

Calcium Carbide Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The calcium carbide market is expected to register a CAGR of more than 2.5% during the forecast period.

The COVID-19 outbreak affected many manufacturing industries and general economic activities in 2020. The implementation of lockdowns across various countries and disruptions in supply also impacted the chemical industry. At the same time, the slump in economic activity affected the development of infrastructure, the establishment of new industries, and expansions, seriously impacting the demand for metal products and the metallurgical industry. However, the demand from these sectors recovered in 2021 and is expected to grow at a moderate rate during the coming years.

Key Highlights

Over the short term, the increasing demand for chemical production and rising steel production across the world are driving the market's growth.

However, the detrimental health effects of calcium carbide may hinder the market's growth.

Growing downstream applications of acetylene can act as an opportunity for the market studied.

Asia-Pacific dominated the market, with China being the largest producer and consumer of calcium carbide globally. During the time frame of the forecast, the Asia-Pacific region is expected to have the highest CAGR.

Calcium Carbide Market Trends

Chemical Industry to Dominate the Market

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Calcium carbide is one of the primary building blocks in synthetic organic and industrial chemistry. It is one of the major sources of acetylene, which is extensively used in the chemical industry. Acetylene is an extremely useful hydrocarbon due to the energy that is locked up in its triple bond.

One of the most common applications of acetylene is its usage as a raw material for the manufacturing of vinyl chloride, acetic acid, and acrylonitrile. Vinyl chloride is used in the formulation of various fibers, films, cables, sheets, etc. that have numerous applications in the construction and automotive sectors.

The co-product of acetylene production is calcium hydroxide, which has several uses of its own. It is most widely used in the process of scrubbing stack gases from fossil fuel-based power plants to remove sulfur compounds before they are released into the air. Chemical manufacturers use calcium hydroxide to neutralize their waste streams, while municipalities use it to treat sewage water.

According to BASF SE, the global chemical production is expected to grow by 3.5% in 2022 (excluding pharmaceuticals), compared to a 6.1% growth rate in 2021.

For the United States, BASF SE has forecasted a stronger growth in chemical production, with a growth rate of 4.5% in 2022, compared to 1.8% in 2021, following the weather-related production outages in the previous year.

So, these factors and trends can affect the growth of the global calcium carbide market over the next few years.

China to Dominate the Asia-Pacific Region

China is the world's largest producer and consumer of calcium carbide. The demand is coming from end-user industries such as chemicals, metallurgy, and food, among others.

Because it has a lot of reserves and more people want to make vinyl chloride monomer (VCM), vinyl acetate monomer (VAM), and butanediol (BDO) from acetylene, the amount of calcium carbide being used goes up by more than 8% per year on average.

Recently, the country has been using calcium carbide to turn coal into acetylene. This has led to more acrylonitrile (ACN), vinyl chloride monomer (VCM), 1,4-butanediol (BDO), and acrylic acid (AA) being made.

The conversion of calcium carbide (CaC_2) to polyvinyl chloride (PVC) represents over 80% of China's total PVC production. So, using calcium carbide is likely to be an important part of making acetylene-based chemicals over the next few years.

The growth of the chemicals industry in China in 2022 is estimated to weaken due to low demand for chemicals in the consumer goods industries and from the electronics industry. The country is expected to register a growth of 4% in chemical production by the end of 2022, which is less than the previous year when the growth was almost 7.7%.

China is one of the largest producers of steel in the world. In 2021, the country's annual production capacity of crude steel stood at 1,032.8 metric tons, registering more than 50% of global production. The growing steel production in the country is indirectly driving the market for calcium carbide.

The country's economy is expected to grow slowly, and demand for calcium carbide is expected to grow at a healthy rate over the next few years.

Calcium Carbide Market Competitor Analysis

The calcium carbide market is partially consolidated with the top five players accounting for a significant share. Some of the key players in the market include Xinjiang Zhongtai Chemical Co., Ltd, Xinjiang Tianye (Group) Co., Ltd., Ningxia Jinyuyuan Chemical Group Co., Ltd., Inner Mongolia Baiyanhu Chemical Co., Ltd., and Denka Company Limited. (not in any particular order).

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Table of Contents:

1 INTRODUCTION

1.1 Study Assumptions

1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET DYNAMICS

4.1 Drivers

4.1.1 Increasing Steel Production Across the World

4.1.2 Increase in Demand for Chemical Production

4.2 Restraints

4.2.1 Detrimental Health Effects

4.2.2 Other Restraints

4.3 Industry Value Chain Analysis

4.4 Porter's Five Forces Analysis

4.4.1 Bargaining Power of Suppliers

4.4.2 Bargaining Power of Buyers

4.4.3 Threat of New Entrants

4.4.4 Threat of Substitute Products and Services

4.4.5 Degree of Competition

4.5 Trade Analysis

5 MARKET SEGMENTATION (Market Size in Volume)

5.1 Application

5.1.1 Acetylene Gas

5.1.2 Calcium Cyanamide

5.1.3 Reducing and Dehydrating Agent

5.1.4 Desulfurizing and Deoxidizing Agent

5.1.5 Other Applications (Modulizing Agent and Finishing Slag)

5.2 End-user Industry

5.2.1 Chemicals

5.2.2 Metallurgy

5.2.3 Food

5.2.4 Other End-user Industries (Pyrotechnics, Carbide Lamps, etc.)

5.3 Geography

5.3.1 Asia-Pacific

5.3.1.1 China

5.3.1.2 India

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- 5.3.1.3 Japan
- 5.3.1.4 South Korea
- 5.3.1.5 Rest of Asia-Pacific
- 5.3.2 North America
- 5.3.2.1 United States
- 5.3.2.2 Canada
- 5.3.2.3 Mexico
- 5.3.3 Europe
- 5.3.3.1 Germany
- 5.3.3.2 France
- 5.3.3.3 United Kingdom
- 5.3.3.4 Italy
- 5.3.3.5 Rest of Europe
- 5.3.4 South America
- 5.3.4.1 Brazil
- 5.3.4.2 Argentina
- 5.3.4.3 Rest of South America
- 5.3.5 Middle-East
- 5.3.5.1 Saudi Arabia
- 5.3.5.2 South Africa
- 5.3.5.3 Rest of Middle-East

6 COMPETITIVE LANDSCAPE

- 6.1 Mergers and Acquisitions, Joint Ventures, Collaborations, and Agreements
- 6.2 Market Share (%) Analysis
- 6.3 Strategies Adopted by Leading Players
- 6.4 Company Profiles
 - 6.4.1 Alzchem Group AG
 - 6.4.2 American Elements.
 - 6.4.3 Carbide Industries LLC
 - 6.4.4 DCM Shriram
 - 6.4.5 Denka Company Limited.
 - 6.4.6 Inner Mongolia Baiyanhu Chemical Co., Ltd.
 - 6.4.7 Inner Mongolia Junzheng Energy Chemical Group Co. Ltd
 - 6.4.8 MCB Industries Sdn Bhd
 - 6.4.9 Merck KGaA
 - 6.4.10 Mil-Spec Industries Corporation.
 - 6.4.11 NGO CHEMICAL GROUP LTD
 - 6.4.12 Ningxia Jinyuyuan Chemical Group Co., Ltd.
 - 6.4.13 Ningxia Yinglite Chemical Co. Ltd
 - 6.4.14 Xiahuayuan Xuguang Chemical Co., Ltd
 - 6.4.15 Xinjiang Tianye (Group) Co., Ltd.
 - 6.4.16 Xinjiang Zhongtai Chemical Co., Ltd.

7 MARKET OPPORTUNITIES AND FUTURE TRENDS

- 7.1 Growing Downstream Application of Acetylene

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