

The Global Market for Biocatalysts 2024-2035

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Abstracts

Biocatalysts are increasingly being adopted due to the important role they play in helping meet the more prominent sustainability goals of the pharmaceutical, agrochemical, and fine chemical industries. Biocatalysts offer several advantages over traditional chemical catalysts including:

High reaction specificity leading to less by-products and simpler purification

Ability to perform challenging chemistries not feasible by conventional organic synthesis

Mild reaction conditions like ambient temperatures and neutral pH enabling energy savings

Reduced use of toxic reagents and solvents aligned with green chemistry principles

Improved stereoselectivity for production of single enantiomers critical for pharmaceutical activity

Flexible substrate scope from natural enzyme evolution

Biodegradability and derived from renewable resources

The Global Market for Biocatalysts 2024-2035 is a comprehensive market research report that provides an in-depth analysis of the rapidly evolving biocatalysts industry. This report covers the current state and future prospects of various types of biocatalysts, including enzymes, microorganisms, and engineered biocatalysts, as well

as their applications across diverse sectors such as food and beverage, pharmaceuticals, chemicals, textiles, paper and pulp, and biofuels.

Executive summary: concise overview of the global biocatalysts market, including market size and growth projections, major players, competitive landscape, and future outlook. The introduction section provides a clear definition and classification of biocatalysts, along with a brief history of their evolution and the importance of biocatalysts in industrial processes.

Technology overview: covering various aspects of biocatalyst technology such as biotransformations, cascade biocatalysis, co-factor recycling, and immobilization. The report also delves into the different types of biocatalysts, including enzymes, microorganisms (bacteria, fungi, yeast, and archaea), engineered biocatalysts (directed evolution, rational design, semi-rational design, immobilization, and fusion proteins), and other types such as ribozymes, DNAzymes, abzymes, nanozymes, and organocatalysts. The production methods and processes for biocatalysts, such as fermentation, recombinant DNA technology, cell-free protein synthesis, extraction from natural sources, and solid-state fermentation, are also discussed in detail.

Emerging technologies and innovations in biocatalysis: including synthetic biology and metabolic engineering, generative biology and artificial intelligence, genome engineering, immobilization and encapsulation techniques, biomimetics, nanoparticle-based biocatalysts, biocatalytic cascades and multi-enzyme systems, and microfluidics.

Market analysis: provides valuable insights into the market drivers, challenges, price and cost analysis, supply chain, and opportunities. The report also covers the regulatory framework and government initiatives related to biocatalysts. A comprehensive analysis of the markets and applications for biocatalysts is presented, covering sectors such as food and beverage, pharmaceutical and biotechnology, chemicals, textiles, paper and pulp, biofuels and bioenergy, and other emerging applications like cosmetics and personal care, leather processing, mining and metal extraction, environmental remediation, and waste valorization. The report includes global revenue forecasts for biocatalysts by market and region, as well as a detailed competitive landscape analysis.

Additionally, the report features 60 company profiles of key players in the biocatalysts

industry, providing valuable insights into their strategies, products, and technologies. Companies profiled include Aether Bio, Basecamp Research, Cascade Biocatalysts, Constructive Bio, Debut Biotechnology, Enginzyme AB, eversyn, FabricNano, Johnson Matthey, Novozymes A/S and Protein Evolution.

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