Calcium Hydride Market Will See Strong Expansion Through 2030

Calcium Hydride Market To Reach Valuation Of ~US$ 1 Bn By 2030

ALBANY, NEW YORK, US, January 6, 2022 /EINPresswire.com/ -- The global calcium hydride market was valued at US$ 670 Mn in 2019 and is anticipated to expand at a CAGR of 4.5% during the forecast period. The global calcium hydride market is driven by the increase in demand for calcium hydride in the hydrogen generation industry. Asia Pacific accounts for a major share of the global calcium hydride market led by high demand for calcium hydride among chemical manufacturers.

Key Drivers of Calcium Hydride Market

Calcium hydride is a reducing agent that is used to produce metals from metal oxides of Titanium (Ti), Vanadium (V), Niobium (Nb), Tantalum (Ta), and Uranium (U). For instance, titanium metal can produced by reacting titanium dioxide with calcium hydride where CaH_2 acts as a reducing agent. Pure titanium in the form of billets and ingots is extensively used in the production of body parts of aircraft. Reducing agents are generally those compounds that can lose or donate an electron to the oxidizing agent. Reduction process includes the elimination of oxygen from metallic oxides, thus forming a metal with some impurities. Calcium hydride is employed in the production of chromium, zirconium, thorium, and uranium.

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Calcium hydride is a cost-effective solution to produce metal from metallic oxides. Calcium hydride is also used as a desiccant or drying agent. Calcium hydride is widely employed as a desiccant for basic solvents such as amines and pyridine. Commercially developed drying agents, such as calcium hydride, play a significant role in the packaging process while shipping products. Calcium hydride protects products from reaction with water. Moreover, increase in demand for metals such as titanium, zirconium, and uranium in industrial applications is estimated to boost the demand for calcium hydride as a reducing agent.

Increase in Application of Hydrogen Gas Extracted from Calcium Hydride to Offer Lucrative

Opportunities to Calcium Hydride Market

Calcium hydride is being used as a primary source of production of hydrogen since 1940s. Calcium hydride reacts with water, liberating hydrogen gas, and calcium hydroxide. Hydrogen gas can be used in a wide range of applications in various end-use industries such as chemical, refining, metal, food, electrical & electronics, glass, and energy. Hydrogen gas is employed as a safe and convenient means to inflate meteorological balloons/weather balloons, which are required to provide the lift necessary to carry the instrument into the sky to gather information on atmospheric pressure, temperature, humidity, and wind speed.

Calcium hydride is a metal hydride that can be used in a wide range of greener applications such as production of hydrogen storage systems for fuel cell applications. It is also employed in the development of porous aromatic frameworks for the adsorption of organic pollutants. Furthermore, calcium hydride is used in the formation of high temperature superconductors. Hydrogen gas extracted from calcium hydride is employed in small quantities for analytical purposes.

Several key players such as Albemarle Corporation and Materion Corporation offer calcium hydride in different grades such as reagent grade, analytical grade, and laboratory grade. All these grades are segmented based on calcium content. Increase in the usage of hydrogen gas extracted from calcium hydride in applications mentioned above is estimated to boost the calcium hydride market in the near future.

High Production Cost of Calcium Hydride to Hamper Calcium Hydride Market

Calcium hydride is manufactured by a small number of manufacturers, primarily based in the U.S. and China. These are the leading manufacturers of calcium hydride. Prices of calcium hydride are comparatively higher than its substitutes due to low competition. The production of hydrogen gas in large quantities is preferred from another source (electrolysis of sea water) instead of calcium hydride due to the higher prices of calcium hydride. Several alternatives of calcium hydride, such as sodium hydride and lithium aluminum hydride, are available in the market. Lower prices and easy availability of sodium hydride and lithium aluminum hydride as a reducing agent are hampering the global calcium hydride market.

Asia Pacific Dominates Calcium Hydride Market

Asia Pacific dominated the global calcium hydride market with 42.5% share in 2019. This trend is anticipated to continue during the forecast period. High consumption of calcium hydride in hydrogen generation is expected to drive the demand for calcium hydride in the region during the forecast period. Rise in consumption of calcium hydride as reducing and drying agent in the chemical industry in ASEAN, India, and China make Asia Pacific a lucrative region of the global calcium hydride market. The calcium hydride market in Latin America and Middle East & Africa is projected to expand at a sluggish pace during the forecast period.

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Consolidated Nature of Calcium Hydride Market

The global calcium hydride market is dominated by a large number of major players operating across the globe. The top three players- SHINYA CHEM, Anhui Wotu Chemical Co., Ltd., and Albemarle Corporation-cumulatively accounted for 91.65% share in 2019. SHINYA CHEM held 75.2% share of the calcium hydride market in 2019. High share of the company can be primarily ascribed to its constant production capacity expansion and development of new products. Anhui Wotu Chemical Co., Ltd. occupied 4.09% share of the calcium hydride market in 2019. Albemarle Corporation constituted 5.73% share in the same year. Other key players operating in the global calcium hydride market include Materion Corporation, Noah Technologies Corporation, Strem Chemicals, Inc., and Spectrum Chemical Manufacturing Corp. These companies constituted 14.98% share of the global calcium hydride market in 2019.

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