

# **Bio-Based Adhesives Market Forecasts to 2034 – Global Analysis By Bio-Based Feedstock (Starch-Based Adhesives, Protein-Based Adhesives, Lignin-Based Adhesives, Plant Oil-Based Adhesives, Cellulose-Based Adhesives, Bio-Based Polyols and Other Bio-Based Feedstocks), Adhesive Type, Application, Production Technology, Sustainability Attribute, End User and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Bio-Based Adhesives Market is accounted for \$9.4 billion in 2026 and is expected to reach \$21.3 billion by 2034 growing at a CAGR of 10.7% during the forecast period. Bio-based adhesives refer to bonding agents formulated from renewable biological feedstocks such as starch, proteins, lignin, plant oils, and cellulose rather than petroleum-derived monomers, offering comparable adhesion performance to synthetic alternatives across packaging, woodworking, construction, automotive, and other applications. These adhesives are designed with sustainable attributes including biodegradability, reduced VOC emissions, and lower carbon footprint while delivering reliable bond strength and durability characteristics.

## **Market Dynamics:**

### **Driver:**

#### **Packaging Sustainability Mandates**

Global packaging sustainability mandates and e-commerce growth are driving massive demand for bio-based adhesives in corrugated box manufacturing, flexible packaging, and food-grade applications as brand owners seek fully compostable or recyclable

packaging systems requiring compatible bio-based bonding solutions. Consumer-packaged goods companies are setting aggressive 2025-2030 renewable packaging adoption targets that directly translate to bio-adhesive demand growth.

## **Restraint:**

### **Performance Limitations in Harsh Environments**

Performance limitations in high-moisture, extreme-temperature, and heavy-stress applications restrict bio-based adhesive adoption in certain industrial segments where conventional structural epoxies and polyurethanes continue to provide superior bonding strength and environmental resistance. Moisture sensitivity and accelerated biodegradation in outdoor exposure limit market penetration for construction and exterior automotive bonding applications.

## **Opportunity:**

### **Automotive Lightweighting Applications**

Automotive lightweighting initiatives and electric vehicle manufacturing expansion create an emerging application opportunity for bio-based structural adhesives for composite bonding, battery pack assembly, and interior trim attachment, as automakers seek renewable material solutions to reduce vehicle carbon footprint while maintaining safety and crash performance. Advanced bio-based epoxy formulations are achieving competitive bonding strength for secondary structural applications.

## **Threat:**

### **Feedstock Price Volatility**

Bio-based feedstock price volatility, driven by agricultural commodity cycles and competing demand for food and biofuel production, creates economic uncertainty for adhesive manufacturers and can erode cost competitiveness compared with stable synthetic polymer pricing based on established petrochemical markets. Corn, soybean, and plant oil price fluctuations directly impact production economics.

### **Covid-19 Impact:**

The COVID-19 pandemic drove unprecedented e-commerce growth and packaging demand, significantly increasing consumption of bio-based adhesives for corrugated boxes, shipping cartons, and flexible packaging formats. The crisis also accelerated consumer preference for sustainable packaging and hygiene products, generating sustained demand for bio-adhesive alternatives. Post-pandemic economic recovery maintained packaging volume growth supporting bio-adhesive market momentum.

**The Starch-Based Adhesives segment is expected to be the largest during the**

**forecast period**

The Starch-Based Adhesives segment is expected to account for the largest market share during the forecast period, due to abundant, low-cost availability of starch feedstocks from corn, wheat, and cassava sources, combined with established manufacturing processes and broad applicability in corrugated packaging, paper converting, and bag manufacturing. Excellent biodegradability, low VOC profile, and cost competitiveness relative to synthetic alternatives ensure continued dominance in high-volume packaging applications.

**The Water-Based Adhesives segment is expected to have the highest CAGR during the forecast period**

Over the forecast period, the Water-Based Adhesives segment is predicted to witness the highest growth rate, driven by regulatory restrictions on solvent-based adhesives under global VOC reduction programs, combined with significant formulation advances that improve water-based bond strength and drying time performance for demanding industrial applications. Automotive interior assembly and flexible packaging lamination applications are adopting water-based solutions due to safer working environments.

**Region with largest share:**

During the forecast period, the North America region is expected to hold the largest market share, due to the United States hosting leading bio-based adhesive manufacturers including Henkel, H.B. Fuller, and 3M, combined with sophisticated packaging industry infrastructure and extensive agricultural feedstock production capacity. Strong regulatory drivers including EPA toxics control and state-level green chemistry initiatives support market leadership.

**Region with highest CAGR:**

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, due to rapidly expanding packaging manufacturing in China and India, growing e-commerce penetration, and increasing environmental awareness among Asian consumer goods companies. Government initiatives promoting bio-economy development and renewable material adoption accelerate market expansion across diverse end-use sectors.

**Key players in the market**

Some of the key players in Global Bio-Based Adhesives Market include Henkel AG & Co. KGaA, H.B. Fuller Company, 3M Company, Arkema S.A., Sika AG, Dow Inc., Solenis LLC, Ingredion Incorporated, Croda International Plc, Evonik Industries AG, BASF SE, Avery Dennison Corporation, Ashland Inc., Illinois Tool Works Inc., Akzo Nobel N.V., Clariant AG, Paramelt RMC B.V., and Scott Bader Company Limited.

## Key Developments:

In August 2026, Henkel introduced a range of 100% bio-based hot-melt adhesives tailored for flexible packaging. The sustainable formulation minimizes carbon emissions while delivering high-performance bonding for eco-friendly packaging lines.

In July 2026, H.B. Fuller partnered with a biopolymer producer to secure renewable feedstock for woodworking adhesives. This collaboration reduces fossil fuel reliance while maintaining uncompromised bonding performance for wood applications.

In June 2026, 3M launched a bio-based structural adhesive designed for automotive composite bonding. Featuring 70% renewable content, it matches conventional strength levels while helping automotive manufacturers lower vehicle carbon footprints.

## Bio-Based Feedstocks Covered:

Starch-Based Adhesives

Protein-Based Adhesives

Lignin-Based Adhesives

Plant Oil-Based Adhesives

Cellulose-Based Adhesives

Bio-Based Polyols

Other Bio-Based Feedstocks

## Adhesive Types Covered:

Water-Based Adhesives

Hot-Melt Adhesives

Reactive Adhesives

Pressure-Sensitive Adhesives

Solvent-Free Adhesives

Emulsion Adhesives

Other Adhesive Types

## **Applications Covered:**

Packaging

Woodworking and Furniture

Construction

Automotive

Footwear and Leather

Textiles

## **Production Technologies Covered:**

Fermentation-Based Production

Enzymatic Production

Biopolymer Modification

Bio-Based Polymer Synthesis

Blending and Formulation

Cross-Linking Technologies

## **Sustainability Attributes Covered:**

Biodegradable Adhesives

Compostable Adhesives

Low-VOC Adhesives

Solvent-Free Adhesives

Renewable Feedstock Adhesives

Low-Carbon Adhesives

Recyclable Adhesives

## **End Users Covered:**

Packaging Manufacturers

Furniture Manufacturers

Construction Companies

Automotive Manufacturers

Footwear Manufacturers

Textile Manufacturers

Healthcare Manufacturers

Electronics Manufacturers

## **Regions Covered:**

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of 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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

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

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