

# Bio-Polyamide Market to Reach USD 925.2 Million by 2032 Driven by Growth in Electrical & Electronics Applications

*Bio-polyamide market is growing due to sustainability efforts, demand for eco-friendly materials, stricter environmental regulations & renewable feedstock use.*

AUSTIN, TX, UNITED STATES, January 27, 2025 /EINPresswire.com/ -- The [Bio-Polyamide Market](#) Size was valued at USD 224.3 million in 2023 and is expected to reach USD 925.2 million by 2032 and grow at a CAGR of 17.1% over the forecast period 2024-2032.



Bio-Polyamide Market Grows with Sustainability Initiatives, Renewable Materials Demand, Eco-Friendly Innovations, and Regulatory Compliance Across Industries

The bio-polyamide market is witnessing robust growth, driven by increasing sustainability initiatives, demand for renewable materials, and eco-friendly alternatives across industries such as automotive, textiles, and packaging. Derived from renewable sources like castor oil and sugarcane, bio-polyamides reduce environmental impact while maintaining high performance. Companies such as Fulgar and Monash University have introduced innovative solutions, including bio-nylons from castor oil and sugarcane waste, highlighting advancements in sustainable polymer production. Meanwhile, industry leaders like Arkema are reducing the carbon footprint of the bio-polyamide output and receiving accolades for eco-friendly innovations. Stricter environmental regulations, especially in Europe, coupled with rising consumer demand for greener products, are accelerating market adoption. In the automotive sector, bio-polyamides enable lightweight, durable components that improve fuel efficiency and reduce emissions, aligning with the shift toward electric vehicles. The textile industry also represents a growing opportunity, as brands incorporate bio-polyamides to meet sustainability goals and regulatory standards. Despite these advancements, high production costs, fluctuating bio-feedstock prices, and supply chain challenges remain significant barriers to widespread adoption. Nevertheless, the increasing focus on reducing carbon emissions, regulatory compliance, and renewable feedstocks positions bio-polyamides as a critical solution for a more

sustainable future.

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Key Players:

- Arkema S.A. (Rilsan PA11, Rilsamid PA12)
- Asahi Kasei Corporation (Leona PA66, Tenac PA12)
- BASF SE (Ultramid PA6, Ultramid Cycled PA66)
- Cathay Biotech Inc. (Teryl PA56, Teryl PA510)
- Domo Chemicals (Technyl PA6, Technyl Star PA66)
- DuPont de Nemours, Inc. (Zytel PA66, Hytrel PA12)
- EMS-Chemie Holding AG (Grilamid PA12, Grilon PA6)
- Evonik Industries AG (Vestamid PA12, Vestamid Terra PA610)
- Grupa Azoty S.A. (Tarnamid PA6, Tarnamid PA66)
- Honeywell International Inc. (Aegis PA6, Capron PA66)
- Invista (Torzen PA66, Cordura PA6)
- LANXESS AG (Durethan PA6, Durethan ECO PA66)
- Li Peng Enterprise Co., Ltd. (Zig Sheng PA6, Zig Sheng PA66)
- Mitsubishi Chemical Corporation (Durabio PA6, Diamiron PA66)
- Radici Group (Radilon PA6, Radilon A PA66)
- Royal DSM N.V. (EcoPaXX PA410, Arnitel PA12)
- Sabic (Ultramid PA6, Ultem PA12)
- Solvay S.A. (Bio Amni PA610, Technyl eXten PA610)
- Toray Industries, Inc. (Amilan PA66, Toraycon PA6)
- Ube Industries, Ltd. (UBESTA PA12, UBESTA XPA PA6)

Segment Analysis

By Type

- PA-6
- PA-66
- Specialty Polyamides

Specialty Polyamides Lead with Superior Performance and Versatile Applications

In 2023, specialty polyamides, particularly PA-11, held a dominant 45% share of the bio-polyamide market. PA-11 accounted for 25% of this, driven by its thermal stability, chemical resistance, and applications in industries like automotive and healthcare. It is widely used in fuel lines and medical devices like sutures, reflecting the growing preference for bio-based materials in high-performance applications.

## By Application

- Fiber
- Engineering Plastics

## Engineering Plastics Drive Growth with Lightweight and Sustainable Solutions

The engineering plastics segment led the bio-polyamide market in 2023, capturing 60% of the share. These materials are essential for industries like automotive and electronics due to their durability, thermal stability, and chemical resistance. Companies like BASF and DuPont are investing in bio-based plastics to meet regulatory and consumer demands for eco-friendly, high-performance materials.

## By End Use Industry

- Automotive
- Electrical & Electronics
- Packaging
- Textiles
- Industrial Machinery
- Others

## Automotive Sector Dominates with a Focus on Efficiency and Sustainability

In 2023, the automotive industry accounted for 42% of the bio-polyamide market, driven by its focus on lightweight, durable, and sustainable materials. Bio-polyamides are essential in manufacturing components like battery casings and fuel lines, helping reduce vehicle weight and emissions. The industry's shift towards greener practices continues to fuel demand for bio-polyamides.

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North America's bio-polyamide market grows through a sustainability focus in automotive and packaging, supported by regulations and consumer preferences.

In 2023, North America led the bio-polyamide market with a 38% share, driven by sustainability trends in the automotive and packaging industries. Companies are adopting bio-based materials to meet regulatory demands and consumer expectations for eco-friendly products. Government incentives and growing consumer interest in sustainable solutions further boost adoption, with strong traction in sectors like construction and textiles.

Asia-Pacific's rapid industrialization and government initiatives foster bio-polyamide growth, with rising automotive production and sustainability efforts.

The Asia-Pacific region emerged as the fastest growing region in 2023, with a CAGR of 10%. The growth is fueled by industrialization, automotive expansion, and government initiatives supporting bio-based materials. Countries like China and India are rapidly adopting bio-polyamides in response to stricter regulations and rising consumer demand for sustainability.

## Recent Developments

- June 2024: Fulgar, an innovative Italian company, introduced Q-Geo, a new bio-based polyamide yarn made from 46% non-edible corn grown on land not suitable for food production, reducing its environmental impact compared to conventional materials.
- February 2024: LG Chem and CJ CheilJedang formed a partnership to establish a bio-polyamide plant in South Korea, creating a domestic supply chain for bio-nylon. CJ CheilJedang will use advanced fermentation technology to produce pentamethylenediamine (PMDA), which LG Chem will polymerize into bio-nylon and manage its sales.
- February 2024: Arkema's Rilsan and Pebax Rnew bio-circular polyamide 11 solutions were awarded the "Solar Impulse Efficient Solution" label. These materials, derived from renewable castor oil, offer sustainable alternatives to traditional polymers.

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