

Chemical shipments  
% change  
in U.S.:

**-1.5**

Pharmaceutical shipments  
% change  
in U.S.:

**-6.9**

Chemical prices  
% increase  
in U.S.:

**0.6**

Paint materials price  
% increase  
in U.S.:

**13.2**

U.S. chemical employment in 2012:

**784,000**

Highest-earning chemical companies:



Change in exports of chemicals from China:

**-2.7%** in 2012    **30.0%** in 2011

# FACTS & FIGURES OF THE CHEMICAL INDUSTRY

For companies, the chief virtue in 2012 was **PATIENCE**

**AFTER A SLOW 2011**, chemical industry executives were ready last year to power up to meet what they hoped would be accelerating demand for their products. But the economy in 2012 did not send any strong currents of growth. This tested the ability of managers to find new ways to maintain profits and keep investors happy.

Early in the year, U.S. chemical firms predicted that growth would take hold in the latter half of 2012. They were wrong. "The second half of 2012 saw significant deterioration in the markets we serve, particularly in China," Andrew N. Liveris, chief executive officer of Dow Chemical, the country's largest chemical firm, observed late in the year.

Indeed, U.S. production of chemicals grew just 0.1% for the year, and the value of shipments declined by 1.5% compared with 2011. To increase profits, chemical companies cut operating costs, closed inefficient plants, increased prices, and used their healthy balance sheets to pay down high-cost debt. Many moved into higher margin businesses by buying specialized firms. For the most part the strategies worked; about

half of U.S. chemical firms increased sales and earnings for the year.

European chemical companies performed particularly well in 2012, despite Europe's sovereign debt crisis. Business was strong at industrial gas companies including France's Air Liquide and Germany's Linde. Meanwhile, Solvay's purchase of Rhodia helped the Belgian company increase its profit margin by 57%.

Production figures for Germany, Europe's largest chemical maker, showed a strong divergence between output of organic chemicals, which was down compared with 2011, and inorganic chemicals, which grew for the year.

In Asia, 2012 chemical output declined significantly in Japan and slowed in Taiwan. As in the U.S., many Japanese chemical firms were able to maintain both sales and earnings at levels close to those of 2011. Meanwhile, South Korea's chemical industry boosted output by a comparatively strong 3.9%.

Global trade figures illustrated a continued shift in demand for chemical products to developing economies. Both Europe and the U.S. increased exports to Latin America and the Middle East.

Despite lacking solid evidence of growth, chemical firms in the U.S., Europe, and Japan continued to invest in their research and development capacity as well as in plants and equipment. Notably, European firms tracked by C&EN increased capital investments by \$7 billion in 2012.

Senior Editor Melody M. Bomgardner (C&EN's Northeast News Bureau) collected data and coordinated the collection of industry data from the major chemical-producing countries and regions. Segments of that work were done by Assistant Managing Editor Michael McCoy, Senior Correspondent Marc S. Reisch, Senior Correspondent Alexander H. Tullo (all three in C&EN's Northeast News Bureau), Senior Editor Alex Scott (London), and Senior Correspondent Jean-François Tremblay (Hong Kong). ■

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