

Fullerene - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Fullerene Market size is estimated at USD 546.35 million in 2024, and is expected to reach USD 839.47 million by 2029, growing at a CAGR of 8.97% during the forecast period (2024-2029).

The market was negatively impacted by the lockdowns caused by Covid-19 in the year 2020. However, in the past two years, the market has gained momentum and is showing signs of recovery.

Key Highlights

- Increasing demand for fullerene from the pharmaceutical industry, penetration in the surface coatings industry due to strong metal matrix, and growing demand for fullerene as an optical limiter are expected to drive the demand for the market, during the forecast period.
- However, the high cost and complex production associated with endohedral fullerenes and toxic nano-compounds creating environmental pollution will hinder the market growth during the forecast period.
- Growing application in perpetuating life due to its property of reducing oxidative stress and usage in cosmetics as a cytoprotector are likely to act as an opportunity for the market over the forecast period.
- Asia-Pacific dominated the market across the world, with the largest consumption coming from China, Japan, and India.

Fullerene Market Trends

Increasing Demand from Medical and Pharmaceutical Industry.

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- In the medical and pharmaceutical industries, after an intravenous or subcutaneous injection, fullerenes can be used to locate specific cells and areas in the body.
- Mast cells which release mediators when a person comes into contact with something lead to allergic reactions. To control such allergic reactions, fullerene derivatives can be used by having a direct effect on the mast cells.
- Fullerenes are also amazing antioxidants owing to their high electron affinity and conjugated double bonds. Acting as cytoprotectants, fullerenes can also protect against ultraviolet radiation. Such properties of fullerenes make them an ideal choice for various pharmaceutical and medical applications.
- According to AstraZeneca report estimates, the estimated pharmaceutical sales globally will account for USD 2.025 trillion by the year 2026. The United States boasts a colossal pharmaceutical industry that holds a lion's share in the global pharmaceutical market.
- In the year 2022, the value of total sales of pharmaceutical products in the United States was USD 605 billion, while in the year 2021, it was USD 556 billion. The United States accounted for 49.8% of global sales in the year 2022 while in the year 2021, it was 49.7%.
- In the Asia-Pacific, China is one of the largest markets for pharmaceutical products. By the year 2026, according to the AstraZeneca report, the estimated pharmaceutical sales in the country will be worth USD 189 billion hence increasing the demand for efficient medicines.
- Hence, such trends in the medical and pharmaceutical industry are expected to drive the market for fullerenes over the forecast period.

Asia-Pacific Region to Dominate the Market

- With the growth of industries like aerospace, defense, electronics, medical, and pharmaceutical in the countries, such as China, India, and Japan, the demand for fullerene in the Asia-Pacific region is growing drastically.
- Over the next 20 years, China is expected to be the world's largest single-country market for civil aircraft production. In China, according to the Boeing Commercial Outlook 2022-2041, around 8,485 new deliveries will be made by 2041 with a market service value of USD 545 billion.
- Moreover, in Southeast Asia, around 4,255 new deliveries will be made by 2041 with a market service value of USD 245 billion. Owing to such new deliveries in the Southeast Asian region, the demand for the studied market is likely to rise.
- India launched a comprehensive program for the development of semiconductors and display manufacturing ecosystems in the country. The government announced an outlay of INR 76 thousand crore (~USD 10 billion). Fiscal support of 50% of the project cost is provided by the government to set up display fabs, and semiconductor fabs, and fiscal support of 50% of capital expenditure for compound semiconductors fab.
- All the aforementioned factors, coupled with government policies, are expected to drive the demand for fullerene through the forecast period in the region.

Fullerene Industry Overview

The fullerene market is highly consolidated with the top players accounting for a major share of the market. Some of the top players (not in any particular order) in the fullerene market include Nano-C, SES Research Inc., IoLiTec Ionic Liquids Technologies GmbH, Nanotech Industrial Solutions, and Mitsubishi Corporation amongst others.

Additional Benefits:

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- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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