Superabsorbent Polymers

December 2023

Abstract

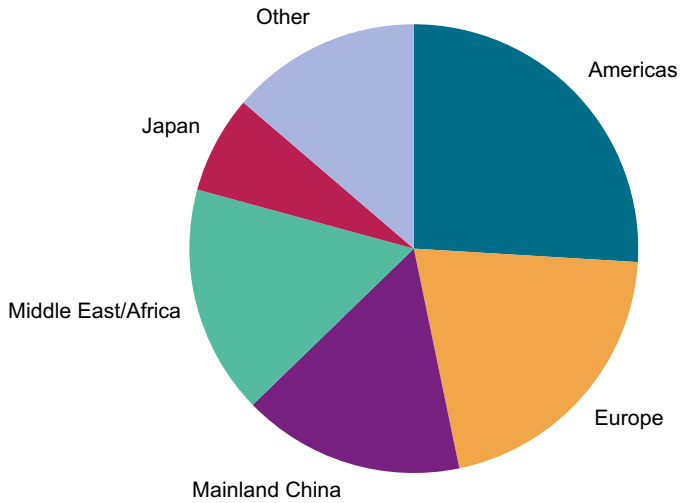
Superabsorbent polymers (SAPs) are based on polyacrylic acid that can absorb hundreds of times its weight in liquids, making the polymers useful in disposable sanitary products like diapers, feminine hygiene products, adult incontinence products and certain industrial materials. Use in diapers predominates by far, accounting for about 70% of global consumption. Use has been growing in this application in mainland China and other developing markets where disposable incomes are rising, more women are working outside of the home, the population is growing and commercial availability is increasing. In other regions like the United States, Western Europe and Japan, penetration of disposable diapers is already well over 90%, so the markets are mature. However, the industry is counting on growth in the incontinence market because of aging populations, longer lifespans and greater acceptance by consumers.

The largest producers of SAPs are Nippon Shokubai, BASF and Evonik, which together have about 40%-45% of global capacity. Producers in mainland China and South Korea aggressively increased capacity in 2012–2020.

The following pie chart shows world consumption of superabsorbent polymers:

S&P Global
Commodity Insights

World consumption of superabsorbent polymers — 2023



Date compiled Oct. 25, 2023.
Source: S&P Global Commodity Insights.
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In the largest application, disposable diapers, demand continues to be strong in developing regions, but remains flat in developed markets because of market saturation and low birth rates. Good growth is expected in the developing world for several reasons:

– Increasing disposable income. Disposable diapers are a luxury to families with low disposable income. A baby's diaper is changed five or six times a day in prosperous regions like the United States, which can cost $1,000-$2,000 annually. In less developed regions, an infant's diaper might be changed only once a day, and cloth diapers are often used.

– More women working outside of the home and creating more demand for the convenience of disposables. Improvements in childcare facilities have made it easier for couples to balance work and childcare.

– Demand from educated women who insist on more effective sanitary products.

– Higher population growth. For example, in mainland China, the one-child-per-family policy was recently relaxed to allow two children per family starting in January 2016 and three children per family starting in May 2021.

– Greater availability in the developing world. For example, in India, higher-quality hospitals have begun to promote the use of disposable sanitary products, which should increase the penetration rate of diapers.

Adult incontinence products, the second-largest use, is expected to experience much higher growth in developed regions for several reasons:

– The population is aging quickly in the United States, Europe, Japan and other regions.

– Longevity is increasing.

– There is greater acceptance of incontinence products.

The third major use of SAPs is in feminine hygiene products. This generally has become a low growth area in the developed world, but is expected to grow faster in the developing world as their availability increases and women become more educated about these products. The industry is developing newer products that appeal to sports-minded women.

SAPs are also used in industrial applications such as agriculture, where they are used to regulate water release in soils in arid climates and adsorb excess water in damp climates. Other uses include protective coatings for electrical cable, food packaging and medical/medical waste adsorbents.

For more detailed information, see the table of contents, shown below.

S&P Global's Chemical Economics Handbook – *Superabsorbent Polymers* is the comprehensive and trusted guide for anyone seeking information on this industry. This latest report details global and regional information, including

Global summary; regional coverage

Producers with annual capacities and plant sites

Production figures and trends

Consumption and forecasts by end use application

Manufacturing processes and environmental issues

Trade – imports and exports

Key benefits

S&P Global's Chemical Economics Handbook – *Superabsorbent Polymers* has been compiled using primary interviews with key suppliers and organizations, and leading representatives from the industry in combination with S&P Global's unparalleled access to upstream and downstream market intelligence and expert insights into industry dynamics, trade and economics.

This report can help you

– Identify trends and driving forces influencing chemical markets

– Forecast and plan for future demand

– Understand the impact of competing materials

– Identify and evaluate potential customers and competitors

– Evaluate producers

– Track changing prices and trade movements

– Analyze the impact of feedstocks, regulations and other factors on chemical profitability

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