

Sulfur Hexafluoride - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

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Abstracts

The Sulfur Hexafluoride Market size is estimated at 77.69 kilotons in 2024, and is expected to reach 98.26 kilotons by 2029, growing at a CAGR of greater than 4% during the forecast period (2024-2029).

The Sulfur Hexafluoride market was affected by the COVID-19 pandemic as the electricity demand has been reduced significantly. Governments around the globe were compelled to reduce business activity in response to minimize the impact of coronavirus. The COVID pandemic changed lifestyles globally as people mainly stayed at home and worked from home. Hence, there is a significant increase in residential load demand while there is a substantial decrease in commercial and industrial loads. However, post-COVID pandemic in recent years with surplus supplies, the energy market is presently at a historic low, which is expected to affect the demand for the sulfur hexafluoride market.

Key Highlights

The growing demand for electricity in developing countries and the increasing applications in the medical sector are expected to drive the market for sulfur hexafluoride.

The stringent environmental regulations against sulfur hexafluoride are expected to hinder the market's growth.

The adoption of high-voltage direct current (HVDC) transmission in developing nations is expected to create opportunities for the market during the forecast period.



The Asia-Pacific region is expected to dominate the market. It is also expected to register the highest CAGR during the forecast period due to the rising demand for sulfur hexafluoride in the power, energy, and electronics end-user industries.

Sulfur Hexafluoride Market Trends

Power and Energy Application Segment to Dominate The Market

Sulfur Hexafluoride offers unique dielectric properties. Thus, it is used in electric power systems for current interruption, voltage electrical insulation, and arc quenching in the transmission and distribution of electricity.

Sulfur hexafluoride is suitable for operating in a range of 33 kV to 800 kV, which makes it an ideal dielectric medium for circuit breakers. A large number of appliances with varied operating conditions and operating ranges can be made with the help of sulfur hexafluoride.

The rising population and increasing usage of electricity across various countries are expected to increase the consumption of electricity, thereby driving the demand for Sulfur hexafluoride used in power transmission lines. According to Enerdata, the global electricity consumption reached 25530 Tetrawatt-hours in 2022, as compared to 25343 Tetrawatt-hours electricity consumed in the previous year at a growth rate of 2%.

In the North American region, electricity consumption is increasing, thereby driving the current studied market. In the United States, the demand for electricity is increasing from lighting, heating, cooling, refrigeration, and other applications. According to IEA, in 2022, total electricity consumption will increase to 4.05 trillion kWh at a growth rate of 2.6% compared to 2021. Thus, the rising electricity consumption will further drive the demand for power transmission lines, thereby driving the market for Sulfur hexafluoride.

The adoption of HVDC transmission in some countries can further increase the demand for sulfur hexafluoride, as it is helpful in manufacturing high-voltage transmission systems and equipment. For instance, according to the Central Electricity Authority (CEA), electricity consumption in India increased by 9.5% to 1503.65 billion units year-on-year in 2022-2023, mainly due to increasing economic activities.

Thus, the power and energy application segment will dominate the market for Sulfur hexafluoride during the forecast period.



Asia-Pacific Region to Dominate the Market

The demand for sulfur hexafluoride is increasing in the Asia-Pacific region due to rising demand from power and energy, electronics, metal manufacturing, and medical applications. The demand for sulfur hexafluoride is increasing in countries such as China, Japan, and India.

In China, the usage of electricity is increasing due to the growth of the economy and rapid urbanization. According to the State Grid Corporation of China (SGCC), the largest of China's two state-owned utility corporations, China's energy demand in 2030 is expected to exceed 10 Petawatt hours (PWh). Thus, the increasing demand for energy will further increase the power transmission demand in the country, thereby driving the market for sulfur hexafluoride.

China is one of the largest electronics markets in the region. According to the National Bureau of Statistics of China, retail sales of household appliances and consumer electronics in China amounted to almost CNY 61 billion (USD 8.52 billion) in April 2023. Thus, the growth of the consumer electronics segment is expected to increase the demand for sulfur hexafluoride in the country.

As per the reports by the Ministry of Power and the Central Electricity Authority (CEA), in FY 2022, the total installed generation capacity registered at 1624 billion units, at a growth rate of 8.7% as compared to the installed power generation capacity of 1491 billion units in the previous year. Thus, the increasing power generation capacity will drive the installation of more power transmission lines, thereby driving the market for sulfur hexafluoride.

The electronics market is growing in India. In the union budget FY 2023, the government allocated USD 2 billion for the Ministry of Electronics and Information Technology. Furthurmore, the Indian electronics manufacturing industry is projected to reach USD 520 billion by 2025. The demand for electronic products is expected to rise to USD 400 billion by 2025 from USD 33 billion in FY 2020. Thus, the growth in the electronics industry is expected to drive the demand for sulfur hexafluoride in the country.

Similarly, in 2022, the domestic production by the Japanese electronics industry is estimated at USD 85.19 billion (JPY 11,124.3 billion) in 2022, witnessing a growth rate



of 2% as compared to 2021. Thus, the growth in the electronics industry is expected to drive the demand for sulfur hexafluoride in the country.

Due to all such factors, the market for sulfur hexafluoride in the region is expected to grow during the forecast period.

Sulfur Hexafluoride Industry Overview

The sulfur hexafluoride market is partially fragmented in nature. Some of the major players in the market include (not in any particular order) SHOWA DENKO K.K., Solvay, Air Products Inc., Concorde Specialty Gases, Inc., and Linde Plc, among others.

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