

Niobium Pentoxide Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The niobium pentoxide market is estimated to reach 4,842.36 tons by the end of the current year. It is expected to grow with a CAGR of over 5.5% during the forecast period.

The market was negatively impacted by the COVID-19 pandemic in 2020. The pandemic hampered various industries, such as the automotive and construction industries, due to the disruption in the supply chain. However, the market is expected to reach the pre-pandemic level during the forecast period.

Key Highlights

Over the short term, the growing demand from the electric vehicles segment and increasing demand for high-quality steel from the manufacturing sector are some factors driving market demand.

Concerns about health issues on acute exposure to niobium pentoxide are hindering the growth of the market.

The increasing demand from the biomedical sector is likely to act as a growth opportunity for the niobium pentoxide market during the forecast period.

The Asia-Pacific region is expected to dominate the market and witness the highest CAGR during the forecast period.

Niobium Pentoxide Market Trends

Increasing Usage in the Production of Niobium Metal

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Niobium pentoxide, especially industrial grade, is used mainly in producing niobium metal. In addition, niobium pentoxide (99.9%) is also used to produce niobium metal for higher quality requirements. Technical quality niobium pentoxide (98-99%) is suitable for the electrothermic and metallothermic manufacture of niobium metal.

Niobium metal offers high-temperature resistance, corrosion resistance, oxidation resistance, improved creep resistance, and reduced erosion at high temperatures.

Niobium metal has good resistance to corrosive chemicals, even at high temperatures. It is, therefore, used to construct chemical equipment. Specifically, niobium metal plates, sheets, wires, rods, and tubings are used in sputtering targets, cathode protection systems for large steel structures, and chemical processing equipment. Moreover, it is also used for medical implants.

With the growing construction activities globally, the demand for niobium-based alloys and their products is projected to increase during the forecast period. For instance, the construction market was valued at around USD 7.2 trillion in 2021. It was expected to rise at a CAGR of 3.6% in 2022. This is likely to support the demand for the market studied from various construction applications.

According to the Organization Internationale des Constructeurs d'Automobiles (OICA), a total of 80.15 million vehicles were produced worldwide in 2021, a CAGR of 3% over 2020, thus, enhancing the demand for metallic alloys, such as niobium, which are used for various automotive parts, including the body in white, and others.

Recently, aircraft manufacturers have been looking for ways to accelerate production to fill order backlogs. For instance, according to the Boeing Commercial Outlook 2022-2041, the total global deliveries of new airplanes are estimated to be 41,170 by 2041. The global airplane fleet amounted to around 25,900 units as of 2019, and the fleet number is expected to reach 47,080 units by 2041. Owing to such huge expected deliveries, the demand for niobium pentoxide to produce niobium metal and alloys for aerospace is likely to rise globally.

All factors mentioned above are likely to enhance the market's growth significantly.

The Asia-Pacific Region is Expected to Dominate the Market

The Asia-Pacific is expected to dominate the market. In the region, China is the largest economy in terms of GDP. China and India are among the fastest emerging economies in the world.

Niobium-based HSLA steels are mainly used in automotive and construction activities. Specifically, about 80% of all automotive sheet steel grades are regularly micro-alloyed with niobium. HSLA steels are used to manufacture fuel-efficient, safe, and long-lasting vehicles.

China is the largest manufacturer of automobiles globally. In 2021, according to the OICA, the automotive production in the country reached 26.08 million, which increased by 3%, compared to 25.23 million vehicles produced in 2020. The increase in automotive production is estimated to drive the demand for the market studied in the country from high-end vehicle manufacturing.

According to the Boeing Commercial Outlook 2022-2041, in China, around 8,485 new deliveries are projected to be made by 2041, and the market service value may be accounted for USD 545 billion by 2041. Owing to such new deliveries in the country, the demand for niobium pentoxide from manufacturing aircraft components, especially engine blades, is likely to rise.

China has one of the world's largest electronics production bases and offers tough competition to the existing upstream producers, such as South Korea, Singapore, and Taiwan. Electronic products, such as smartphones, OLED TVs, and tablets, have the highest growth rates in the consumer electronics segment of the market in terms of demand.

China is the second-largest healthcare market in the world. However, the country imports technologically high-end implants from advanced economies. Public hospitals in the country are leading consumers of medical devices in the country. Some key companies offering MRI devices in the country are General Electric Company, Siemens Healthcare GmbH, Aurora Imaging Technologies Inc., etc.

In India, according to the OICA, around 43,99,112 vehicles were produced in 2021, which increased by 30% compared to 33,81,819 units manufactured in 2020. The increasing automotive sector is expected to augment the market in the forecast

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period.

According to the India Brand Equity Foundation (IBEF), the Indian electronics manufacturing industry is expected to reach USD 520 billion by 2025. Electrical and electronics production in India is expected to increase rapidly due to government initiatives with policies, such as Make in India, National Policy of Electronics, Net Zero Imports in Electronics, and Zero Defect Zero Effect, which offer a commitment to growth in domestic manufacturing, lowering import dependence, energizing exports, and manufacturing, like the "Make in India" program to make the country self-reliant.?

Due to the abovementioned factors, the market for niobium pentoxide in the region is expected to have steady growth during the forecast period.

Niobium Pentoxide Market Competitor Analysis

The global niobium pentoxide market is consolidated in nature, with the top five players controlling the majority of the share of the global supply. Some of the major players in the market include CBMM, AMG NV, JX Nippon Mining & Metals Corporation, Mitsui Mining & Smelting Co. Ltd, and F&X Electro-Materials Ltd, among others.

Additional Benefits:

The market estimate (ME) sheet in Excel format

3 months of analyst support

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