



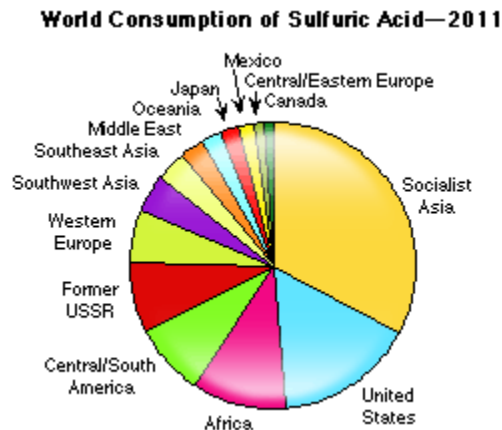
## IHS Chemical Sulfuric Acid

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- [Abstract](#)
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- Sulfuric acid is one of the world's largest-volume industrial chemicals. The production of phosphate fertilizer materials, especially wet-process phosphoric acid, is the major end use for sulfuric acid, accounting for nearly 52% of total world consumption in 2011. The balance is consumed in a wide variety of industrial and technical applications. World sulfuric acid consumption increased by about 58% between 1990 and 2011.

With increasing mining operations, demand for sulfuric acid is expected to rise. Nickel and copper ore leaching projects worldwide increased demand for sulfuric acid by over 8 million metric tons between 2009 and 2012. With copper prices at record highs, demand for copper leaching, particularly from Chile, will be increasing. Major projects coming up in Brazil, China, Morocco, Saudi Arabia and other Middle Eastern countries could add over 8 million metric tons of capacity for phosphate-related fertilizers, which will promote strong demand for sulfuric acid.

The following pie chart shows world consumption of sulfuric acid:



Major declines in consumption have occurred in the former USSR, Western Europe, and Central and Eastern Europe since the late 1980s. Major increases occurred in Socialist Asia (China, Cambodia, the Democratic People's Republic of Korea, Laos, Mongolia and Vietnam), Africa, Southeast Asia (Indonesia, the Republic of Korea, Malaysia, Burma [Myanmar], the Philippines, Singapore, Taiwan and Thailand), Central and South America, Southwest Asia (Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka), and the Middle East between 1990 and 2011.

Growth in sulfuric acid consumption will be related to increases in population and the extent to which people in the developing world switch to increasingly nutrition-rich food crops that require sufficient quantities of fertilizers. The dramatic rise in middle class incomes has resulted in richer diets with increasingly higher nutritional value. Growing demand for crops requiring additional fertilizer has already increased the use of sulfuric acid. Growth will also be dependent on the ability of nations to overcome ongoing economic hardships and credit issues and will be influenced by the rate of increase in biofuels production, especially corn-based fuels.

Global demand for sulfuric acid is projected to rise at an average annual rate of almost 2.5% during the next five years. Fertilizer demand for sulfuric acid is forecast to grow at about 2.3% during 2011–2016. Several new phosphate fertilizer plants are scheduled to be constructed over the forecast period, mostly in northern Africa, the Middle East and China. Nonfertilizer sulfuric acid demand will come primarily from nickel operations.

The primary environmental issue that has affected the sulfuric acid industry is restrictions on sulfur dioxide emissions in other industries, such as copper smelting. Smelters have been required to recover increasing percentages of the sulfur dioxide emitted during the smelting process. In many cases, smelters have chosen to recover the by-product sulfur dioxide in the form of sulfuric acid. Other industries such as power plants are also coming under increased pressure to reduce their sulfur dioxide emissions. Currently, these industries have generally chosen to limit sulfur dioxide emissions by burning low-sulfur coal or using limestone scrubbing systems. However, several companies are recovering the sulfur dioxide as sulfuric acid.

The U.S. EPA is focusing on sulfuric acid manufacturers regarding compliance with the Clean Air Act initiative. It recently settled with three major manufacturers to install pollution control equipment that ensures reduction of harmful emissions by over three thousand metric tons per year.