the immune system strong, keeping the body fit, and reducing obesity. Probiotics help treat diseases such as intestinal inflammation, urogenital infections, and antibiotic-associated diarrhoea by fighting against bad bacteria in the guts. Just as adults and older children can have an unbalanced digestive flora, it can also happen to more vulnerable infants. Therefore, it is significant for infants to take probiotics products to help prevent many infant conditions including gastroenteritis and diarrhoea.

Future trends of maternal and children probiotics industry in the PRC

Product innovation

Innovations in flavours and functional ingredients boost the maternal and children probiotics market. The manufacturers of these foods and ingredients are laying special emphasis on balancing functional benefits and flavour. Technological advances have enabled the development of products that mask the unpleasant taste of some functional ingredients and increase the shelf life of functional ingredients. For instance, effective microencapsulation allows manufacturers to hide the bitter taste of amino acids and other ingredients. Moreover, innovations are also happening in packaging, designing, and labelling. Production processes have become faster, enabling faster delivery of products to retailers and accelerating the development of the maternal and children probiotics industry.

Wider application range of probiotics

Probiotics are mostly consumed as functional foods and drinks. However, their use is gradually expanding in skin care and personal care. Many clinical studies conducted and published by the American Academy of Dermatology and British Journal of Dermatology concluded probiotics’ advantages for achieving better skin. Clinical studies have proved that probiotics form a protective layer that prevents skin from inflammation, UV-rays, and dehydration. The players in the market are starting to recognise the potential of probiotics in personal care and introducing relevant products.

Opportunities and threats of maternal and children probiotics industry in the PRC

Opportunities

Growing Health Awareness

In the PRC, there is a notable rise in health consciousness among consumers, particularly concerning maternal and child health driven by increased access to information through the internet, social media, and educational campaigns that emphasize the importance of gut health and immunity. Consumers are becoming more knowledgeable about the benefits of probiotics, understanding how they can enhance digestion, prevent common ailments, and support overall health. As a result, the growing emphasis on maintaining health through nutrition and supplements is significantly driving the demand for probiotic products tailored for mothers and children.

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Expansion of E-commerce

The rapid expansion of e-commerce in China provides a robust platform for the probiotics industry to reach a wider audience. Online retail channels allow companies to market products directly to consumers, leveraging digital marketing strategies and data analytics to optimize their offerings. E-commerce platforms also facilitate easier access to rural and remote areas, where traditional retail penetration may be limited, thereby expanding market reach and driving sales growth. Additionally, the integration of live streaming into e-commerce enables brands to create more dynamic and informative shopping experiences, educating consumers about the benefits of probiotics and enhancing engagement and trust.

Threats

Regulatory Hurdles

Despite government support, the probiotics industry faces stringent regulatory requirements and a complex approval process in China. Companies must navigate the regulatory landscape, which includes obtaining necessary certifications and complying with safety and efficacy standards. The National Health Commission of China (國家衛生健康委) updated the “List of Strains Available for Food” and “List of Strains Available for Infant Food” to standardize the production licensing for strains and their preparations used in food processing and mandates that companies must accurately label these strains and preparations. This regulatory framework is designed to enhance product quality and safety, but it also requires companies to continually innovate and maintain high transparency and accountability standards in product ingredients and marketing.

Fierce Competition

The probiotics market in China is highly competitive, with numerous domestic and international brands vying for market share. The issue of product homogeneity exacerbates the competition, making it difficult for brands to stand out. Building and maintaining consumer trust is crucial. Companies have to invest heavily in research and development to ensure the quality and effectiveness of their products. Additionally, they need to implement robust marketing strategies to differentiate their products and establish a strong brand presence in the market.

Competitive landscape overview

The maternal and children probiotics industry in the PRC is becoming increasingly competitive, with a growing number of companies entering the market. The market is relatively fragmented because of the presence of numerous players of varying sizes. There are six major renowned brands of maternal and child probiotics suppliers, including Numans. In addition to these established players, many smaller companies are entering the market, particularly in the e-commerce space. These companies leverage online platforms to reach a wider audience and offer diverse probiotic products. The players compete based on price, quality, innovation, reputation, and distribution.

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The competition among the companies may force them to reduce their product prices, negatively affecting their margins and market growth. The market has witnessed frequent mergers, acquisitions, and strategic alliances in recent years. Some industry participants extensively invest in research and development to enhance their product portfolio and gain market share. At the same time, other players use online sales, multi-level marketing, and distribution networks to increase their competitive advantage. Overall, the competition in the maternal and children probiotics industry in the PRC is expected to continue to intensify and fragment as more companies enter the market and seek to differentiate themselves through product innovation, marketing strategies, and partnerships with healthcare providers.

Ranking in the maternal and children probiotics industry in the PRC

The total retail sales value of maternal and children probiotics products was approximately RMB20,262.3 million in 2023. The industry is relatively deconcentrated with the aggregate share of the top 5 brands accounting for 17.6% in terms of retail sales value in 2023. The market is competitive with approximately 120 players which have a limited number of sizable market players. The maternal and children probiotics industry in PRC faces risks from strict regulatory approvals for product claims, which can defer market entry. Additionally, changing consumer preferences for natural or organic ingredients, as well as increasing competition from both domestic and international brands, pose significant challenges to maintaining market share by existing market players. The Group had a market share of approximately 0.2% in the maternal and children probiotics industry in the PRC in 2023.

Top 5 Maternal and Children Probiotics Brands in the PRC in 2023

Ranking	Brand Name	Listing Status	Retail sales value of maternal and children probiotics products in 2023 (RMB million)	Market share in 2023
1	Brand G ¹	HK.01112	1,273.9	6.3%
2	Brand H ²	Private	1,092.2	5.4%
3	Brand I ³	Private	505.7	2.5%
4	Brand J ⁴	Private	424.8	2.1%
5	Brand K ⁵	Private	262.9	1.3%
Top 5			3,559.5	17.6%
Total			20,262.3	100%

Notes:

- (1) It is a leading nutritional product brand, particularly in the maternal and children’s products sector, including probiotics and milk powder.
- (2) It is an international probiotics brand, particularly focusing on maternal and children’s probiotics products.
- (3) It is an international probiotics brand, with a strong emphasis on children’s probiotic products.
- (4) It is an international dietary supplement brand, with probiotics as its main products.
- (5) It is an international brand, specializing in providing maternal and children’s food and dietary supplements.

Source: Frost & Sullivan