

# High Purity Calcium Sulfate Market Forecasts to 2032 – Global Analysis By Form (Powdered Calcium Sulfate, Granular Calcium Sulfate and Nano-structured Calcium Sulfate), Purity Level (Ultra-High Purity (>/99.5%), High Purity (>/95% and

## Abstracts

According to Statistics MRC, the Global High Purity Calcium Sulfate Market is accounted for \$11.98 billion in 2025 and is expected to reach \$19.54 billion by 2032 growing at a CAGR of 7.24% during the forecast period. High-purity calcium sulfate is a refined form of calcium sulfate ( $\text{CaSO}_4$ ) that is characterized by its exceptional chemical purity, uniform particle size, and minimal levels of impurities such as iron, heavy metals, and organic matter. It is widely used in a variety of industries, such as pharmaceuticals, food processing, biotechnology, and laboratory applications, where strict quality standards are necessary. Moreover, high-purity calcium sulfate is used as a coagulant in food products like tofu, an excipient in tablet formulations, and a dependable reagent in scientific research because of its stability, non-toxicity, and consistent composition. It is a favored option in crucial applications because of its high degree of purity, which guarantees safety, reproducibility, and adherence to legal requirements.

According to the USGS Mineral Commodity Summary, in 2022, U.S. mines produced an estimated 22 million metric tons of crude gypsum. Additionally, synthetic gypsum production contributed 12 to 15 million metric tons annually.

Market Dynamics:

Driver:

Demand in the food and beverage sector

The demand for high-purity calcium sulfate is also significantly influenced by the food and beverage industry because of its safe application as a firming agent, food additive, and nutritional fortifier. It is frequently used to improve texture, stability, and mineral content in baked goods, tofu production, canned vegetables, and dietary supplements. Demand is being increased by consumers' increasing preference for calcium-rich fortified foods as well as clean-label and non-toxic ingredient requirements. Manufacturer confidence is increased when regulatory bodies like the FDA and EFSA

approve HPCS for use in food applications. Furthermore, its use as a crucial additive in the world's food processing industries is growing due to growing health consciousness and the demand for plant-based proteins in emerging markets.

#### Restraint:

##### High costs of production and processing

High-purity calcium sulfate is produced using energy-intensive procedures, stringent quality control, and advanced purification to eliminate contaminants and satisfy food%-%or pharmaceutical-grade requirements. The cost of synthetic and refined gypsum is higher than that of natural gypsum because they need specialized machinery, trained labor, and adherence to international regulations. Especially when competing with less expensive alternatives like talc, calcium carbonate, or regular gypsum, manufacturers frequently find it difficult to strike a balance between affordability and quality. In price-sensitive areas like parts of Asia, Africa, and Latin America, high production costs further restrict adoption. If technological advancements don't reduce costs, market penetration in these sectors might be limited, which would slow the growth of the industry as a whole.

#### Opportunity:

##### Growing need in biotechnology and pharmaceuticals

The growing biotechnology and pharmaceutical sectors present one of the best prospects for high-purity calcium sulfate. It is essential for guaranteeing safe and reliable dosage delivery because it is used in drug formulations as an excipient, stabilizer, and controlled-release agent. Its use in dental fillings, bone grafts, and regenerative medicine also opens up profitable biomedical markets. The need for trustworthy excipients is growing as a result of increased research and development in precision medicine, biosimilars, and biologics. Moreover, HPCS is positioned to become more popular as long as regulatory agencies continue to place a strong emphasis on product quality and safety. These opportunities are further expanded by the quick development of healthcare infrastructure in Latin America and Asia-Pacific.

#### Threat:

##### Market saturation & intense competition

The market for HPCS is increasingly threatened by fierce rivalry between low-cost producers, regional suppliers, and well-established manufacturers. Premium industries like pharmaceuticals and upscale construction are dominated by large multinational corporations, leaving smaller competitors to compete in price-sensitive markets. Additionally, competition is heightened by the use of alternative fillers and low-purity gypsum in the food, agriculture, and construction sectors. In developed regions, market saturation further restricts growth potential, requiring businesses to make significant investments in innovation, branding, and differentiation. Without R&D, cost-effective production, or strategic alliances, smaller and mid-sized HPCS suppliers run the risk of losing market share to rivals who provide more varied or less expensive options.

#### Covid-19 Impact:

Due to lockdowns and labor shortages, the COVID-19 pandemic had a mixed effect on the High Purity Calcium Sulfate (HPCS) market, causing supply chains, production, and logistics to be disrupted, especially in areas that depended on gypsum mining and processing. Globally, construction projects slowed, which momentarily decreased demand in the infrastructure and building sectors. Delays also occurred in industrial and agricultural consumption. On the other hand, because HPCS plays a crucial role in tablet formulations, bone grafts, and medical applications, demand in the pharmaceutical and healthcare sectors was either constant or increased. Overall, the pandemic highlighted the strategic significance of HPCS in critical industries, promoting recovery and long-term resilience even though short-term market growth was limited.

The powdered calcium sulfate segment is expected to be the largest during the forecast period

The powdered calcium sulfate segment is expected to account for the largest market share during the forecast period. This dominance is explained by its remarkable non-toxicity and biocompatibility, which make it perfect for use in construction, food and drink, and pharmaceuticals. Powdered calcium sulfate is used in the pharmaceutical industry as a coating agent, stabilizer, and excipient for tablets and capsules because of its non-reactivity and capacity to facilitate controlled drug release. Furthermore, its homogeneous structure and fine particle size increase its efficacy in a range of applications, promoting its broad use in numerous industries.

The recycled/recovered segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the recycled/recovered segment is predicted to witness the highest growth rate. This increase is a result of different industries placing more and more emphasis on sustainability and circular economy principles. High-purity calcium sulfate is being produced by manufacturers using recycled gypsum from sources such as construction and demolition waste, including scrap drywall. This strategy not only lessens the need for virgin raw materials but also complies with sustainability objectives and strict environmental regulations. To recover and purify gypsum from construction waste and produce high-purity calcium sulfate for use in food and pharmaceutical applications. In the upcoming years, the segment's strong growth is anticipated to be driven by such initiatives.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share. Rapid industrialization, the growth of the food processing and pharmaceutical industries, and substantial infrastructure development in nations like China, India, and Japan are all responsible for this dominance. The region's strong demand, which is fueled by a growing population and rising healthcare awareness, covers a wide range of applications, including food additives, pharmaceuticals, and construction. Moreover, Asia Pacific's market leadership is further reinforced by favorable regulatory frameworks and growing domestic production of pharmaceutical excipients.

Region with highest CAGR:

Over the forecast period, the Middle East and Africa region is anticipated to exhibit the highest CAGR. Rapid urbanization in Gulf Cooperation Council (GCC) nations like Saudi Arabia, the United Arab Emirates, and Qatar is the main cause of this growth. High-purity calcium sulfate and other gypsum-based materials are in high demand as a result of these countries' substantial investments in infrastructure projects, which include the building of residential, commercial, and industrial structures. Furthermore, the MEA region is expected to grow at the fastest rate for high-purity calcium sulfate during the forecast period due to the combination of industrial expansion and infrastructure development.

Key players in the market

Some of the key players in High Purity Calcium Sulfate Market include Saint-Gobain, Georgia-Pacific, Knauf Digital GmbH, Etex Group, HOLCIM, Shanghai Huilong Chemical Co., Ltd., Boral Limited, Alahligypsum, Global Gypsum Board Co LLC, W. R.

Grace & Co.-Conn, Arcosa, Inc., JK Cement Ltd., Alpek Polyester USA, LLC, The Chemours Company, Ecolab and USG Corporation.

#### Key Developments:

In June 2025, Holcim has acquired the operations of Langley Concrete Group Inc., a leading provider of precast solutions based in British Columbia. This strategic move marks the company's entry into the precast concrete market in the province, expanding its national capabilities and strengthening its footprint in the rapidly growing infrastructure sector.

In November 2024, Saint-Gobain announced that it has signed a 20-year renewable Power Purchase Agreement (PPA) with Quebec-based clean energy company Boralex, to provide wind and solar-based energy for Saint-Gobain's industrial operations in France from three new renewable energy projects. According to the company's the new agreement will enable two solar power plants and one wind farm to come online between the first quarter of 2026 and the first quarter of 2027.

In August 2024, Arcosa has entered into a definitive agreement to acquire the construction materials business of Stavola Holding Corporation and its affiliated entities for \$1.2 billion in cash, subject to customary post-closing adjustments. Founded in 1948, Stavola is an aggregates-led and vertically integrated construction materials company primarily serving the New York-New Jersey Metropolitan Statistical Area ("MSA") through its network.

#### Forms Covered:

Powdered Calcium Sulfate

Granular Calcium Sulfate

Nano-structured Calcium Sulfate

#### Purity Levels Covered:

Ultra-High Purity (>/99.5%)

High Purity (>/95% and

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