

Global Silica Sol Market Size Study, by Application (Binder, Surface Modification, Flocculant, Catalyst, Others), by End Use Industry (Chemicals, Foundry, Pulp and Paper, Plastics, Electrical and Electronics, Textile, Others) and Regional Forecasts 2022-2032

<https://marketpublishers.com/r/GA236003C09CEN.html>

Date: July 2024

Pages: 200

Price: US\$ 4,950.00 (Single User License)

ID: GA236003C09CEN

Abstracts

The global silica sol market is valued approximately at USD 840 million in 2023 and is anticipated to grow with a healthy growth rate of more than 5.12 % over the forecast period 2024-2032. Silica sol is a dispersion of amorphous silicon dioxide (silica) particles in water. By polymerizing silica nuclei from silicate solutions under alkaline circumstances, nanometer-sized silica sols with a high surface area are generated. The surface of the silica nanoparticles is then charged, causing them to repel one another and form a stable dispersion, or colloid. Various grades of colloidal silicas differ in characteristics, with particle size distribution ranging from narrow to broad, and stable pH values typically between 8.0 and 10.5. Colloidal silica can also be manufactured with a stable positive surface charge in the acidic pH range, achieved by altering the particle's surface with aluminum and stabilizing its charge using chloride anion. Silica sol continues to gain popularity as the preferred abrasive in chemical mechanical planarization (CMP) applications due to its main characteristics, which include high stability and tunable particle size distribution. Recent research efforts aimed at developing colloidal materials with modifiable chemical and physical properties may pave the way for profitable opportunities in the silica sol business.

There has been a significant increase in the use of silica sol in the automotive sector for the production of tires with decreased rolling resistance to enhance vehicle control and fuel economy. Additionally, the rising popularity of eco-friendly tires bodes well for global sales of colloidal silica. Government regulations governing the use of protective coatings have increased the automotive sector's usage of green coatings, which continues to boost the silica sol market. According to the International Organization of

Motor Vehicle Manufacturers, the production of automobiles increased from \$77 million in 2020 to \$80 million in 2021. An increase in automobile production is expected to drive the demand for silica sol in the automotive industry, thereby propelling the global silica sol market.

The key region in the Silica Sol Market includes North America, Europe, Asia Pacific, Latin America, and Middle East & Africa. In 2023, Asia Pacific emerged as the dominant force in the Silica sol market, poised to sustain rapid growth through the forecast period from 2024 to 2032. The region's dominance can be attributed to several factors, including robust industrialization, expanding construction activities, and increasing demand across key end-user industries such as electronics, healthcare, and personal care products. Countries like China, India, Japan, and South Korea are pivotal in driving this market growth, supported by investments in infrastructure development and manufacturing sectors. The versatile applications of silica sol in areas such as coatings, catalysts, adhesives, and healthcare products further propel its demand in the region.

Major market players included in this report 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.

Nouryon

Visa Chemical Industries

Qingdao FSK Foundry Materials CO., LTD

Nalco Holding Company

AkzoNobel N.V.

The detailed segments and sub-segment of the market are explained below:

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

Europe:

UK

Germany

France

Spain

Italy

ROE

Asia Pacific:

China

India

Japan

Australia

South Korea

RoAPAC

Latin America:

Brazil

Mexico

Rest of Latin America

Middle East & Africa:

Saudi Arabia

South Africa

RoMEA

Years considered for the study are as follows:

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

Contents

CHAPTER 1. GLOBAL SILICA SOL MARKET EXECUTIVE SUMMARY

- 1.1. Global Silica Sol Market Size & Forecast (2022-2032)
- 1.2. Regional Summary
- 1.3. Segmental Summary
 - 1.3.1. By Application
 - 1.3.2. By End Use Industry
- 1.4. Key Trends
- 1.5. Recession Impact
- 1.6. Analyst Recommendation & Conclusion

CHAPTER 2. GLOBAL SILICA SOL MARKET DEFINITION AND RESEARCH ASSUMPTIONS

- 2.1. Research Objective
- 2.2. Market Definition
- 2.3. Research Assumptions
 - 2.3.1. Inclusion & Exclusion
 - 2.3.2. Limitations
 - 2.3.3. Supply Side Analysis
 - 2.3.3.1. Availability
 - 2.3.3.2. Infrastructure
 - 2.3.3.3. Regulatory Environment
 - 2.3.3.4. Market Competition
 - 2.3.3.5. Economic Viability (Consumer's Perspective)
 - 2.3.4. Demand Side Analysis
 - 2.3.4.1. Regulatory frameworks
 - 2.3.4.2. Technological Advancements
 - 2.3.4.3. Environmental Considerations
 - 2.3.4.4. Consumer Awareness & Acceptance
- 2.4. Estimation Methodology
- 2.5. Years Considered for the Study
- 2.6. Currency Conversion Rates

CHAPTER 3. GLOBAL SILICA SOL MARKET DYNAMICS

- 3.1. Market Drivers

- 3.1.1. Increasing demand for eco-friendly tires
- 3.1.2. Rising investments in silica sol production
- 3.1.3. Advantages of silica sol in CMP applications
- 3.2. Market Challenges
 - 3.2.1. High production costs
 - 3.2.2. Price volatility of raw materials
- 3.3. Market Opportunities
 - 3.3.1. Innovations in colloidal silica properties
 - 3.3.2. Expanding automotive industry
 - 3.3.3. Increased R&D efforts for new products

CHAPTER 4. GLOBAL SILICA SOL MARKET INDUSTRY ANALYSIS

- 4.1. Porter's 5 Force Model
 - 4.1.1. Bargaining Power of Suppliers
 - 4.1.2. Bargaining Power of Buyers
 - 4.1.3. Threat of New Entrants
 - 4.1.4. Threat of Substitutes
 - 4.1.5. Competitive Rivalry
 - 4.1.6. Futuristic Approach to Porter's 5 Force Model
 - 4.1.7. Porter's 5 Force Impact Analysis
- 4.2. PESTEL Analysis
 - 4.2.1. Political
 - 4.2.2. Economical
 - 4.2.3. Social
 - 4.2.4. Technological
 - 4.2.5. Environmental
 - 4.2.6. Legal
- 4.3. Top investment opportunity
- 4.4. Top winning strategies
- 4.5. Disruptive Trends
- 4.6. Industry Expert Perspective
- 4.7. Analyst Recommendation & Conclusion

CHAPTER 5. GLOBAL SILICA SOL MARKET SIZE & FORECASTS BY APPLICATION 2022-2032

- 5.1. Segment Dashboard
- 5.2. Global Silica Sol Market: Binder Revenue Trend Analysis, 2022 & 2032 (USD)

Million)

5.3. Global Silica Sol Market: Surface Modification Revenue Trend Analysis, 2022 & 2032 (USD Million)

5.4. Global Silica Sol Market: Flocculant Revenue Trend Analysis, 2022 & 2032 (USD Million)

5.5. Global Silica Sol Market: Catalyst Revenue Trend Analysis, 2022 & 2032 (USD Million)

5.6. Global Silica Sol Market: Other Applications Revenue Trend Analysis, 2022 & 2032 (USD Million)

CHAPTER 6. GLOBAL SILICA SOL MARKET SIZE & FORECASTS BY END USE INDUSTRY 2022-2032

6.1. Segment Dashboard

6.2. Global Silica Sol Market: Chemicals Revenue Trend Analysis, 2022 & 2032 (USD Million)

6.3. Global Silica Sol Market: Foundry Revenue Trend Analysis, 2022 & 2032 (USD Million)

6.4. Global Silica Sol Market: Pulp and Paper Revenue Trend Analysis, 2022 & 2032 (USD Million)

6.5. Global Silica Sol Market: Plastics Revenue Trend Analysis, 2022 & 2032 (USD Million)

6.6. Global Silica Sol Market: Electrical and Electronics Revenue Trend Analysis, 2022 & 2032 (USD Million)

6.7. Global Silica Sol Market: Textile Revenue Trend Analysis, 2022 & 2032 (USD Million)

6.8. Global Silica Sol Market: Other End Use Industries Revenue Trend Analysis, 2022 & 2032 (USD Million)

CHAPTER 7. GLOBAL SILICA SOL MARKET SIZE & FORECASTS BY REGION 2022-2032

7.1. North America Silica Sol Market

7.1.1. U.S. Silica Sol Market

7.1.1.1. Application breakdown size & forecasts, 2022-2032

7.1.1.2. End Use Industry breakdown size & forecasts, 2022-2032

7.1.2. Canada Silica Sol Market

7.1.2.1. Application breakdown size & forecasts, 2022-2032

7.1.2.2. End Use Industry breakdown size & forecasts, 2022-2032

- 7.2. Europe Silica Sol Market
 - 7.2.1. UK Silica Sol Market
 - 7.2.2. Germany Silica Sol Market
 - 7.2.3. France Silica Sol Market
 - 7.2.4. Spain Silica Sol Market
 - 7.2.5. Italy Silica Sol Market
 - 7.2.6. Rest of Europe Silica Sol Market
- 7.3. Asia-Pacific Silica Sol Market
 - 7.3.1. China Silica Sol Market
 - 7.3.2. India Silica Sol Market
 - 7.3.3. Japan Silica Sol Market
 - 7.3.4. Australia Silica Sol Market
 - 7.3.5. South Korea Silica Sol Market
 - 7.3.6. Rest of Asia Pacific Silica Sol Market
- 7.4. Latin America Silica Sol Market
 - 7.4.1. Brazil Silica Sol Market
 - 7.4.2. Mexico Silica Sol Market
 - 7.4.3. Rest of Latin America Silica Sol Market
- 7.5. Middle East & Africa Silica Sol Market
 - 7.5.1. Saudi Arabia Silica Sol Market
 - 7.5.2. South Africa Silica Sol Market
 - 7.5.3. Rest of Middle East & Africa Silica Sol Market

CHAPTER 8. COMPETITIVE INTELLIGENCE

- 8.1. Key Company SWOT Analysis
 - 8.1.1. ADEKA CORPORATION
 - 8.1.2. Cabot Corporation
 - 8.1.3. Evonik Industries AG
- 8.2. Top Market Strategies
- 8.3. Company Profiles
 - 8.3.1. ADEKA CORPORATION
 - 8.3.1.1. Key Information
 - 8.3.1.2. Overview
 - 8.3.1.3. Financial (Subject to Data Availability)
 - 8.3.1.4. Product Summary
 - 8.3.1.5. Market Strategies
 - 8.3.2. Cabot Corporation
 - 8.3.3. Evonik Industries AG

- 8.3.4. Gelest, Inc.
- 8.3.5. Merck KGaA
- 8.3.6. Nissan Chemical Corporation
- 8.3.7. Sterling Chemicals
- 8.3.8. W. R. Grace & Co.-Conn.
- 8.3.9. Nouryon
- 8.3.10. Visa Chemical Industries
- 8.3.11. Qingdao FSK Foundry Materials CO., LTD
- 8.3.12. Nalco Holding Company
- 8.3.13. AkzoNobel N.V.

CHAPTER 9. RESEARCH PROCESS

- 9.1. Research Process
 - 9.1.1. Data Mining
 - 9.1.2. Analysis
 - 9.1.3. Market Estimation
 - 9.1.4. Validation
 - 9.1.5. Publishing
- 9.2. Research Attributes

List Of Tables

LIST OF TABLES

TABLE 1. Global Silica Sol market, report scope

TABLE 2. Global Silica Sol market estimates & forecasts by Region 2022-2032 (USD Million)

TABLE 3. Global Silica Sol market estimates & forecasts by Application 2022-2032 (USD Million)

TABLE 4. Global Silica Sol market estimates & forecasts by End Use Industry 2022-2032 (USD Million)

TABLE 5. Global Silica Sol market by segment, estimates & forecasts, 2022-2032 (USD Million)

TABLE 6. Global Silica Sol market by region, estimates & forecasts, 2022-2032 (USD Million)

TABLE 7. Global Silica Sol market by segment, estimates & forecasts, 2022-2032 (USD Million)

TABLE 8. Global Silica Sol market by region, estimates & forecasts, 2022-2032 (USD Million)

TABLE 9. Global Silica Sol market by segment, estimates & forecasts, 2022-2032 (USD Million)

TABLE 10. Global Silica Sol market by region, estimates & forecasts, 2022-2032 (USD Million)

TABLE 11. Global Silica Sol market by segment, estimates & forecasts, 2022-2032 (USD Million)

TABLE 12. Global Silica Sol market by region, estimates & forecasts, 2022-2032 (USD Million)

TABLE 13. Global Silica Sol market by segment, estimates & forecasts, 2022-2032 (USD Million)

TABLE 14. Global Silica Sol market by region, estimates & forecasts, 2022-2032 (USD Million)

TABLE 15. U.S. Silica Sol market estimates & forecasts, 2022-2032 (USD Million)

TABLE 16. U.S. Silica Sol market estimates & forecasts by segment 2022-2032 (USD Million)

TABLE 17. U.S. Silica Sol market estimates & forecasts by segment 2022-2032 (USD Million)

TABLE 18. Canada Silica Sol market estimates & forecasts, 2022-2032 (USD Million)

TABLE 19. Canada Silica Sol market estimates & forecasts by segment 2022-2032 (USD Million)

TABLE 20. Canada Silica Sol market estimates & forecasts by segment 2022-2032
(USD Million)

.....

This list is not complete, final report does contain more than 100 tables. The list may be updated in the final deliverable.

List Of Figures

LIST OF FIGURES

- FIG 1. Global Silica Sol market, research methodology
- FIG 2. Global Silica Sol market, market estimation techniques
- FIG 3. Global market size estimates & forecast methods.
- FIG 4. Global Silica Sol market, key trends 2023
- FIG 5. Global Silica Sol market, growth prospects 2022-2032
- FIG 6. Global Silica Sol market, porters 5 force model
- FIG 7. Global Silica Sol market, PESTEL analysis
- FIG 8. Global Silica Sol market, value chain analysis
- FIG 9. Global Silica Sol market by segment, 2022 & 2032 (USD Million)
- FIG 10. Global Silica Sol market by segment, 2022 & 2032 (USD Million)
- FIG 11. Global Silica Sol market by segment, 2022 & 2032 (USD Million)
- FIG 12. Global Silica Sol market by segment, 2022 & 2032 (USD Million)
- FIG 13. Global Silica Sol market by segment, 2022 & 2032 (USD Million)
- FIG 14. Global Silica Sol market, regional snapshot 2022 & 2032
- FIG 15. North America Silica Sol market 2022 & 2032 (USD Million)
- FIG 16. Europe Silica Sol market 2022 & 2032 (USD Million)
- FIG 17. Asia Pacific Silica Sol market 2022 & 2032 (USD Million)
- FIG 18. Latin America Silica Sol market 2022 & 2032 (USD Million)
- FIG 19. Middle East & Africa Silica Sol market 2022 & 2032 (USD Million)
- FIG 20. Global Silica Sol market, company market share analysis (2023)

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