Fibers, Specialty Organic

December 2025

Abstract

This report covers organic fibers used in specialty high-performance, textile or functional applications. High-performance fibers are generally characterized by their outstanding tensile strength and stiffness (modulus), as well as resistance to heat, fire and chemical agents that normally degrade conventional fibers. Applications include use in aerospace, biomedical, civil engineering, construction, protective apparel, geotextiles and electronics. Most of the organic fibers covered in this report are made by a limited number of producers; sometimes there is just one global producer. Global demand can be as low as a few hundred metric tons per year, and some fibers are only produced in pilot plant operations. These fibers usually require expensive raw materials made by a limited number of producers.

Specialty organic fibers generally possess one or more of the following properties:

– Excellent fire resistance

– Superior thermal resistance

– Good chemical resistance

– Excellent wear resistance

– High modulus and/or high strength

– Light weight

Each type of specialty organic fiber covered in the report is classified under one of the following general categories:

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Specialty organic fiber categories

High-performance fibers	Specialty apparel fibers
Aramid fibers	Chlorofibers
Fluoropolymers	Vinyon
Polybenzimidazole fibers	Saran
Polybenzoxazole fibers	Polyvinyl alcohol fibers (vinal)
Polyethylene fibers, high-strength	Elastomeric fibers
Polyimide fibers	Spandex
Polyamideimide fibers	Rubber threads
Polyacrylonitrile fibers, partially oxidized	Other specialty organic fibers
Novoloid fibers	Special-function fibers
Liquid crystal polymer fibers	Polymeric optical fibers
Other high-performance fibers	Hollow fibers

Data compiled Oct. 20, 2025.
Source: S&P Global Energy.
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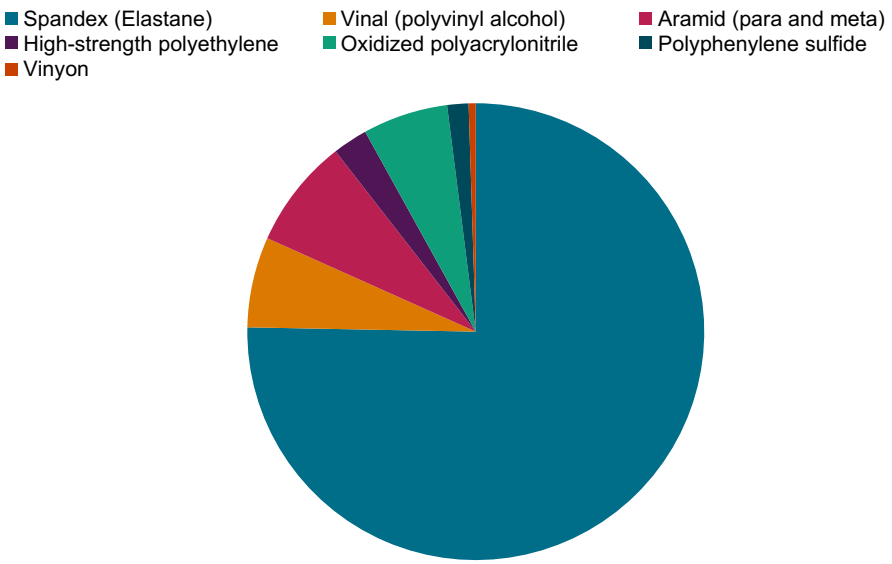
The following pie chart shows world production of the major specialty organic fibers (volume basis):

World production of specialty organic fibers — 2025



Data compiled Oct. 20, 2025.
Source: S&P Global Energy.
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Overall, these high-performance fibers will continue to have relatively good demand in the next several years. For example, aramid fiber consumption is expected to increase at nearly 6% per year during the next five years, with even higher growth in mainland China. Likewise, high-strength polyethylene fiber consumption is anticipated to have annual growth of about 5%, driven by use in ballistic materials, industrial fabrics, composite reinforcements, and ropes and cables.

Ballistic protection is one of the more important growing sectors, where para-aramid and high-strength polyethylene fibers are used.

Several other niche areas where these fibers are used include fire-protective clothing/fire-protection apparel, hot gas filtration media, aircraft brakes, optical fibers, dialyzers and special consumer apparel.

Spandex fibers are mainly used in activewear/outerwear, as well as other uses such as hosiery or intimate apparel. World consumption of spandex fibers is expected to increase at 7% per year. This growth will be driven by Asia (in particular, mainland China).

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

S&P Global's Chemical Economics Handbook – *Fibers, Specialty Organic* 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 – *Fibers, Specialty Organic* has been compiled using primary interviews with key suppliers, organizations and leading representatives from the industry in combination with S&P Global's unparalleled access to upstream and downstream market intelligence, 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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