

# **Phosphoramidite Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Type (DNA Phosphoramidites, RNA Phosphoramidites, Labeled Phosphoramidites, Modifier Phosphoramidites, Others), By Application (Drug Discovery & Development, Diagnostics Development, Others), By Region and Competition, 2020-2030F**

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## **Abstracts**

### Market Overview

Global Phosphoramidite Market was valued at USD 1.04 Billion in 2024 and is expected to reach USD 1.37 Billion by 2030 with a CAGR of 4.86%. Phosphoramidites are crucial intermediates primarily used in the synthesis of oligonucleotides, which play a vital role in gene therapy, molecular diagnostics, and personalized medicine. Rising investments in research and development activities, coupled with the increasing prevalence of genetic disorders and cancer, are fueling demand for phosphoramidites.

The market benefits from advancements in nucleic acid-based therapeutics, which rely heavily on high-quality phosphoramidite reagents for efficient and precise synthesis. The Global Phosphoramidite Market presents promising opportunities, particularly with the growing adoption of oligonucleotide-based therapies and diagnostics. Continued technological advancements and supportive government initiatives are expected to further propel market growth over the forecast period.

### Key Market Drivers

## Growth in Healthcare Industry

The rapid expansion of the healthcare industry is a key driver propelling the growth of the global phosphoramidite market. The global healthcare industry generates annual sales exceeding USD 4 trillion. The most significant and profitable segments are pharmaceuticals and biotechnology, accounting for nearly USD 850 billion, and medical technology and diagnostics, exceeding USD 400 billion. Increasing investments in healthcare infrastructure, rising demand for advanced therapeutics, and the growing emphasis on personalized medicine are collectively fueling the need for innovative chemical building blocks such as phosphoramidites.

Phosphoramidites play a critical role in the synthesis of oligonucleotides, which are fundamental components in the development of gene therapies, antisense drugs, and diagnostic tools. Thermo Scientific phosphoramidites are designed to support diverse oligonucleotide synthesis needs, ranging from research applications to manufacturing. For research and early development, the company offers over 136 ready-to-ship phosphoramidites (referred to as amidites) in small pack sizes available through its online catalog. As the healthcare sector continues to evolve with advancements in biotechnology and molecular medicine, the demand for high-quality phosphoramidite reagents is experiencing steady growth.

## Key Market Challenges

### High Cost of Production

A significant challenge confronting the Global Phosphoramidite Market is the high cost of production, which directly impacts pricing strategies and market competitiveness. The synthesis of phosphoramidites involves complex chemical processes that require high-purity raw materials, sophisticated equipment, and stringent quality control measures to meet the exacting standards demanded by pharmaceutical and biotechnology applications.

These factors collectively contribute to elevated manufacturing expenses, making it difficult for producers to scale operations cost-effectively. Additionally, maintaining compliance with rigorous regulatory requirements further adds to operational costs. The high capital investment in specialized manufacturing facilities and skilled labor also restricts market entry for new players, limiting competitive dynamics.

## Key Market Trends

### Rise in RNA Therapeutics

The burgeoning field of RNA therapeutics is emerging as a prominent trend shaping the global phosphoramidite market. RNA-based therapies, including mRNA vaccines, siRNA, and antisense oligonucleotides, have gained unprecedented attention due to their potential to address a wide range of diseases with high specificity and efficacy. In the US, there are at least 21 RNA-based therapies approved by the U.S. Food and Drug Administration (FDA) currently available on the market, alongside a robust pipeline of products in clinical development.

RNAi and mRNA-based therapies constitute the largest segments of this pipeline, representing 40% and 37% respectively. Additionally, the broader pipeline includes oligonucleotide, double-stranded RNA (dsRNA), and microRNA (miRNA) products. Phosphoramidites are essential chemical building blocks used in the synthesis of oligonucleotides, making them critical to the production of RNA therapeutics. The rapid advancement and growing adoption of RNA-based drugs in both clinical and commercial settings are driving increased demand for high-purity phosphoramidite reagents.

## Key Market Players

BOC Sciences

Thermo Fisher Scientific Inc.

Merck KGaA

Glen Research

LGC Biosearch Technologies

Biosynth Ltd

Bioneer Corporation

QIAGEN NV

PolyOrg, Inc

Lumiprobe Corporation

## Report Scope

In this report, the Global Phosphoramidite Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

### Phosphoramidite Market, By Type:

DNA Phosphoramidites

RNA Phosphoramidites

Labeled Phosphoramidites

Modifier Phosphoramidites

Others

### Phosphoramidite Market, By Application:

Drug Discovery & Development

Diagnostics Development

Others

### Phosphoramidite Market, By Region:

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

## UAE

### Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Phosphoramidite Market.

### Available Customizations:

Global Phosphoramidite Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

### Company Information

Detailed analysis and profiling of additional market players (up to five).

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