

## **Adipic Acid - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

Market Report | 2025-07-01 | 120 pages | Mordor Intelligence

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### **Report description:**

Adipic Acid Market Analysis

The Adipic Acid Market size is estimated at 4.53 million tons in 2025, and is expected to reach 5.42 million tons by 2030, at a CAGR of 3.65% during the forecast period (2025-2030). Emission regulations, automotive light-weighting, and the appeal of bio-fermentation pathways are the pivotal forces shaping this trajectory. Asia-Pacific remains the production and consumption epicenter, while North America and Europe advance low-emission technologies that can meet tightening policy targets. Disruptive strides in fermentation are narrowing cost gaps with nitric-acid oxidation, and strategic capital flows into integrated nylon 66 capacity signal confidence in downstream demand. Feedstock volatility and scale-up risks temper optimism, yet regulatory tailwinds and end-market diversification keep the adipic acid market on a clear growth path.

Global Adipic Acid Market Trends and Insights

Surging Demand for Nylon 66 in E-Mobility Lightweight Parts

Electric vehicle manufacturers are embracing nylon 66 to reduce vehicle mass and extend driving range, which elevates consumption of adipic acid-based intermediates. INVISTA's project to double Shanghai nylon 66 output to 400,000 tons places production close to adiponitrile feedstock, lowering logistics costs and shortening supply chains. BASF's 260,000-ton hexamethylenediamine unit in France expands regional self-sufficiency for critical monomers. Battery thermal-management and structural modules rely on nylon 66 for heat resistance that metals cannot offer at comparable weight. Recent unplanned outages

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at adiponitrile plants in China highlighted supply vulnerability and prompted producers to integrate upstream operations for risk mitigation.

### Shift from Metal to Plastics in EV Battery Casings

Automakers are converting metal battery covers to polymer solutions that combine weight savings with enhanced design flexibility. Polyurethane foams derived from adipic acid now insulate casings while dissipating heat, and Covestro's ISCC+ certified raw materials illustrate the industry's sustainability pivot. United States automotive producers consumed 142 million lb of polyurethane coatings in 2023, a scale that underscores the near-term revenue upside for adipic acid suppliers. Complex geometries are achievable through plastics, enabling streamlined battery pack architectures. Premium pricing for high-performance polymers offsets higher raw-material costs and encourages capacity additions that stabilize the adipic acid market.

### Volatility in Cyclohexanone Feedstock Prices

Cyclohexanone accounts for roughly two-thirds of conversion costs; hence, price swings rapidly compress margins. Limited upstream diversification means unplanned outages or geopolitical shocks ripple through the value chain. Rising logistics and energy costs further destabilize total production economics, complicating long-term contracts. Vertical integration or alternative feedstocks such as bio-aromatics are gaining attention as resilience strategies. However, securing capital for upstream acquisitions is challenging when feedstock cycles remain unpredictable.

Other drivers and restraints analyzed in the detailed report include:

Growth of Energy-Efficient Construction Foams / Expansion of Textile Filament Capacity / Scale-Up Challenges for Bio-Fermentation Pathways /

For complete list of drivers and restraints, kindly check the Table Of Contents.

### Segment Analysis

Cyclohexanone controlled 55.19% adipic acid market share in 2024, confirming its entrenched role in nitric-acid oxidation. The adipic acid market size tied to cyclohexanone represents roughly half of global output, reinforcing the importance of stable supply chains. Cyclohexanol, however, is rising at 4.94% CAGR as producers deploy greener oxidation catalysts that slash nitrous oxide emissions. Catalyst designs featuring hydrogen peroxide achieve 92.3% conversion and 29.4% selectivity to adipic acid, reflecting substantial efficiency gains. Faradaic-efficient electrocatalysis that co-generates hydrogen gas at 93% efficiency presents an additional revenue stream and aligns with decarbonization targets.

Bio-aromatic concepts that valorize lignin can remove crude-derived intermediates from the chain altogether. Engineered *Pseudomonas putida* strains deliver 2.5 g/L adipic acid from lignin fragments and point toward future integration of biorefinery side-streams. Lifecycle assessments suggest a 58% CO<sub>2</sub> reduction and 23% lower energy demand versus petrochemical routes, positioning such pathways as compliance tools under evolving carbon-pricing regimes. Although volumes remain small, successful commercialization could redraw raw-material economics within the adipic acid market.

Nitric-acid oxidation constituted 91.45% of the adipic acid market in 2024 due to mature technology and sunk capital. The adipic acid market size linked to this process benefits from economies of scale but endures scrutiny over nitrous oxide emissions. Texas regulations limit NO<sub>x</sub> to 2.5 lb per ton, illustrating regional compliance burdens.

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Bio-fermentation, despite holding only 5.04% CAGR momentum, is gathering commercial trials that run on glucose and xylose. When carbon costs are internalized, economic parity edges closer, particularly in regions with renewable-energy surpluses. Co-location with corn-ethanol plants can secure feedstock and utilities, further compressing variable cost. The competitive narrative hinges on whether fermentation can achieve the scale needed to drop fixed costs below incumbent asset levels.

The Adipic Acid Market Report is Segmented by Raw Material (Cyclohexanol, Cyclohexanone), Production Process (Nitric-Acid Oxidation, Bio-Fermentation), End Product (Nylon 66 Fibers, Nylon 66 Engineering Resins, and More), Application (Plasticizers, Unsaturated Polyester Resins, and More), End-User Industry (Automotive, Electrical and Electronics, and More), and Geography (Asia-Pacific, North America, Europe, and More).

### Geography Analysis

Asia-Pacific held 47.14% of global volume in 2024 and drives the fastest 5.19% CAGR as China scales capacity and India channels petrochemical investment into Gujarat corridors. Rapid adoption of catalytic destruction units has started to narrow the carbon gap between Chinese and Western producers.

North America remains a stronghold for food-grade and high-purity grades of adipic acid. Ascend Performance Materials and AdvanSix operate fully integrated chains that benefit from shale-gas economics and strict U.S. emission controls, which favor producers with demonstrated compliance records. Fermentation pilots clustered in the Midwest leverage corn feedstock and renewable electricity from wind corridors.

Europe's policy focus on circularity is driving capital toward integrated assets that couple downstream resin plants with upstream monomers to minimize logistics emissions. BASF's French hexamethylenediamine investment exemplifies a hub model that embeds sustainability into supply architecture. South America and the Middle East & Africa show emerging interest through infrastructure build-outs, yet political and economic volatility create hurdles that could delay large-scale investments. Together these dynamics illustrate a regionally stratified complexion that continues to shape global supply patterns in the adipic acid market.

### List of Companies Covered in this Report:

AdvanSix Inc. / Asahi Kasei Corp. / Ascend Performance Materials / BASF SE / CJ CheilJedang / Domo Chemicals / Huafeng Group / INVISTA / Lanxess AG / Radici Partecipazioni SpA / Shandong Hualu-Hengsheng Chemical / Shenma Industrial / Solvay SA / Sumitomo Chemical Co., Ltd. / Tangshan Zhonghao Chemical / TORAY INDUSTRIES, INC. /

### Additional Benefits:

The market estimate (ME) sheet in Excel format /  
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