

Silicones

US Industry Study with Forecasts for 2020 & 2025

Study #3391 | March 2016 | \$5300



Growth in US demand for silicones will moderate from the performance of the 2010-2015 period, which saw strong gains as a result of a broad economic recovery from the 2007-2009 recession. Ongoing technological developments and continued product innovation will promote gains, as such improvements will further enhance the performance of silicones in a variety of applications. However, opportunities will be limited by market maturity and the increasing tendency among users to regard silicones more as commodities than as specialty materials. Nonetheless, suppliers continue to counter this market view via the development of value-added products and by making inroads into applications that have traditionally used other materials.

Elastomers & fluids account for over 85 percent of market value

Elastomers and fluids are the two leading silicone product types, together accounting for over 85 percent of market value in 2015. Advances for elastomers going forward will be propelled by fast-growing and expanding opportunities in the medical field as well as continued strong and widespread use in the construction sector. Demand will further benefit from the increasing utilization of liquid silicone rubber in electronics, machinery, and medical markets due to its ease of processing, flexibility, and ability to form high precision parts. Silicone resins will achieve healthy gains in the rebounding construction industry, where they are primarily employed in paints and coatings. Opportunities for silicone gels will stem from their use as protective encapsulants in high growth applications such as solar cells and light emitting diodes (LEDs).

Industrial market to benefit from silicones used in motor vehicles

The industrial market is the leading outlet for silicones, due largely to the growing quantities of silicone used in motor vehicles. While growth in the motor vehicle market will decelerate substantially, silicones will continue to find opportunities as producers use them in higher quantities per vehicle to improve vehicle safety and fuel efficiency, as well as to meet consumer preferences for quieter cabins.

Medical market to see fastest gains

Among other outlets, the medical market is forecast to achieve the most rapid gains through 2020, expanding at a pace even faster than that of the 2010-2015 period. Growth will be driven by the superior heat resistance and chemical stability of silicones over competitive materials, and by the ongoing development of new products that will expand the range of medical applications for silicones. The construction market is also forecast to achieve rapid gains, outpacing those of the 2010-2015 period, as the turnaround in building construction activity continues and silicones find greater use in high-performance adhesives, sealants, and coatings.

Study coverage

This study analyzes the US market for silicones. It presents historical demand data (2005, 2010 and 2015) plus forecasts (2020 and 2025) by product, market, and application. The study also considers key market environment factors, details the industry structure, evaluates company market share and profiles industry players.

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INDUSTRIAL MARKET FOR SILICONES
(million dollars)

Item	2005	2010	2015	2020	2025
Durable Goods Shipments (bil 2009\$)					
lb silicone/mil \$ durables					
Industrial Silicone Demand (mil lb)					
\$/lb					
Industrial Silicone Demand					
Motor Vehicles					
Electronics					
Machinery					
Aerospace & Other Transportation					
Other Industrial Markets					
% industrial					
Silicone Demand					

Source: The Freedonia Group

TABLE V-2

SILICONE VEHICLE & BINDER DEMAND BY APPLICATION
(million dollars)

Item	2005	2010	2015	2020	2025
Construction Expenditures (bil 2009\$)					
lb silicone/mil \$ construction					
Silicone Vehicle/Binder Demand (mil lb)					
\$/lb					
Silicone Vehicle & Binder Demand					
Adhesives, Sealants, & Caulks					
Paints & Coatings					
Other					
% vehicles & binders					
Silicone Demand					

Source: The Freedonia Group

PRODUCTS

Gels

Silicone gel demand is projected to expand through 2020 at a percent annual pace to \$ pounds. Electronics will for over half of the market supported by an improved output following the decrease of gels in the fast-growing LEDs, as well as for solar growth in the electronics sector. The use of silicone gel in the medical field will continue to expand rapidly, albeit at a more moderate pace that achieved over the course of the 2005-2015 period, which saw re-approval of silicone gel-filled breast implants by the US Food and Drug Administration in 2006 after a 14-year ban and their subsequent reintroduction to the market.

Silicone gels are produced by lightly crosslinking silicone fluoform a loose, three-dimensional network, resulting in jelly-like material somewhere between a fluid and an elastomer. The majority of silicone gel demand is in the electronics market as encapsulants, but these products are also used in medical, consumer, and other industrial applications. In the electronics sector, silicone gels are valued for their ability to provide protection against mechanical shock and vibration. In addition, silicone gels offer moisture resistance to various electronic components. For instance, they protect connections and splices from moisture, dirt, and other environmental conditions that can cause damage and reduce reliability. Silicone gels are just one type of material used as encapsulants in the electronics industry. Competing materials include urethanes and epoxies in electronic components and ethylene vinyl acetate in photovoltaic modules. Silicones are valued over these competing materials due to their effectiveness over a wider temperature range.

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This study can help you:

- Determine your market & sales potential
- Learn more about industry competitors
- Assess new products & technologies
- Identify firms to merge with or acquire
- Complement your research & planning
- Gather data for presentations
- Confirm your own internal data
- Make better business decisions

Related Studies

World Nonwovens

Global demand for nonwovens is forecast to rise 5.4 percent annually to 11.1 million metric tons in 2019. Gains will be driven by increasing production of diapers, filters, wipes, medical disposables, and automotive components. Developing world markets will outpace more established areas. This study analyzes the 8.5 million metric ton world nonwovens industry, with forecasts for 2019 and 2024 by web formation process, application, and market for six world regions and 19 major countries. The study also evaluates company market share and profiles industry players. #3365..... January 2016..... \$6300

World Thermoplastic Elastomers

World thermoplastic elastomer (TPE) demand will grow 5.2 percent annually to 6.7 million metric tons in 2019. Styrenic block copolymers will remain the largest segment, while thermoplastic vulcanizates and polyolefin elastomers will grow the fastest. China will remain the largest and fastest growing market. This study analyzes the 5.2 million metric ton world TPE industry, with forecasts for 2019 and 2024 by market and product for six world regions and 16 major countries. The study also evaluates company market share and profiles industry players. #3326..... November 2015..... \$6500

World Silicones

World demand for silicones will rise 5.7 percent annually to \$19.3 billion in 2019. The Asia/Pacific region will continue to be the strongest source of additional silicone demand, with electronics remaining its largest outlet. Construction will be the fastest growing market worldwide, with silicone gels among the fastest growing product types. This study examines the \$14.6 billion world silicones industry, with forecasts for 2019 and 2024 by market and product for 6 world regions and 15 countries. The study also evaluates company market share and profiles industry participants. #3277..... May 2015..... \$6400

Lightweight Automotive Materials in North America

North American demand for lightweight automotive materials will rise 5.2 percent annually to 22.3 billion pounds in 2018. Gains will be driven mainly by increasingly strict automobile fuel economy mandates. The dominant metals segment (e.g., aluminum, high-strength steel) will outpace polymers and composites. This study analyzes the 17.3 billion pound North American lightweight automotive materials industry, with forecasts for 2018 and 2023 by material and application. The study also evaluates company market share and profiles industry competitors. #3153..... June 2014..... \$5100

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Freedonia's methods

- Establishing consistent economic & market forecasts
- Using input/output ratios, flow charts & other economic methods to quantify data
- Employing in-house analysts who meet stringent quality standards
- Interviewing key industry participants, experts & end users
- Researching a proprietary database that includes trade publications, government reports & corporate literature

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