Catalysts, Petroleum and Chemical Process

April 2025

Abstract

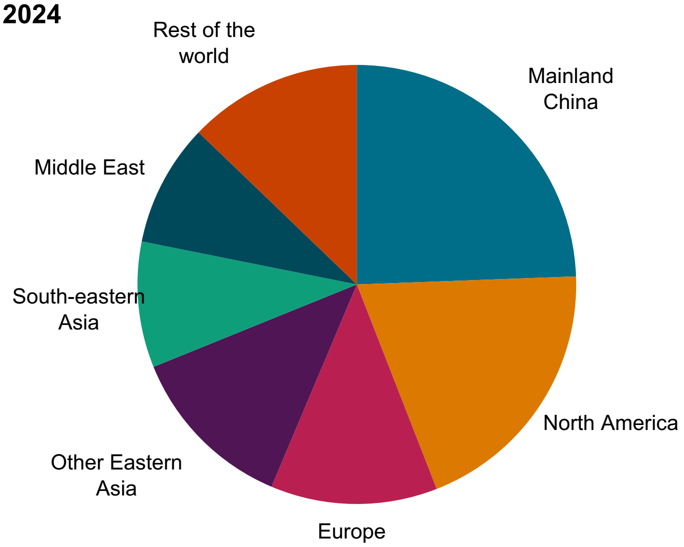
Petroleum refining, which is the source of the largest share of industrial products, consists almost entirely of catalytic processes. The consumption patterns for petroleum refining catalysts vary significantly across regions due to the differences in refinery configurations. The growth of refinery capacity in Mainland China, the largest consumer of refining catalysts, is expected to slow over the next five years. Additionally, the increasing penetration of electric vehicles is anticipated to lead to a decline in refinery capacity in many regions through 2030.

In contrast, the market for chemical processing catalysts is projected to grow at a rate comparable to global GDP growth. This growth is primarily driven by the demand for polymers, which continues to support the need for effective catalysts in various chemical processes.

The following pie charts show world consumption of petroleum refining and chemical processing catalysts on a value basis:

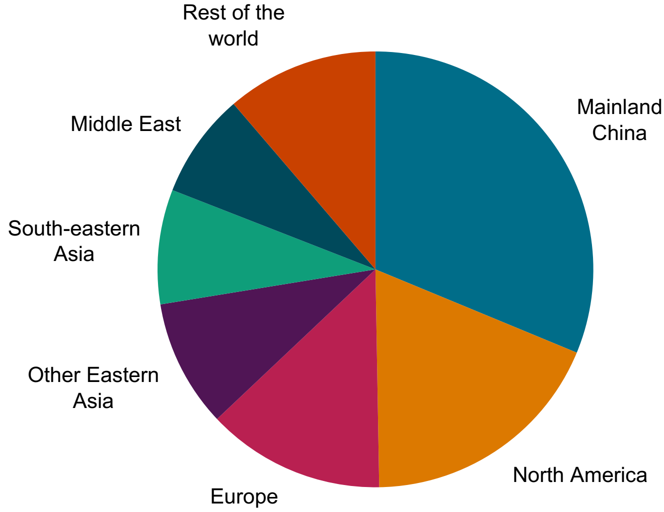
S&P Global
Commodity Insights

World consumption of petroleum refining catalysts — 2024



Data compiled Feb. 5, 2025.
Source: S&P Global Commodity Insights.

World consumption of chemical processing catalysts — 2024



Data compiled Feb. 5, 2025.
Source: S&P Global Commodity Insights.

The largest segments of the refinery catalyst market are catalytic cracking and hydrotreating. While refinery catalyst production has traditionally been an expanding business, recent years have seen slow growth or even declines in certain regions due to trends related to energy transition and the adoption of electric vehicles. In addition, worldwide, environmental regulations now mandate the production of cleaner fuels with zero or reduced sulfur content, further driving the need for advanced catalysts to meet regulatory requirements.

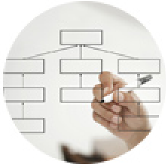
In the chemical processing catalyst market, polymerization is the leading sector, both in terms of value and volume. Major polymerization market segments include polyethylene, polypropylene, polyethylene terephthalate (PET), polyurethane, polyvinyl chloride (PVC) and polystyrene.

The catalyst market is also driven by technology advances in the petroleum refining and chemical manufacturing industries.

From 2025 to 2030, global catalyst consumption is expected to increase at moderate rates. Mainland China and North America will remain the largest consumption markets, while Southern Asia and Africa are anticipated to be the fastest-growing regions.

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

S&P Global's Specialty Chemicals Update Program – *Catalysts, Petroleum and Chemical Process* is the comprehensive and trusted guide for anyone seeking information on this industry. This latest report details global and regional information, including



Industry structure, operating characteristics and regulatory environment

Products, functions and markets

Cost structure/ profitability

Technology changes and emerging substitution practices

Quantitative market analysis and forecasts

Key benefits

S&P Global's Specialty Chemicals Update Program – *Catalysts, Petroleum and Chemical Process* 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 the competitive environment and key players

– Assess key issues facing both suppliers and their end-use customers

– Understand industry integration strategies

– Keep abreast of industry structure changes, regulatory requirements and other factors affecting profitability

– Identify new business opportunities and threats

– Follow important commercial developments

– Recognize trends and driving forces influencing specialty chemical markets

Table of contents

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