Phenolic Resins

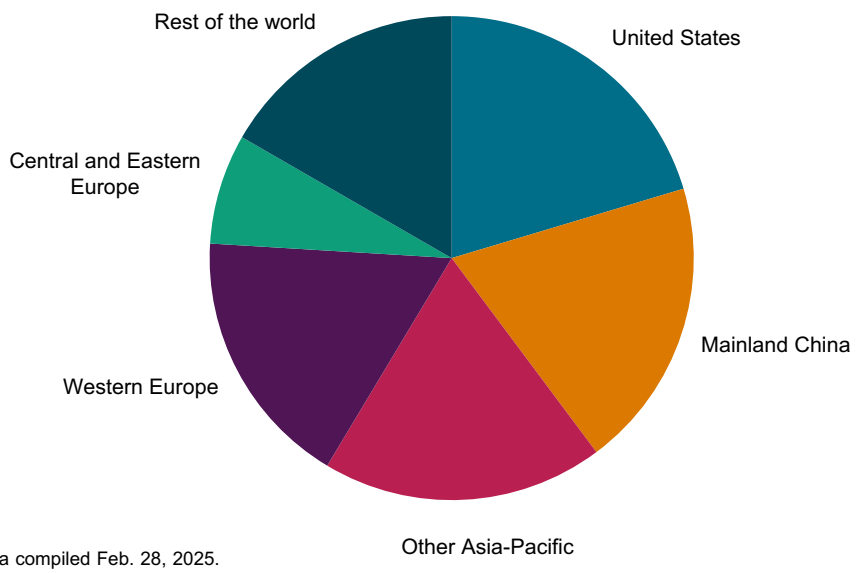
April 2025

Abstract

Phenol-formaldehyde (PF) resins, commonly referred to as phenolic resins, are thermosetting plastics used in a variety of applications. They are noted for their high thermal resistance and strength, and for their fire-resistant properties. They are used primarily in forest products, and in molding, refractories, friction, abrasive, rubber processing and other uses.

The following pie chart shows world consumption of phenolic resins:

World consumption of phenolic resins — 2024



Data compiled Feb. 28, 2025.
Source: S&P Global Commodity Insights.

S&P Global
Commodity Insights

Phenolic resins are usually produced in batches. This permits a wide range of formulations and molecular weights to be manufactured using the same equipment. Continuous processes have been developed that are suitable for producing a large quantity of a single grade. However, these processes decrease plant product flexibility. In addition, there are no significant economic advantages over the batch process. For these reasons, continuous processes are generally not used commercially.

In most regions, consumption closely parallels production because trade usually represents less than 10% of production in the producing countries. It is not usually cost-effective to transport most phenolic resins over long distances because of the product's high water content. In most regions of the world, the largest markets for phenolic resins are in fibrous and granulated wood products such as OSB and in softwood plywood. Demand for wood products is influenced by the health of the construction industry and overall state of the economy. Global PF resins consumption growth is greater in developing nations than it is in the more mature economies.

North America is the largest consuming region for PF resins, mainly because its production of OSB is higher than elsewhere in the world.

Wood adhesives will continue to have the largest market share and will drive phenolic resins consumption on a global scale. Use of PF resins for composite boards is highest in North America and South America, as producers of OSB and softwood plywood favor the use of PF over competitive adhesives such as diphenyl methylene diisocyanate (MDI)-based urea-formaldehyde (UF) or melamine-urea-formaldehyde (MUF)-based resins. In Western Europe, producers of plywood favor PF, but OSB is made primarily with MDI-based adhesives. In most parts of Asia, there has been little production of OSB, but high production of hardwood plywood, which is generally made with UF or MUF.

Having suffered heavily due to the effects of the COVID-19 pandemic, global PF resins consumption recovered in 2021. In 2022–23 consumption declined, but is expected to grow at an average annual rate of 2.0% during 2024–29.

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

S&P Global's Chemical Economics Handbook — *Phenolic Resins* 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 — *Phenolic Resins* 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

Table of contents

CONTACTS

Americas: +1 800 597 1344
Asia-Pacific: +60 4 296 1125
Europe, Middle East, Africa: +44 (0) 203 367 0681

www.spglobal.com/commodityinsights
www.spglobal.com/en/enterprise/about/contact-us.html