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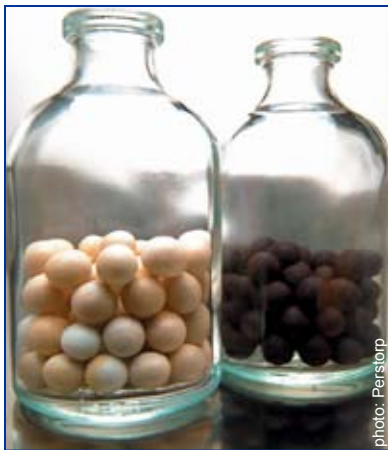
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# World Catalysts

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Industry Study with Forecasts for **2014 & 2019**

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Study #2730 | March 2011 | \$6200 | 422 pages

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*Chemical synthesis and polymerization catalysts will experience the strongest growth, benefiting from rapid gains in the Middle East and Asia, as well as in Brazil.*

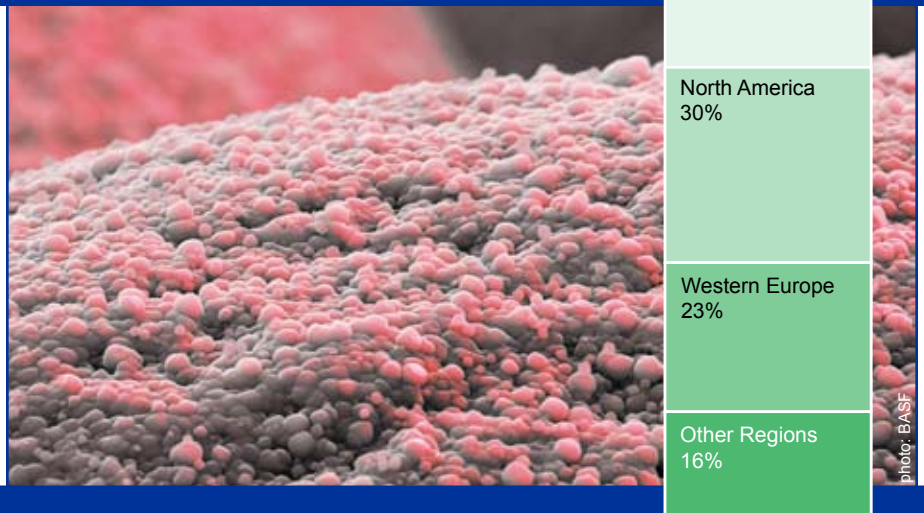
## Global demand to rise 6% annually through 2014

World demand for chemical synthesis, petroleum refining and polymerization catalysts will rise 6.0 percent per year to \$17.2 billion in 2014, reflecting a combination of healthy volume and price growth from a weak 2009 base. Chemical synthesis and polymerization catalysts will experience the strongest growth, benefiting from rapid gains in the Middle East and Asia, as well as in Brazil. While petroleum refining catalyst demand will expand at a healthy pace, advances will be limited by weak motor vehicle fuel demand in Japan, the United States and Western Europe.

## Volume and pricing to rebound from weak base

With global chemical, polymer and refined petroleum product demand declining significantly in 2009 in the face of the global recession, catalyst consumption also retreated from its 2008 highs. The lower level of demand reflected both a decline in catalyst volume sales and a moderation in catalyst pricing as lower raw material costs were passed on to customers in an attempt to sustain volume demand. The weak 2009 performance, however, will provide for an easy comparison going forward, with both catalyst volume and pricing expected to climb as rebounding global economic growth stimulates the chemical, petroleum refining and polymer markets.

## World Catalyst Demand, 2014 (\$17.2 billion)



## Africa/Mideast, Asia/Pacific regions to be fastest growing markets

The strongest growth through 2014 will occur in the Middle East, where Saudi Arabia and other countries will continue to invest in new chemical and polymer capacity in an effort to exploit their natural gas and petroleum reserves. Refining capacity will also be expanded in the Middle East to satisfy the region's rapidly rising fuel demand. In Asia, China and India will also drive rapid growth through 2014, offsetting slower growth in Japan.

Strong growth in Central and South America will be led by Brazil, which is

well positioned to expand its regional dominance of the chemical, petroleum refining and polymer industries due to the recent discovery of plentiful natural gas and petroleum reserves off the country's coast. The US, Canada and Western Europe will also realize gains in catalyst demand, though growth will trail the global average as companies avoid investing in new chemical and polymer capacity due to the mature nature of these markets. The growing use of biofuels and the maturity of the motor vehicle market in these countries will also limit petroleum refining catalyst consumption through the forecast period.

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## Sample Text, Table & Chart

### OTHER REGIONS

**Saudi Arabia: Catalyst Demand --** Catalyst demand in Saudi Arabia has grown at a steady percent annual pace to \$1.5 billion in 2009, the strongest gains -- over 10% -- in catalysts, due to the country's refining capacity, and the increasing demand for fifth-generation Ziegler-Natta catalysts. Saudi Arabia continues to offer a wide range of offerings of basic chemicals, including petrochemicals and gas derivatives such as methanol. Petroleum refining capacity growth, while much slower than the other markets, will continue through 2014. Rising refining catalyst consumption is expected due to the continued expansion and modernization of Saudi Arabia's refining industry.

Saudi Arabia is the leading global producer of crude petroleum, and in recent years has moved aggressively to complement its crude oil production with related downstream operations, such as petrochemicals, refined petroleum products and polymers. There are seven petroleum refineries in Saudi Arabia, utilizing a variety of refining technologies. Unlike most nations in the region, Saudi Arabia has significant catalytic cracking and reforming capacity, though as a percentage of the total they remain quite small. Saudi Arabia has been boosting its hydroprocessing capacity, as most of the country's oil is sour -- that is, it contains high levels of sulfur that must be removed before the distillates can be upgraded to more valuable motor fuels for the export market. Saudi Arabia has driven strong gains in petroleum refining catalyst demand over the 2000 to 2009 period. With the country increasingly focusing on the export market for its refined petroleum products, particularly Europe, hydroprocessing catalyst demand will continue to grow at an above average pace. Strong growth in domestic gasoline consumption will continue to drive the country's refiners to boost alkylation and reforming catalyst demand.

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TABLE VIII-16

### SAUDI ARABIA CATALYST DEMAND

Item	1999	2004	2009	2014	2019
Gross Domestic Product (bil 2008\$)	105	125	155	185	215
metric tons catalyst/bil \$ GDP	0.015	0.018	0.022	0.026	0.030
Catalyst Demand (000 metric tons)	150	180	220	260	300
Chemical Synthesis	5	6	7	8	9
Petroleum Refining	100	120	150	180	210
Polymerization	45	54	63	72	81
\$/metric ton	100	120	150	180	210
Catalyst Demand (mil \$)	150	180	220	260	300
Chemical Synthesis	5	6	7	8	9
Petroleum Refining	100	120	150	180	210
Polymerization	45	54	63	72	81
% Saudi Arabia	100	100	100	100	100
Africa/Mideast Catalyst Demand (mil \$)	150	180	220	260	300

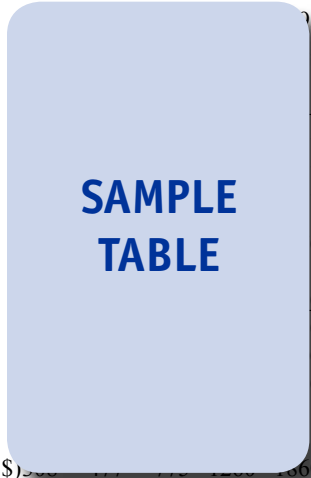
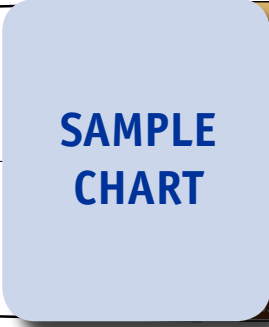
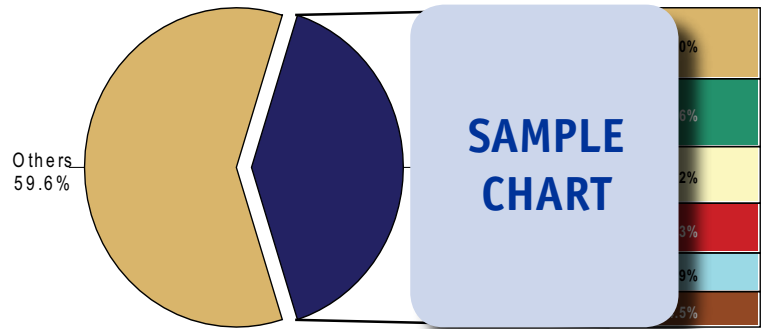


CHART IX-1

### WORLD CATALYST MARKET SHARE BY COMPANY (\$12.8 billion, 2009)



## Sample Profile, Table & Forecast

TABLE VIII-15

### SAUDI ARABIA ECONOMIC INDICATORS

Item	1999	2004	2009	2014	2019
Gross Domestic Product (bil 2008\$)					395
GDP/capita					30
Population (mil persons)					1.7
Manufacturing Value Added (bil 2008\$)					77
Chemical Mfg Value Added (bil 2008\$)					0.8
Refined Products Prdn (mil metric tons)					8.0
Polymer Production (mil metric tons)					0.1

**SAMPLE  
TABLE**

### COMPANY PROFILES

#### INEOS Group Limited

Hawkslease, Chapel Lane  
 Lyndhurst, Hampshire SO43 7FG  
 United Kingdom  
 44-2380-287-0  
<http://www.ineos.com>

Annual Sales: (bil 2008\$) (2010)  
 Employment:

Key Products/ Technologies: vinyl, polyolefin, acrylonitrile and zeolite catalysts

**SAMPLE  
PROFILE**

INEOS Group is a global producer of specialty and intermediate chemicals, and focuses on commodity chemicals. The privately held company operates through 16 primary businesses: INEOS ABS, INEOS ChlorVinyls, INEOS Enterprises, INEOS Melamines, INEOS Films and Compounds, INEOS Nitriles, INEOS Oligomers, INEOS Olefins and Polymers Europe, INEOS Olefins and Polymers USA, INEOS Oxide, INEOS Paraform, INEOS Phenol, INEOS Refining, INEOS Styrenics, INEOS NOVA, and INEOS Technologies. The Company also owns 40-percent of PQ Corporation (Malvern, Pennsylvania), a producer of silicate and other performance materials.

The Company participates in the world catalyst industry through the INEOS Technologies division and the PQ Corporation affiliate. INEOS Technologies is a leading global developer and licensor of vinyl, polyolefin, polystyrene, nitrile and chlor-alkali technologies for the petrochemical industry. Among other technologies, the division develops and licenses catalyst technologies for vinyl, polyolefin, acrylonitrile and maleic anhydride processes. The division's vinyl catalysts

"Refined product production rose at a strong 3.2 percent annual pace over the 2004 to 2009 period as Saudi Arabia greatly expanded its refining operations. While growth is expected to decelerate from these rapid gains going forward as the country looks to ensure it has a market for its increased output, advances will remain healthy, rising almost three percent per year through 2014. Despite being the leading refiner in the Africa/ Mideast region, most of Saudi Arabia's capacity is in non-catalytic distillation and thermal processes, ..."  
 --Section VIII, pg. 282

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**OTHER STUDIES**

**World Well Stimulation Materials**

This study analyzes the world well stimulation material industry. It presents historical demand data for the years 2000, 2005 and 2010, and forecasts for 2015 and 2020 by well stimulation material type (e.g., proppants, base fluid materials, additives, gases), major national market (US, Russia, Canada, China) and world regional market (Latin America, Europe, Asia/Pacific, Africa/Mideast). The study also considers market environment factors, details industry structure, evaluates company market share and profiles industry competitors.

#2752 .....April 2011 ..... \$6100

**Activated Carbon**

US activated carbon demand will grow 15.8 percent annually through 2014, driven mainly by stringent new air and water pollution laws. Powdered activated carbon (PAC) will be the main beneficiary of tighter industrial mercury controls, while granulated activated carbon (GAC) will benefit from new drinking water regulations. This study analyzes the 565 million pound US activated carbon industry, with forecasts for 2014 and 2019 by product, application and US regional market. It also evaluates company market share and profiles industry players.

#2713 .....January 2011 ..... \$5100

**World Oilfield Chemicals**

Global oilfield chemical demand will rise 8.6 percent yearly through 2014, driven by a recovery in the oil and gas industry and higher oil and gas prices. North America will remain the dominant market while the Central and South American region grows the fastest. Stimulation and enhanced oil recovery chemicals will lead gains. This study analyzes the \$13.7 billion world oilfield chemical industry, with forecasts for 2014 and 2019 by product, world region and for 26 countries. It also evaluates market share and profiles industry players.

#2702 .....December 2010 ..... \$5900

**Enzymes**

US demand for enzymes will rise 4.8 percent annually through 2014. Gains will be driven by continued expansion of higher-value specialty enzymes in pharmaceuticals, diagnostics, research and biotechnology, and biocatalysts. In the biofuels segment, growth will moderate as the industry transitions to cellulases for producing biomass ethanol. This study analyzes the \$2.2 billion US enzymes industry, with forecasts for 2014 and 2019 by market and product. It also evaluates company market share and profiles industry competitors.

#2670 .....September 2010 ..... \$4900

**Refinery Chemicals**

US refinery chemical demand will rise 5 percent annually through 2014, driven by the use of new, higher-value products that offer enhanced performance. Merchant hydrogen will remain the largest product type and grow the fastest. Petroleum treatment and conversion will remain the largest and fastest growing applications. This study analyzes the \$5.5 billion US refinery chemical industry, with forecasts for 2014 and 2019 by application and product. It also evaluates company market share and profiles industry players.

#2629 .....April 2010 ..... \$4700

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