

Silica Sol Market By Application (Binder, Surface Modification, Flocculant, Catalyst, Others), By End Use Industry (Chemicals, Foundry, Pulp and Paper, Plastics, Electrical and Electronics, Textile, Others): Global Opportunity Analysis and Industry Forecast, 2021-2031

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Report description:

The silica sol market attained \$0.8 billion in 2021 and is projected to reach \$1.3 billion by 2031 by 2031, growing at a CAGR of 5.0% from 2022 to 2031.

Silica sol refers to liquid suspensions of spherical, nonporous, and finely amorphous silica particles. In the presence of water, siloxane linkages and silanol groups blanket the surface of colloidal silica. This product is commonly used as a rheological component in a variety of personal care products in order to manage fluidity. In the coming years, this aspect is anticipated to contribute to the expansion of the global colloidal silica market. Recent research has investigated the use of mesoporous silica nanoparticles as nanocarriers for gene and medication delivery. Silica sol is a very adaptable substance that can improve the qualities of a wide range of products from a variety of industries, including the building & construction and food & beverage sectors. Colloidal silica performs multiple roles in manufacturing processes, from boosting oxygen barrier qualities to improving ink absorption.

Silica sol, also known as colloidal silicic acid, is a stable suspension of hydroxylated, spherical silicon dioxide (SiO₂) nanoparticles in a liquid. In nearly every industrial sector, colloidal silicic acid is present. Surface treatment in the paper industry, usage as a polishing agent in the electronics sector, and use as an additive for varnishes, coatings, and paints to improve weather and abrasion resistance are among the applications. It is also commonly used in the cosmetics and culinary industries. The application of SiO₂ particles is determined by their mean particle size and distribution width. Normal diameters range from 1 to 100 nanometers.

Increasing use of silica sol in the automobile industry globally is expected to expand the market in the coming years. Silica sol is widely employed in the automotive industry for the production of tires with reduced rolling resistance. The continued development

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of novel tires containing hydrophobic colloidal silica to enhance vehicle handling and fuel economy is anticipated to drive the market. Nokian Tyres introduced the Green Step prototype tire in January 2022. It comprises 93% recyclable or renewable materials. By 2030, according to the manufacturer, 50% of the raw materials used to manufacture this tire will be recycled. Thus, the introduction of such environment-friendly tires in various regions of the world is expected to be positive for the industry. Silica sol is classified as somewhat irritating rather than hazardous. Because the chemicals can dry the skin, protective gloves must always be used. It irritates the skin and causes skin corrosion/irritant. It can cause major eye damage, there is a risk of serious eye injury. It may irritate the respiratory tract and skin. Target organ toxicity (repeated exposure): May irritate the respiratory tract and skin. In conclusion, the major risk to humans during production and transport could hamper the global market potential for silica sol.

The use of silica sol as an active chemical ingredient in the production of numerous pharmaceutical tablets, such as paracetamol and animal medicines, is regarded as a significant sales driver. It can preserve the stability of Active Pharmaceutical Ingredients (API) that are moisture-sensitive. Silica sol is increasingly employed as a disintegrant, an absorbent, an anti-caking agent, and a glidant to facilitate the powder's flow during the tablet-making process. Numerous manufacturers are anticipated to offer innovative pharmaceutical goods to capitalize on the unexplored market opportunity. Thus, the increasing adoption of silica sol in the pharmaceutical industry will offer lucrative opportunities for the silica sol market.

The global silica sol market is segmented into application, end-use industry, and region. Depending on the application, the market is classified into a binder, surface modification, flocculant, catalyst, and others. On the basis of the end-user industry, it is categorized into chemicals, foundry, pulp and paper, plastics, electrical & electronics, textile, and others. Region-wise, the market is studied across North America, Europe, Asia-Pacific, and LAMEA.

The major players operating in the global silica sol market are ADEKA CORPORATION, AMS Applied Material Solutions, Cabot Corporation, Ecolab Inc., Evonik Industries AG, Gelest, Inc., Merck KGaA, Nissan Chemical Corporation, Sterling chemicals, W. R. Grace & Co.-Conn. Other players operating in the market are Nouryon, Visa Chemical Industries, and Qingdao FSK Foundry Materials CO., LTD.

COVID-19 impact analysis on the silica sol market

The pandemic of COVID-19 has had a swift and severe impact on the global automotive industry.

Chinese component supplies were halted, large-scale production disruptions occurred across Europe, and American assembly plants were shut down.

However, after the pandemic, as the demand returned to normal after the restrictions were lifted, market participants in this market have explored measures to minimize the pandemic's impact on their business.

The automobile industry is increasing after the pandemic which automatically increased the demand for the silica sol market as it is used in paints and coatings of automotive parts.

The production of automobiles increases in 2021 as compared to 2020. According to the International Organization of Motor Vehicle Manufacturers, the production of automobiles increased as it was \$77 million in 2020 and \$80 million in 2021.

Many end-use industries such as paper & pulp and electronics are expanding which will drive the silica sol market in the forecast years.□

Key Benefits For Stakeholders

- This report provides a quantitative analysis of the market segments, current trends, estimations, and dynamics of the silica sol market analysis from 2021 to 2031 to identify the prevailing silica sol market opportunities.
- The market research is offered along with information related to key drivers, restraints, and opportunities.
- Porter's five forces analysis highlights the potency of buyers and suppliers to enable stakeholders make profit-oriented business decisions and strengthen their supplier-buyer network.
- In-depth analysis of the silica sol market segmentation assists to determine the prevailing market opportunities.
- Major countries in each region are mapped according to their revenue contribution to the global market.
- Market player positioning facilitates benchmarking and provides a clear understanding of the present position of the market players.
- The report includes the analysis of the regional as well as global silica sol market trends, key players, market segments, application areas, and market growth strategies.

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Key Market Segments

By Application

- Binder
- Surface Modification
- Flocculant
- Catalyst
- Others

By End Use Industry

- Chemicals
- Foundry
- Pulp and Paper
- Plastics
- Electrical and Electronics
- Textile
- Others

By Region

- North America
- U.S.
- Canada
- Mexico
- Europe
- Germany
- France
- UK
- Spain
- Italy
- Rest of Europe
- Asia-Pacific
- China
- Japan
- India
- South Korea
- Rest of Asia-Pacific
- LAMEA
- Brazil
- Saudi Arabia
- South Africa
- Rest of LAMEA
- Key Market Players
- Merck KGaA
- Sterling Chemicals
- Gelest, Inc.
- Ecolab Inc.
- AMS Applied Material Solutions
- Nissan Chemical Corporation
- W. R. Grace & Co.-Conn.
- Evonik Industries AG

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- ADEKA CORPORATION
- Cabot Corporation

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