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Enzymes

US Industry Study with Forecasts for **2019 & 2024**

Study #3285 | May 2015 | \$5300 | 309 pages

www.freedoniagroup.com



The Freedonia Group

767 Beta Drive
Cleveland, OH • 44143-2326 • USA
Toll Free US Tel: 800.927.5900 or
+1 440.684.9600
Fax: +1 440.646.0484
Email: info@freedoniagroup.com

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Growth will be driven by healthcare cost constraints on the medical and pharmaceutical industries that will benefit enzymes used in the research and biotechnology, in vitro diagnostics, and biocatalyst markets.

US demand to rise 3% annually through 2019

Enzyme demand in the United States is forecast to increase 3.0 percent per year to \$2.2 billion in 2019. Healthcare reform and efforts to combat rising healthcare costs will lead to changes in the medical and pharmaceutical industries that in turn will result in strong gains in enzymes used in the research and biotechnology, *in vitro* diagnostics, and biocatalyst markets. In more mature industrial markets, efforts to reduce energy and water use will continue to benefit enzyme demand. However, declines in US gasoline consumption due to rising vehicle fleet fuel efficiency, along with wavering public support for grain-based biofuels and the slow commercialization of next generation cellulosic biofuel technologies, will restrain growth in the important biofuels market.

Biotech enzymes to benefit from healthcare squeeze

Rising healthcare costs will drive pharmaceutical companies to improve production processes by using biocatalysts and to develop new biopharmaceuticals, spurring growth in research and biotechnology enzyme demand. In addition, many healthcare providers have begun to pursue a “personalized medicine” approach in which medical care is tailored to the individual. Increased diagnostic testing and genome sequencing in support of the personalized medicine approach, along with greater testing due to more insured

US Enzyme Demand, 2019 (\$2.2 billion)



people undergoing routine medical care and the generally increased medical care required by an aging population, will further drive enzyme demand.

Sustainability concerns to boost mature markets

Companies in many industries have become increasingly focused on sustainability, including lowering their energy and water use. This focus will continue to support enzyme demand in otherwise mature industries such as food and beverage processing and pulp and paper production. In addition, the continued growth of the biobased chemicals industry, which utilizes enzymes in a number of applications, will be strength-

ened as manufacturers look to replace petroleum-based chemicals with bio-based alternatives in their processes.

Sustainability and personal environmental impact are becoming increasingly important to consumers. The growing popularity of high efficiency washing machines and the increasing use of cold water washes will require laundry detergents formulated with more expensive enzymes, supporting growth in cleaning product enzyme demand. Additionally, consumers are more frequently looking for foods with “clean labels,” that is, those that do not have chemical additives, benefiting enzymes that can replace these chemicals in food processing.

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Sample Text, Table & Chart

MARKETS

Food & Beverage Processing

Demand for enzymes used in food and beverage processing is expected to increase to 1.9 billion in 2019. The US market for enzymes has matured, and in large, industrial applications, such as sweeteners, dairy products and beverage processing, enzymes have a commodity status and are subject to intense competition. The modest growth in beverage production has the potential of related growth. Going forward, growth will be strongest for enzymes in new and beverage applications that can improve production efficiency for manufacturers (including energy use), better their environment and lead to products with higher nutritional or other health benefits.

SAMPLE
TEXT

The food and beverage industry is a significant consumer of enzymes, accounting for approximately 21 percent of the overall US market in 2014. However, the percentage of enzyme sales devoted to food and beverage applications has declined over the past decade and will continue to do so through the forecast period. This decline is largely the result of the increasing importance of other markets dominated by higher value enzyme formulations, such as research and biotechnology and in vitro diagnostics. Nonetheless, food and beverage uses of enzymes represent a stable market that will continue to account for an important share of overall sales going forward.

Enzymes provide a natural way for food and beverage processors to improve production efficiency, as well as food quality and cost. In the food and beverage processing industry, enzymes function in several different capacities. They are principally used as preservatives for transforming raw ingredients into a consumable state. As preservatives, enzymes may be directly involved in food transformation, such as the use of chymosin for cheese production, or indirectly involved

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TABLE IV-4

FOOD & BEVERAGE ENZYME DEMAND
 BY APPLICATION & PRODUCT
 (million dollars)

Item	2004	2009	2014	2019	2024
Food & Beverage Shipments (bil \$)	5,000	5,000	5,000	5,000	5,000
\$ enzyme/000\$ food & beverage					
Food & Beverage Enzyme Demand					
By Application:					
Sweeteners					
Dairy Products					
Bakery Products					
Beverages					
Other					
By Product:					
Carbohydrase					
Protease					
Lipase					
Other					
% food & beverage					
Total Enzyme Demand					

SAMPLE
TABLE

Source: The Freedonia Group, Inc.

CHART VI-1

US ENZYME MARKET SHARE, 2014
 (\$1.9 billion)



SAMPLE
CHART

Sample Profile & Table, & Study Coverage

TABLE V-3
ALPHA AMYLASE DEMAND
 (million dollars)

Item	2004	2009	2014	2019	2024
Nondurable Goods Shipments (bil \$) \$ alpha amylase/mil \$ nondurables					
Alpha Amylase Demand					
Biofuels					
Food & Beverage Processing					
Cleaning Products					
Other Markets					
% alpha amylase					
Total Carbohydrase Demand					

Source: The Freedonia Group, Inc.

COMPANY PROFILES

National Enzyme Company
 15366 US Highway 160
 Forsyth, MO 65653
 417-546-4796
<http://national>

Annual Sales:
 Employment:

Key Products/...nds for dietary supplements, ...s

National Enzyme Company (NEC) is a private label manufacturer of dietary supplements, predominately enzyme based. The Company is privately held.

The Company participates in the US enzymes industry via the manufacture of enzyme blends for dietary supplements intended to support digestion; metabolism; the immune system; brain, heart, joint, bone, muscle, and skin health; and athletic activity in men, women, and children. NEC's enzyme blends are sold under such brand names as BIOCORE, CERECALASE, NATTOZIMES, SERRAZIMES, PROCERELASE, and ISOLASE. Additionally, the Company provides a range of contract manufacturing services, including product development, custom formulation, blending, encapsulation, packaging, and labeling. NEC conducts enzyme production activities at facilities in Forsyth, Missouri.

BIOCORE Enzyme Blends -- NEC's BIOCORE product line encompasses a variety of blends formulated to provide basic digestive support, as well as to target common digestive challenges. For example, the Company produces BIOCORE Optimum, which is a



Related Studies

Pharmaceutical Chemicals

This study analyzes the US pharmaceutical chemical industry. The study presents historical demand data (2004, 2009, 2014) and forecasts (2019, 2024) by type of API (active pharmaceutical ingredient) (e.g., central nervous system, cardiovascular, hormones, anti-infective, respiratory, gastrointestinal, biological, nutritional and herbal) and raw material (e.g., pharmaceutical intermediates, pharmaceutical solvents). The study also considers market environment factors, details industry structure, evaluates company market share and profiles industry participants.

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

World Catalysts

World demand for catalysts will grow 4.8 percent per year to \$20.6 billion in 2018. Growth will be led by a rebound in the chemical and polymer industries, most notably in developed economies hit hard by the recession. The fastest advances, however, will occur in developing areas such as the Asia/Pacific and Africa/Mideast regions. This study analyzes the \$16.3 billion world catalyst industry, with forecasts for 2018 and 2023 by material, type, market, world region, and for 18 countries. The study also evaluates company market share and profiles industry players.

#3217.....December 2014.....\$6500

World Industrial & Institutional (I&I) Cleaning Chemicals

Global demand for I&I cleaning chemicals is projected to increase 4.3 percent per year to \$46.3 billion in 2018. The fastest growth will occur in healthcare, due to a rise in the number of hospital stays and concerns about healthcare-associated infections (HAIs). China and the Asia/Pacific region will be the fastest growing markets. This study analyzes the \$37.5 billion world I&I cleaning chemical industry, with forecasts for 2018 and 2023 by product, market, world region, and for 18 countries. The study also evaluates company market share and profiles industry participants.

#3207.....November 2014.....\$6300

World Biofuels

World demand for biofuels is expected to expand at a 3.6 percent annual pace, reaching 115 million metric tons in 2018. North America and Central and South America will remain the largest regional markets, while the Asia/Pacific region grows the strongest from a relatively small base. Bioethanol will remain the leading biofuel. This study analyzes the 96.3 million metric ton global biofuel industry, with forecasts for 2018 and 2023 by product, world region, and for 22 countries. The study also evaluates company market share and profiles industry participants.

#3179.....August 2014.....\$6200

World Enzymes

World enzyme demand is forecast to increase 6.3 percent per year to nearly \$7 billion in 2017. Rising per capita incomes in large countries such as China and India will support consumer demand for higher value goods, such as detergents and food products. Advances in biotechnology will drive strong gains in specialty enzyme demand. This study analyzes the \$5.1 billion world enzyme industry, with forecasts for 2017 and 2022 by market, product, world region, and for 16 countries. The study also evaluates company market share and profiles industry players.

#3104.....January 2014.....\$6300

About The Freedonia Group

The Freedonia Group, Inc., is a leading international industry market research company that provides its clients with information and analysis needed to make informed strategic decisions for their businesses. Studies help clients identify business opportunities, develop strategies, make investment decisions and evaluate opportunities and threats. Freedonia research is designed to deliver unbiased views and reliable outlooks to assist clients in making the right decisions. Freedonia capitalizes on the resources of its proprietary in-house research team of experienced economists, professional analysts, industry researchers and editorial groups. Freedonia covers a diverse group of industries throughout the United States and other world markets. Industries analyzed by Freedonia include:

- Automotive & Transport • Chemicals • Construction & Building Products • Consumer Goods • Energy & Petroleum • Industrial Components • Healthcare & Life Sciences • Machinery & Equipment • Metals, Minerals & Glass • Packaging • Plastics & Other Polymers • Security • Services • Textiles & Nonwovens • Water Treatment

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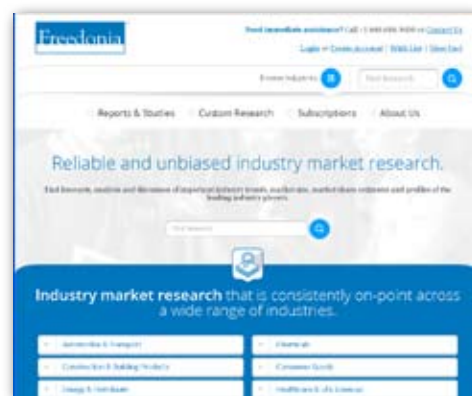
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