+357 96 030922
info@marketpublishers.com

Polybenzimidazole Market Forecasts to 2030 – Global Analysis By Form (Fiber, Resin, Powder, Film, Thermal Processing and Other Forms), Processing Method, Functionality, Application, End User and By Geography

https://marketpublishers.com/r/P9EEB74F9CF7EN.html
Date: February 2025
Pages: 150
Price: US$ 4,150.00 (Single User License)
ID: P9EEB74F9CF7EN

Abstracts

According to Stratistics MRC, the Global Polybenzimidazole Market is accounted for $0.74 billion in 2024 and is expected to reach $1.08 billion by 2030 growing at a CAGR of 6.4% during the forecast period. Polybenzimidazole (PBI) is a high-performance polymer known for its exceptional thermal stability, mechanical strength, and resistance to chemicals and radiation. Composed of repeating benzimidazole units, PBI maintains its properties at extreme temperatures, making it ideal for use in aerospace, defense, and industrial applications. Its excellent dielectric properties and resistance to wear and corrosion further enhance its value in demanding environments. PBI is used in advanced filtration systems, electrical insulation, and protective clothing, among other specialized fields.

According to a report by the Semiconductor Industry Association, the semiconductor firms based in the U.S. held around 48% of the total semiconductor market share.

Market Dynamics:

Driver:

Growing demand for protective clothing

The growing demand for protective clothing made from Polybenzimidazole (PBI) fibers is driven by its exceptional thermal stability, flame resistance, and durability. PBI

+357 96 030922
info@marketpublishers.com

garments are increasingly sought after in industries such as firefighting, military, and aerospace, where high-performance protective wear is essential. These garments provide superior protection against extreme heat and hazardous environments, fostering an expanding market for PBI-based protective clothing across various sectors globally.

Restraint:

Limited availability of raw materials

The limited availability of raw materials for polybenzimidazole production poses a significant challenge to the market. Supply constraints can lead to higher production costs and delays, limiting manufacturers' ability to meet growing demand. This scarcity may also hinder innovation and the development of new applications, slowing market growth. Furthermore, dependence on specialized suppliers for raw materials can make the PBI market vulnerable to supply chain disruptions and geopolitical uncertainties.

Opportunity:

Increasing demand from aerospace and automotive industries

The market is witnessing increasing demand from the aerospace and automotive industries due to its superior thermal stability, strength, and resistance to extreme conditions. In aerospace, PBI is used in components exposed to high temperatures and harsh environments, while in automotive, it enhances the performance and safety of critical parts. As both industries focus on advanced materials for durability and efficiency, the demand for PBI continues to grow steadily.

Threat:

High cost of production

The high cost of production in the market poses a significant barrier to widespread adoption. The complex manufacturing process and expensive raw materials drive up prices, limiting PBI's use to niche, high-performance applications. This makes it less accessible for industries seeking cost-effective solutions. As a result, demand may be restricted, and manufacturers might face challenges in achieving economies of scale, hindering the growth of the overall PBI market.

+357 96 030922
info@marketpublishers.com

Covid-19 Impact:

The COVID-19 pandemic negatively impacted the market by disrupting supply chains and causing delays in production. Reduced demand in non-essential sectors and temporary shutdowns of manufacturing facilities led to market slowdown. Additionally, logistical challenges and labour shortages increased operational costs. However, demand for PBI in protective clothing and healthcare applications did see some growth, partially offsetting the broader negative effects caused by the global health crisis.

The fiber segment is expected to be the largest during the forecast period

The fiber segment is expected to account for the largest market share during the forecast period. These fibers are used in applications where high-performance materials are essential, such as in protective clothing for firefighters, military personnel, and industrial workers. PBI fibers also find use in aerospace, automotive, and electrical industries, offering superior protection and longevity in extreme conditions, thereby driving their increasing demand in the market.

The advanced composites segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the advanced composites segment is predicted to witness the highest growth rate. These composites are increasingly used in aerospace, automotive, and defense applications, where high-performance materials are crucial. PBI-based composites offer superior heat and flame resistance, making them ideal for critical components exposed to extreme conditions. As industries seek materials with enhanced performance characteristics, the demand for PBI composites continues to grow.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share. The region's advanced manufacturing capabilities and emphasis on high-performance materials contribute to the market's expansion. Additionally, the rising need for safety in hazardous environments, particularly in firefighting and military applications, boosts PBI adoption. The region’s focus on innovation and technological advancements further strengthens the market's growth prospects.

Region with highest CAGR:

+357 96 030922
info@marketpublishers.com

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by the increasing demand for high-performance materials in diverse industries. The growing demand for fire-resistant textiles in industries such as oil and gas, firefighting, and industrial worker protection also contributes to the market's expansion. As APAC's industrial landscape continues to develop, PBI is becoming increasingly sought after for its durability and reliability.

Key players in the market

Some of the keys players in Polybenzimidazole market include Celanese Corporation, Honeywell International Inc., Avery Dennison Corporation, 3M Company, Dow Chemical Company, Solvay SA, Polymer Chemistry Innovations, Teijin Limited, BASF SE, Sumitomo Chemical Co., Saint-Gobain Performance Plastics, Evonik Industries, Mitsubishi Chemical Corporation, DuPont de Nemours, Inc., Huntsman Corporation, Furukawa Electric Co., SABIC and Mitsui Chemicals, Inc.

Key Developments:

In January 2025, BASF has signed an agreement with Karl Bachl Kunststoffverarbeitung GmbH & Co. KG (BACHL) for the sale of its business with Styrodur®, an insulation material made from extruded polystyrene (XPS). BACHL is one of the leading manufacturers of insulation materials in Germany, an experienced XPS producer and a long-standing Styrodur® distribution partner of BASF. The sale also includes the brand Styrodur®.

In October 2024, Honeywell announced a plan to spin off its Advanced Materials business into an independent, U.S. publicly traded company, which is targeted to be completed by the end of 2025 or early 2026. Honeywell expects to execute the planned spin in a tax-free manner to its shareowners.

Forms Covered:

- Fiber
- Resin
- Powder

+357 96 030922
info@marketpublishers.com

- Film
- Thermal Processing
- Other Forms

Processing Methods Covered:

- Extrusion
- Spinning
- Molding
- Coating
- Thermal Processing

Functionalities Covered:

- High-Temperature Resistance
- Flame Resistance
- Chemical Resistance
- Electrical Insulation
- Mechanical Strength

Applications Covered:

- Electrical Insulation
- Advanced Composites

+357 96 030922
info@marketpublishers.com

- Firefighting Gear
- Seals & Gaskets
- Biocompatible Coatings
- Other Applications

End Users Covered:

- Medical
- Energy
- Electronics
- Automotive
- Aerospace & Defense
- Other End Users

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK

+357 96 030922
info@marketpublishers.com

- Italy
- France
- Spain
- Rest of Europe

Asia Pacific

- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

- Saudi Arabia

+357 96 030922
info@marketpublishers.com

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

+357 96 030922
info@marketpublishers.com

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

5 GLOBAL POLYBENZIMIDAZOLE MARKET, BY FORM

5.1 Introduction
5.2 Fiber
5.3 Resin
5.4 Powder
5.5 Film
5.6 Thermal Processing
5.7 Other Forms

6 GLOBAL POLYBENZIMIDAZOLE MARKET, BY PROCESSING METHOD

6.1 Introduction
6.2 Extrusion
6.3 Spinning
6.4 Molding
6.5 Coating
6.6 Thermal Processing

7 GLOBAL POLYBENZIMIDAZOLE MARKET, BY FUNCTIONALITY

7.1 Introduction
7.2 High-Temperature Resistance
7.3 Flame Resistance
7.4 Chemical Resistance
7.5 Electrical Insulation
7.6 Mechanical Strength

8 GLOBAL POLYBENZIMIDAZOLE MARKET, BY APPLICATION

8.1 Introduction
8.2 Electrical Insulation
8.3 Advanced Composites
8.4 Firefighting Gear
8.5 Seals & Gaskets
8.6 Biocompatible Coatings
8.7 Other Applications

9 GLOBAL POLYBENZIMIDAZOLE MARKET, BY END USER

+357 96 030922
info@marketpublishers.com

+357 96 030922
info@marketpublishers.com

11 KEY DEVELOPMENTS

12 COMPANY PROFILING

+357 96 030922
info@marketpublishers.com

List Of Tables

LIST OF TABLES

+357 96 030922
info@marketpublishers.com

Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: Polybenzimidazole Market Forecasts to 2030 – Global Analysis By Form (Fiber, Resin, Powder, Film, Thermal Processing and Other Forms), Processing Method, Functionality, Application, End User and By Geography

Product link: https://marketpublishers.com/r/P9EEB74F9CF7EN.html

Price: US$ 4,150.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/P9EEB74F9CF7EN.html