

World Enzymes

Industry Study with Forecasts for 2020 & 2025

Study #3417 | June 2016 | \$6300



Globally, enzymes used in the manufacture of food and beverages will remain the largest market by value, with advances driven by increasing consumption of products containing enzymes in developing regions. Almost all industrial markets will experience healthy growth, with the exception of biofuels. Specialty markets will experience stronger growth, driven by changes in healthcare and the pharmaceutical industry. While the demand for enzymes used in research and biotechnology and diagnostics are forecast to register strong gains, the fastest growth will be seen for biocatalysts, particularly those utilized in the production of pharmaceuticals.

Producers face intense competition

Developed countries have mature industrial markets with high levels of competition among enzyme manufacturers. In order to maintain and expand market share, manufacturers must continually improve their enzymes to offer efficient performance at lower temperatures or under more extreme pH conditions, lower costs through reduced energy and water usage, or higher quality end products and larger amounts of marketable co-products. This continued introduction of new enzyme formulations will fuel moderate growth in mature markets like food and beverages, cleaning products, and textiles and leather. Heightened interest in more niche applications, such as enzymatic production of protein hydrolysates for flavoring or protein supplementation, will also support growth in developed countries.

Rising healthcare costs to drive enzyme growth

Specialty enzyme markets are expanding at a strong pace globally. Rising healthcare costs have led to the adoption of "personalized" medicine -- healthcare tailored to the individual based on their clinical profile, genetic background, and personal preferences -- by many providers. This approach to medicine requires the increased use of diagnostic testing as well as genomic sequencing, helping to drive strong demand for diagnostic enzymes. In developing countries, the number of diagnostic tests performed will increase as the number of insured individuals rises, further supporting growth in demand for the enzymes used in diagnostic testing. The competitive nature of the pharmaceutical industry will also lead to strong growth in specialty enzyme demand. Pharmaceutical companies will invest more in the development of biological pharmaceuticals, which will fuel demand for enzymes used in research and biotechnology. In addition, pharmaceutical companies will increasingly utilize biocatalysts to reduce the cost of pharmaceutical manufacturing and make non-generic drugs more cost-competitive.

Study coverage

This study analyzes the world enzyme market. It presents historical data (2005, 2010 and 2015) plus forecasts (2020 and 2025) for supply and demand, as well as demand by type and market, in 6 regions and 15 countries. This study also considers key market environment factors, evaluates company market share and profiles 20 global competitors.

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2010 & 2015 plus forecasts for 2020 & 2025

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ASIA/PACIFIC

Japan: Enzyme Demand

Japan is the third largest national enzyme market in the world behind the United States and China. However, it has also been one of the slowest growing markets, mostly due to a prolonged slump in Japanese manufacturing output, which has held growth rates below the global average. Through 2020, enzyme demand in Japan is forecast to amount to 1.5 billion dollars, with gains in specialty enzymes and growth in industrial enzymes. General enzyme demand is expected to experience only modest growth, although it is expected to see healthy gains. Research and development is expected to experience fairly strong growth as well. The market for food and beverage enzymes is the largest in Japan and has expanded at a rate on par with the total industrial market, despite the overall economic weakness of the past decade. Food processors have looked to enzymes to boost productivity in a range of products. In addition, as is the case in many countries in the Asia/Pacific region, Japan has seen a gradual increase in the consumption of Western-style diets, which has led to an above average portion of total enzyme demand. Japan supports large biotechnology applications, and scientific (i.e., research and biotechnology) applications are the one of the largest market for enzymes. However, enzyme demand growth in the research and biotechnology market will moderate somewhat through 2020, as Japan's pharmaceutical companies expand their activities into neighboring countries. Because of the country's high per capita incomes and rapidly aging population, spending on diagnostics is relatively high as well, with above average growth rates expected to persist. Biocatalyst enzyme demand is moderate, with gains supported by increased efforts to reduce waste and improve efficiency in fine chemical synthesis.

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JAPAN: ENZYME DEMAND BY TYPE & MARKET
(million dollars)

Item	2005	2010	2015	2020	2025
Enzyme Demand					
By Type:					
Carbohydrases					
Proteases					
Polymerases					
Nucleases					
Lipases					
Other Enzymes					
By Market:					
Industrial					
Food & Beverage					
Cleaning Product					
Other Industrial					
Specialty					
Research & Biotechnology					
Diagnostics					
Other Specialty					
% Japan					
Asia/Pacific Enzyme Demand					

Source: The Freedonia Group

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WORLD AMYLASE DEMAND BY MARKET
(million dollars)

Item	2005	2010	2015	2020	2025
World Food & Beverage MVA (bil 2014\$)					
\$ amylases/mil \$ food & beverage MVA					
World Amylase Demand					
Industrial					
Food & Beverage					
Cleaning Product					
Biofuel Production					
Other Industrial					
Specialty					
% amylases					
World Carbohydrase Demand					

Source: The Freedonia Group

This study can help you:

- Determine your market & sales potential
- Learn more about industry competitors
- Assess new products & technologies
- Identify firms to merge with or acquire
- Complement your research & planning
- Gather data for presentations
- Confirm your own internal data
- Make better business decisions

Related Studies

World Flavors & Fragrances

Global demand for flavors and fragrances is forecast to grow 3.9 percent annually, reaching \$26.3 billion in 2020. Flavor blends will remain the largest segment, while essential oils and natural extracts will grow the fastest. The Asia/Pacific and Africa/Mideast regions will be the fastest growing markets. This study analyzes the \$21.7 billion market for world flavors and fragrances, with forecasts for 2020 and 2025 by product and market for six world regions and 20 major countries. The study also evaluates company market share and profiles industry participants.

#3397..... March 2016..... \$6300

Amines

US demand for amines will expand 2.1 percent per year to 3.2 billion pounds in 2019, valued at \$3.8 billion. Agricultural chemicals will remain the fastest growing market, driven by increased use of herbicide-resistant crops that require greater amounts of amine-based pesticides. Polyetheramines and alkylamines will be the fastest growing products. This study analyzes the 2.9 billion pound US amines industry, with forecasts for 2019 and 2024 by product and market. The study also evaluates company market share, and profiles industry players.

#3330..... October 2015..... \$5200

Pharmaceutical Chemicals

US demand for pharmaceutical chemicals will rise 6.5 percent annually to \$46.9 billion in 2019. Hormones will be the fastest growing products, led by active ingredients of anticancer, antidiabetic, and hormone replacement formulations. Central nervous system chemicals will remain the largest segment, and will be the second fastest growing. This study analyzes the \$34.2 billion US pharmaceutical chemical industry, with forecasts for 2019 and 2024 by product and raw material. The study also evaluates company market share and profiles industry participants.

#3280..... June 2015..... \$5200

Enzymes

Enzyme demand in the United States is forecast to increase 3.0 percent annually to \$2.2 billion in 2019. Changes in the medical and pharmaceutical industries will result in strong gains in enzymes used in the research and biotechnology, *in vitro* diagnostics, and biocatalyst markets. Polymerases and nucleases will see the fastest gains among the main enzyme types. This study analyzes the \$1.9 billion US enzyme industry, with forecasts for 2019 and 2024 by market and product. The study also evaluates company market share and profiles industry players.

#3285..... May 2015..... \$5300

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Freedonia's methods

- Establishing consistent economic & market forecasts
- Using input/output ratios, flow charts & other economic methods to quantify data
- Employing in-house analysts who meet stringent quality standards
- Interviewing key industry participants, experts & end users
- Researching a proprietary database that includes trade publications, government reports & corporate literature

About The Freedonia Group

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