Thermoplastic Starch (TPS) Market Outlook 2026-2034: Market Share, and Growth Analysis By Manufacturing (Extrusion Molding, Injection Molding), By Application (Bags, Films, 3D Print, Others)

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Abstracts

The Thermoplastic Starch (TPS) Market is valued at USD 238.1 million in 2025 and is projected to grow at a CAGR of 6.8% to reach USD 430.4 million by 2034.

Thermoplastic Starch (TPS) Market

The Thermoplastic Starch (TPS) market sits at the intersection of bio-based materials, circular packaging, and regulatory pressure to decarbonize plastics. Produced by destructuring native starch (corn, potato, cassava, wheat) with plasticizers (typically glycerol, sorbitol) under heat and shear, TPS behaves as a melt-processable polymer compatible with film extrusion, injection molding, thermoforming, and blown film. Top applications span single-use flexible packaging (bags, liners, mailers), agricultural films and mulch, food-service items, and molded technical parts; increasingly, TPS is compounded as a filler/phase in blends with PBAT, PLA, PHA, and bio-PE to tune toughness, tear, and processability. Key trends include drop-in formulations designed for existing polyolefin lines, reactive compatibilization for improved moisture resistance, and barrier enhancements for shelf-life critical uses. Market drivers are anchored in brand and retailer sustainability goals, evolving bans and fees on conventional single-use plastics, the push for compostability and renewable content claims, and localized feedstock advantages in starch-rich regions. The competitive landscape features integrated starch processors, specialty biopolymer formulators, and compounders offering tailor-made grades (anti-block, slip, pigmentation, and masterbatches) plus certification support for compostability and food contact. Challenges remain around hydrophilicity, dimensional stability under humidity, odor control, and mechanical

retention during storage - pressuring R&D toward crosslinkers, hydrophobizing agents, multilayer structures, and improved crystallinity control. With maturing standards and growing end-of-life infrastructure, TPS is transitioning from niche to mainstream in select packaging and agriculture segments - rewarding suppliers that combine consistent quality, processing know-how, and credible certification with scalable regional supply

Thermoplastic Starch (TPS) Market Key Insights

Formulation shift to performance TPS: Newer TPS chemistries use reactive plasticizers, chain extenders, and compatibilizers to lift tensile/tear and elevate humidity tolerance, enabling thinner gauges and broader converting windows.

Blends drive versatility: TPS/PBAT and TPS/PLA blends balance ductility, stiffness, and cost. Tailored ratios and interfacial agents unlock applications from carrier bags to thermoformed trays without major line changes.

Moisture management is decisive: Hydrophilicity dictates storage, processing, and in-use stability. Coatings, multilayer film architectures, and hydrophobizing additives mitigate curl, stickiness, and property drift in humid climates.

Processing on legacy assets: Processors value TPS grades that run on existing PE/PP film and molding lines with minimal die/temperature changes, preserving OEE and reducing capex for converters.

Compostability & certification pull-through: Verified industrial/home-compostability and food-contact compliance are procurement gatekeepers; suppliers offering data packages and LCA support win specification battles.

Cost anchored in feedstock: Starch availability and pricing, plus glycerol/sorbitol markets, shape TPS cost curves. Localization of feedstock and in-house compounding reduces volatility and lead times.

Barrier and shelf-life improvements: Incorporation of nano-fillers, bio-based waxes, and crystallinity control enhances oxygen/grease resistance, opening snack, bakery, and produce film niches.

Odor and sensory control: Deodorized starch streams, tighter impurity control, and antioxidants address off-odor risks in food-adjacent uses, improving brand acceptance.

End-of-life credibility matters: Clear labeling, disintegration performance in real compost systems, and evidence against microplastic persistence underpin retailer adoption and regulatory alignment.

Beyond packaging: Technical TPS grades target agriculture (mulch, seed tapes), hygiene, and molded parts; bio-based foams and 3D-printing filaments are emerging niches as formulations stiffen and stabilize.

Thermoplastic Starch (TPS) Market Reginal Analysis

North America

Adoption is led by retailer/brand sustainability roadmaps and municipal legislation around single-use items. Corn-based starch streams support competitive local supply, while converters prioritize TPS blends that run on PE assets. Certification, odor neutrality, and film toughness drive specifications. Distribution partnerships with packaging converters and private-label brands accelerate penetration in bags, liners, and mailers.

Europe

A mature regulatory framework on plastics and strong composting infrastructure favor TPS uptake, especially in organics-collection bags and food-service items. Buyers demand third-party certifications and robust humidity performance. Multilayer TPS structures and TPS/PBAT films see traction, while recyclability debates push clear labeling and design-for-end-of-life. Regional compounders differentiate via performance additives and LCA documentation.

Asia-Pacific

APAC scales rapidly on abundant cassava/potato supply (Southeast Asia, China, India) and export-oriented converting. Price sensitivity coexists with high volumes; converters seek drop-in TPS grades for existing lines. Tropical humidity elevates the need for moisture-resistant formulations and coated films. Government programs around biodegradable alternatives in select markets stimulate demand in retail bags and agriculture.

Middle East & Africa

Growth is emerging, driven by retail bag policies, tourism/hospitality initiatives, and pilot organics-collection schemes. Limited composting infrastructure necessitates clear guidance on disposal and performance in varied climates. Distributors favor durable, humidity-tolerant grades and turnkey film recipes that minimize production variability. Partnerships with importers and regional packagers are key.

South & Central America

Abundant agricultural feedstocks support regional TPS production, with interest from supermarkets and municipalities targeting litter reduction. Converters prioritize consistent pellets, odor control, and competitive pricing. Agriculture films and retail/produce bags are entry points, with compostability standards adoption rising. Local certification bodies and education campaigns help align performance claims with real end-of-life pathways.

Thermoplastic Starch (TPS) Market Segmentation

By Manufacturing

- Extrusion Molding
- Injection Molding

By Application

- Bags
- Films
- 3D Print
- Others

Key Market players

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Novamont, Biotec GmbH, Rodenburg Biopolymers, AGRANA, Plantic Technologies, BASF, Corbion, NatureWorks, Cardia Bioplastics, FKuR Kunststoff, Toray Industries, Mitsubishi Chemical, Total Corbion PLA, Green Dot Bioplastics, Danimer Scientific

Thermoplastic Starch (TPS) Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modelling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends. Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behaviour are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

Thermoplastic Starch (TPS) Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption. Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

- North America — Thermoplastic Starch (TPS) market data and outlook to 2034
    - United States
    - Canada
    - Mexico
- Europe — Thermoplastic Starch (TPS) market data and outlook to 2034

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Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Thermoplastic Starch (TPS) market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Thermoplastic Starch (TPS) market data and outlook to 2034

Saudi Arabia

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South Africa

Iran

UAE

Egypt

South and Central America — Thermoplastic Starch (TPS) market data and outlook to 2034

Brazil

Argentina

Chile

Peru

* We can include data and analysis of additional countries on demand.

Research Methodology

This study combines primary inputs from industry experts across the Thermoplastic Starch (TPS) value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

Key Questions Addressed

What is the current and forecast market size of the Thermoplastic Starch (TPS) industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

Your Key Takeaways from the Thermoplastic Starch (TPS) Market Report

Global Thermoplastic Starch (TPS) market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Thermoplastic Starch (TPS) trade, costs, and supply chains

Thermoplastic Starch (TPS) market size, share, and outlook across 5 regions and 27 countries, 2023-2034

Thermoplastic Starch (TPS) market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Thermoplastic Starch (TPS) market trends, drivers, restraints, and opportunities

Porter’s Five Forces analysis, technological developments, and Thermoplastic Starch (TPS) supply chain analysis

Thermoplastic Starch (TPS) trade analysis, Thermoplastic Starch (TPS) market price analysis, and Thermoplastic Starch (TPS) supply/demand dynamics

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Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest Thermoplastic Starch (TPS) market news and developments

Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

Complimentary report update to incorporate the latest available data and the impact of recent market developments.

* The updated report will be delivered within 3 working days

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