

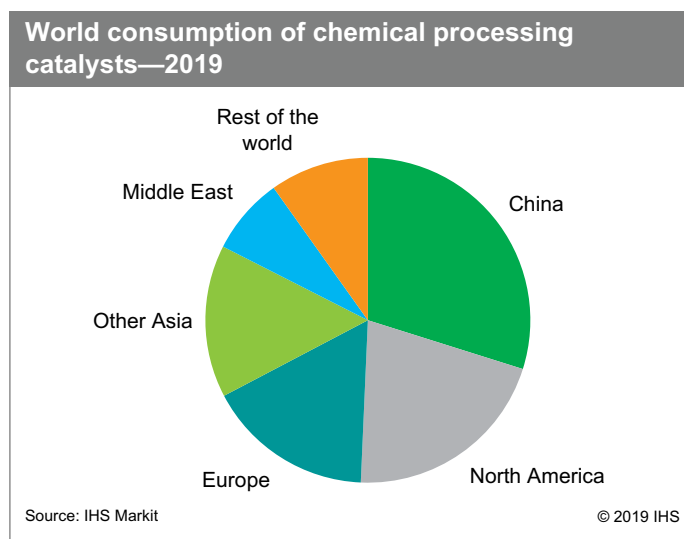
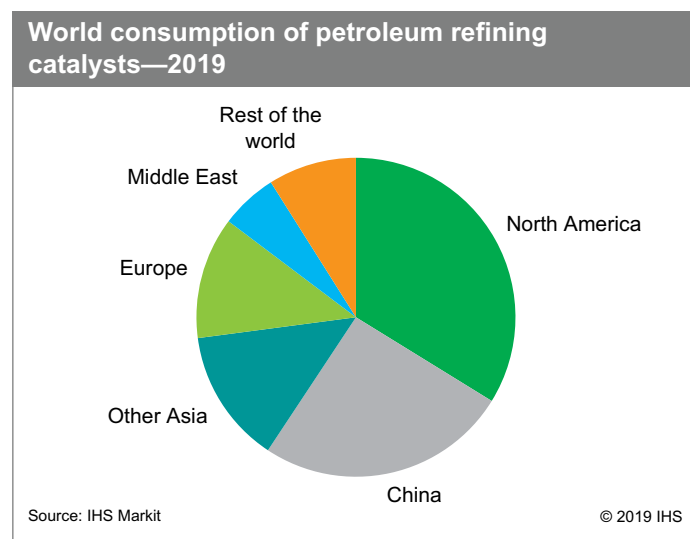
# Catalysts, Petroleum and Chemical Process

31 October 2019

## Abstract

Petroleum refining, which is the source of by far the largest share of industrial products, consists almost entirely of catalytic processes. With petroleum refining catalysts, differences in refinery configurations in each region cause different patterns of catalyst consumption. New refining capacity in China, Other Asia, and the Middle East will contribute to high growth rates during the next five years. With chemical processing catalysts, new capacities contribute to the growth rate. In addition to capacity increases in the Middle East and Asia (excluding Japan), petrochemical capacity in North America is expected to increase because of the utilization of shale gas.

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



For a number of catalysts, the strongest growth in demand through 2024 will occur in regions other than North America, Western Europe, and Japan. Emerging and developing countries such as China, Other Asia, and the Middle East have become important markets for process catalysts and will continue to be in the future. Rising incomes will drive demand for motor vehicles and transportation fuels in Asia. Industrial chemical production, particularly of petrochemicals, is growing faster in Asia and the Middle East than in North America, Europe, and Japan. This growth will be reflected in increased demand for a number of catalysts in the refinery segment, such as for catalytic cracking and hydroprocessing. Low-sulfur mandates are also becoming more widespread in these regions.

The largest refinery catalyst segments in terms of value are hydrotreating and catalytic cracking, while the largest-volume products are alkylation catalysts. Refinery catalyst production was traditionally an expanding business, but in recent years

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it has become a mature market in developed countries; the major growth is occurring in developing countries, especially Asia and the Middle East. Among Asian countries, China is the largest consumer of catalysts, with high growth rates.

Polymerization is the leading chemical processing catalyst market sector, in terms of value and volume. Major polymerization market segments include polyethylene, polypropylene, polyethylene terephthalate, polyvinyl chloride, and polystyrene. Polyolefin catalysts are the largest single market sector, with a 50–60% market share of the total polymerization market.

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

Worldwide, environmental regulations now mandate the production of cleaner fuels with zero or reduced sulfur content.

During 2019–24, global consumption on a value basis is expected to increase at moderate rates. China will be the fastest growing region, at about 3% per year.

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

**IHS Markit's Specialty Chemicals Update Program – *Catalysts, Petroleum Refining 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

**IHS Markit's Specialty Chemicals Update Program – *Catalysts, Petroleum Refining and Chemical Process*** has been compiled using primary interviews with key suppliers and organizations, and leading representatives from the industry in combination with IHS Markit'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

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