

United States Carbon Black Market By Process Type (Furnace Black, Gas Black, Lamp Black, Thermal Black), By Application (Tires, Plastics, Toners, Coatings, Textile Fibers, Others), By Region, Competition

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Abstracts

The United States Carbon Black Market achieved a valuation of USD 3.42 billion in 2022 and is poised for substantial growth in the forecast period, with a projected Compound Annual Growth Rate (CAGR) of 5.47% through 2028 and is expected to reach at USD 4.72 Billion by 2028. Furnace black is widely utilized due to its high production capacity, making it the preferred method in the industry. It is industrially produced through the combustion of heavy petroleum products like coal tar and Fluid Catalytic Cracking (FCC) tar, combined with vegetable oil.

The U.S. tire industry is projected to experience a surge in demand, driven by the increasing automotive sales in the country. Tire manufacturers in the region are establishing new facilities near automobile production centers. Furthermore, the rapid adoption of advanced technologies in tire production is expected to drive market growth. The growth of the U.S. carbon black market is anticipated due to growing environmental concerns and the development of the automotive industry.

The trend of refurbishing has led to increased demand for high-performance coatings in various industries, including automotive, marine, aerospace, and industrial. Market dynamics are strongly influenced by the use of rubber, electronic discharge compounds, and inks, as well as regulatory requirements for manufacturing technologies and raw materials. In this industry, the transportation segment is expected to dominate over the next seven years, fueled by the rising demand for tires and rubber. Carbon black enhances the strength and durability of tires by offering improved abrasion resistance

and tensile strength. Additionally, the growing construction and manufacturing sectors, which utilize industrial rubber and equipment, are expected to drive the demand for carbon black in the forecast period.

Product prices are primarily influenced by raw materials, auxiliary materials, and utilities. Fluctuations in crude oil prices significantly impact the pricing of carbon black. Other macro-level factors affecting prices include working capital and pre-operational costs. Pre-operational costs encompass installation and setup, capitalized interests, project engineering and management, and commissioning costs. Carbon black is derived from incomplete combustion of various petroleum-based constituents. It holds a crucial role in a wide range of end-use applications, such as consumer goods, automobiles, appliances, electronics, and others. As carbon black is petroleum-derived, manufacturers rely on sourcing their key raw materials at competitive prices with uninterrupted supply. Raw materials are selected critically by manufacturers based on product quality, pricing, product portfolio, and market accessibility.

Key Market Drivers

Growing Demand of Carbon Black for Manufacturing of Plastics:

Carbon black, an elemental form of carbon, is generated through the incomplete combustion of hydrocarbons. Its finely divided particles are incorporated into diverse materials to impart favorable properties. When integrated into plastics, carbon black enhances mechanical strength, thermal conductivity, and UV stability. This amalgamation yields plastic compounds with improved durability, enhanced processability, and superior resistance to environmental factors. This synergy is particularly advantageous in industries where performance and longevity are paramount.

The automotive industry, a cornerstone of the United States economy, exemplifies the symbiotic relationship between carbon black and plastics. Carbon black-reinforced plastics find extensive use in manufacturing automobile components such as tires, hoses, gaskets, and interior parts. The demand for lightweight yet durable materials in the automotive sector has driven the adoption of carbon black-enhanced plastics, contributing to better fuel efficiency, reduced emissions, and enhanced safety.

In the domain of packaging and consumer goods, carbon black-infused plastics offer unparalleled benefits. From food packaging to electronics casings, the incorporation of carbon black ensures longevity and resistance to environmental stressors. The use of

carbon black helps preserve the integrity of products, extends shelf life, and protects sensitive contents from light and UV degradation. This reliability has led to a surge in demand for carbon black in plastic packaging solutions.

In the fast-paced realm of electronics, carbon black-infused plastics are fostering innovation. These materials are integral to producing casings for devices like smartphones, laptops, and appliances. Carbon black's ability to dissipate static electricity and shield against electromagnetic interference makes it a sought-after component in the electronics sector. As the demand for advanced electronics continues to grow, so too will the demand for carbon black-enhanced plastics.

The shift towards sustainability has also impacted the carbon black market. Recycled carbon black, derived from the pyrolysis of end-of-life rubber and plastic products, offers a more environmentally friendly alternative to traditional carbon black production methods. As the United States strives to embrace a circular economy, recycled carbon black is expected to play a significant role in waste reduction and resource conservation.

Growing Demand of Carbon Black for Production of Tires:

Carbon black is a carbonaceous material produced through the incomplete combustion of hydrocarbons. Its role in tire manufacturing is crucial as it enhances tire performance, durability, and safety. By reinforcing tire rubber, carbon black increases resistance to wear and tear, extending tire lifespan. This property is particularly important for safe and cost-effective driving.

The inclusion of carbon black in tire treads improves traction and grip on diverse road surfaces, contributing to better handling and control, especially in adverse weather conditions. With its high thermal conductivity, carbon black effectively dissipates heat generated during tire rolling, reducing overheating, and enhancing overall performance. Additionally, carbon black provides UV protection, preventing tire degradation from prolonged exposure to sunlight. Moreover, carbon black strengthens the rubber compound's resistance to abrasion, a vital characteristic for tires facing various road conditions.

As tire demand continues to rise alongside advancements in tire technology, the United States Carbon Black market is poised for sustained expansion. Nonetheless, environmental concerns are also exerting influence on the market. Manufacturers are actively developing sustainable and eco-friendly methods of carbon black production,

aligning with global efforts to reduce the carbon footprint of industries.

Key Market Challenges

Regulatory Pressures and Environmental Concerns:

The increasing emphasis on environmental sustainability has led to stringent regulations and standards aimed at reducing carbon emissions and promoting cleaner manufacturing processes. The carbon black industry, like many others, faces the challenge of meeting these regulations while maintaining profitability. This challenge has driven companies to explore cleaner and more efficient production methods, invest in emissions-reduction technologies, and develop environmentally friendly products. As a result, the industry is evolving towards more sustainable practices, positioning itself for long-term growth while addressing global concerns about climate change.

Volatile Raw Material Prices:

The carbon black industry is highly dependent on feedstock prices, especially petroleum-based products. Fluctuations in oil prices can significantly impact the production costs of carbon black. This challenge has driven companies to explore alternative feedstocks and invest in technologies that can reduce dependency on oil-derived materials. Seeking stability in raw material costs is driving the industry to explore new avenues and develop resilience against market volatility.

Supply Chain Disruptions:

Global events, such as the COVID-19 pandemic, have underscored the vulnerability of supply chains. Disruptions in supply can impact production and delivery schedules, posing challenges to manufacturers. In response, the industry is exploring strategies to diversify supply sources, improve logistics, and build more resilient supply chains that can withstand unforeseen disruptions.

Evolving Customer Demands:

Consumer preferences are evolving rapidly, with increasing demand for products that offer not only high performance but also environmental sustainability. Carbon black is an essential ingredient in tire manufacturing, and the tire industry is under pressure to produce more fuel-efficient and environmentally friendly tires. This challenge is driving the carbon black market to develop specialized grades of carbon black that can meet

these stringent requirements. Adapting to changing customer demands encourages innovation and spurs the development of new and improved carbon black products.

Key Market Trends

The Recent Advancements in Manufacturing Process:

The advancements in

manufacturing processes have facilitated the production of carbon black with higher efficiency, reduced waste, and precise particle size, thereby stimulating market growth. Additionally, the innovations in process control and automation have improved quality control, enabling the production of specialized grades of carbon black, which further supports market growth. Moreover, ongoing research and development (R&D) in carbon black production have introduced new methods to enhance performance characteristics, propelling market growth. Furthermore, optimization of production costs and the ability to scale manufacturing according to market demands are also contributing to market growth. Moreover, collaborations between research institutions and industry players are fostering innovation and technological evolution in carbon black production, thus catalyzing market growth.

Segmental Insights

Process Type Insights:

In 2022, the Carbon Black market was dominated by Furnace Black and is predicted to continue expanding over the coming years. Furnace black has established dominance in the market due to its extensive utilization across diverse industries such as tire manufacturing, plastics, coatings, and rubber products. Notably, the production process of furnace black exhibits high efficiency and scalability through the incomplete combustion of heavy petroleum products, making it ideal for large-scale manufacturing. Furthermore, the production method allows for precise control over particle size and structure, resulting in specific grades and quality levels that cater to unique industry requirements. Additionally, the integration of modern production techniques minimizes environmental impact and aligns with the global trend towards sustainability, thereby positively influencing market growth. Moreover, furnace black is renowned for its exceptional reinforcing properties, rendering it the preferred choice in industries that necessitate materials with enhanced strength and durability.

Application Insights:

In 2022, the Carbon Black market was dominated by Tires and is predicted to continue expanding over the coming years. The tire manufacturing industry currently dominates the market, primarily due to the widespread use of carbon black as a reinforcing agent. This crucial additive enhances tire strength, durability, and resilience, while also providing essential wear resistance and tensile strength. The global surge in the automotive industry, particularly in emerging markets, has further fueled the demand for tires, thus acting as a significant driver of growth. Additionally, there is a growing trend towards high-performance and energy-efficient tires that offer improved fuel economy and safety. Carbon black plays a vital role in achieving these desired properties, making it indispensable in tire production. Furthermore, continuous innovation in tire manufacturing technology enables more specialized applications of carbon black, contributing to the overall market expansion.

Regional Insights:

The Midwest region has established itself as the leader in the Global Carbon Black Market. The rapid industrial growth in the region across sectors such as construction, manufacturing, and electronics is driving the demand for carbon black in various applications like pigments and reinforcing materials. Additionally, the increasing disposable income in emerging economies in the region has led to greater consumption of goods utilizing carbon black, including electronics, personal care products, and automobiles, thereby positively impacting market growth. Moreover, the presence of several key carbon black manufacturers, supporting local demand and serving as an export base, is further bolstering market growth.

Key Market Players

Cabot Corporation

Continental Carbon Company, Inc.

Bridgestone Corporation

Columbian Chemicals Co.

Sid Richardson Carbon & Energy Co.

Phillips Carbon Black Ltd.

Report Scope:

In this report, the United States Carbon Black Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

United States Carbon Black Market, By Process Type:

Furnace Black

Gas Black

Lamp Black

Thermal Black

United States Carbon Black Market, By Application:

Tires

Plastics

Toners

Coatings

Textile Fibers

Others

United States Carbon Black Market, By Region:

Northeast

Midwest

South

West

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the United States Carbon Black Market.

Available Customizations:

United States Carbon Black Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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