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Global Silicones

October 2021



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About This Report

Scope

This report forecasts to 2025 global demand for silicones by product, market, and major world region in nominal US dollars at the manufacturer level. Product segments include:

- elastomers
- fluids
- resins
- gels, foams, and pastes

Reported markets encompass:

- construction
- transportation equipment
- electrical equipment
- electronic products
- personal care products
- other markets such as chemicals, medical/healthcare, and industrial

Major world regions include North America, Western Europe, Asia/Pacific, and all other regions.

To illustrate historical trends, world, product, market, and regional demand (including product and market segments) are provided for 2010, 2015, and 2020. Finally, global production is segmented by major world region and provided for 2010, 2015, 2020, and 2025.

For the purposes of this report, silicones are defined as polymers of silicon and oxygen. To avoid double counting, silicone demand is determined at the producer level and includes only basic products such as elastomers, fluids, resins, and gels. Siloxanes used as silicone products themselves (as in personal care product formulations) are also included. Foam control agents used in foam insulation are included in the chemicals – rather than the construction – market.

Excluded from the scope of this report are:

- downstream formulated silicone products such as adhesives, sealants, lubricants, defoamers, and molded rubber goods
- siloxanes used as raw materials for silicones, although siloxanes used as silicone products themselves (as in personal care product formulations) are included

- silanes, including chlorosilane intermediates and silane coupling agents, which are not defined as silicone polymers
- fluids used as intermediates in the production of other silicone product types, including gels, elastomers, and resins

For any given historical year, US dollar amounts are obtained from values expressed in the applicable local currency. These local currency values are converted to US dollars at the average annual exchange rate for that year. For forecast years, the US dollar amounts assume the same annual exchange rate at that prevailing in 2020.

Other various topics, including profiles of pertinent leading companies, are covered in this report. A full outline of report items by page is available in the Table of Contents.

Sources

Global Silicones (FW55022) is based on a [comprehensive industry study](#) published by The Freedonia Group. Reported findings represent the synthesis and analysis of data from various primary, secondary, macroeconomic, and demographic sources, such as:

- firms participating in the industry, and their suppliers and customers
- government/public agencies
- intergovernmental organizations
- trade associations and their publications
- the business and trade press
- indicator forecasts by The Freedonia Group
- the findings of other reports and studies by The Freedonia Group

Specific sources and additional resources are listed in the Resources section of this publication for reference and to facilitate further research.

Industry Codes

Table 10 | NAICS & SIC Codes Related to Silicones

NAICS/SCIAN 2017		SIC	
North American Industry Classification System		Standard Industrial Classification	
325199	All other basic organic chemical manufacturing	2821	Plastic Materials, Synthetic Resins, and Nonvulcanizable Elastomers
325211	Plastics material and resin manufacturing	2822	Synthetic Rubber (Vulcanizable Elastomers)
325212	Synthetic rubber manufacturing	2869	Industrial Organic Chemicals, Not Elsewhere Classified

Source: US Census Bureau

Table 11 | HS Codes Related to Silicones

HS Code	Definition
3910	Silicones in primary forms

Source: United Nations Statistics Division

Table 12 | NACE Codes Related to Silicones

NACE Code	Definition
20.16	Manufacture of plastics in primary forms
20.17	Manufacture of synthetic rubber in primary forms
22.00	Manufacture of rubber and plastic products

Source: European Commission

Freedonia Methodology

The Freedonia Group, a subsidiary of MarketResearch.com, has been in business for more than 30 years and in that time has developed a comprehensive approach to data analysis that takes into account the variety of industries covered and the evolving needs of our customers.

Every industry presents different challenges in market sizing and forecasting, and this requires flexibility in methodology and approach. Freedonia methodology integrates a variety of quantitative and qualitative techniques to present the best overall picture of a market's current position as well as its future outlook: When published data are available, we make sure they are correct and representative of reality. We understand that published data often have flaws either in scope or quality, and adjustments are made accordingly. Where no data are available, we use various methodologies to develop market sizing (both top-down and bottom-up) and then triangulate those results to come up with the most accurate data series possible. Regardless of approach, we also talk to industry participants to verify both historical perspective and future growth opportunities.

Methods used in the preparation of Freedonia market research include, but are not limited to, the following activities: comprehensive data mining and evaluation, primary research, consensus forecasting and analysis, ratio analysis using key indicators, regression analysis, end use growth indices and intensity factors, purchase power parity adjustments for global data, consumer and end user surveys, market share and corporate sales analysis, product lifespan analysis, product or market life cycle analysis, graphical data modeling, long-term historical trend analysis, bottom-up and top-down demand modeling, and comparative market size ranking.

Freedonia quantifies trends in various measures of growth and volatility. Growth (or decline) expressed as an average annual growth rate (AAGR) is the least squares growth rate, which takes into account all available datapoints over a period. The volatility of datapoints around a least squares growth trend over time is expressed via the coefficient of

determination, or r^2 . The most stable data series relative to the trend carries an r^2 value of 1.0; the most volatile – 0.0. Growth calculated as a compound annual growth rate (CAGR) employs, by definition, only the first and last datapoints over a period. The CAGR is used to describe forecast growth, defined as the expected trend beginning in the base year and ending in the forecast year. Readers are encouraged to consider historical volatility when assessing particular annual values along the forecast trend, including in the forecast year.

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Resources

The Freedonia Group

Global Silicones

Freedonia Industry Studies

Gaskets & Seals

Global Adhesives & Sealants

Global Architectural Paint

Global Construction Chemicals

Global Disposable Medical Supplies

Global Electric Power Transmission & Distribution Equipment

Global Gaskets & Seals

Global Lubricants

Global Medical Thermoplastic Elastomers

Global Paint & Coatings

Global Rubber Processing Chemicals

Global Thermoplastic Elastomers

Liquid-Applied Roofing Coatings

Liquid Silicone Rubber

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Rubber: United States

Rubber Processing Chemicals: China

Rubber Processing Chemicals: Europe

Rubber Processing Chemicals: United States

Silicones: United States

Freedonia Custom Research

Trade Publications

Adhesives & Sealants Industry

Chemical Engineering

Chemical Week

European Rubber Journal

Global Cosmetic Industry

ICIS Chemical Business

Plastics News

Rubber & Plastics News

Agencies & Associations

Canadian Environmental Assessment Agency
Environment and Climate Change Canada
European Chemicals Agency
European Environment Agency
Eurostat
Global Silicones Council
International Monetary Fund
Organisation for Economic Co-operation and Development
Silicones Environmental, Health, and Safety Center
Silicones Europe
Silicone Industry Association of Japan
United Nations Comtrade
United Nations Environment Programme
United States Census Bureau
United States Environmental Protection Agency
United States International Trade Commission
World Bank