

Rubber-Processing Chemicals

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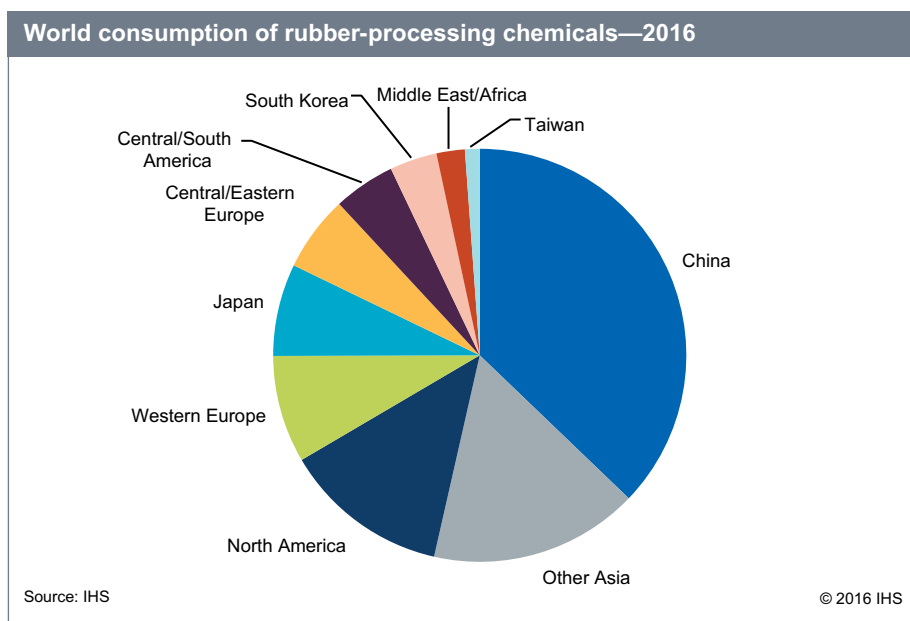
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Abstract

A simple rubber polymer by itself has very poor properties and limited commercial value; thus an assortment of materials/additives must be added to improve its properties to make it commercially useful and suitable for processing and use in final applications.

Rubber-processing chemicals are considered as a group to be specialty chemicals and a significant number of them are produced by only one or two companies. They aid in improving the resistance of rubber to heat, oxidation, sunlight, ozone, and mechanical stresses. Rubber-processing chemicals include a wide range of product types, such as accelerators, activators, vulcanizing agents, antidegradants (antioxidants and antiozonants), and stabilizers, among others. These major types of rubber-processing chemicals meet the requirements for such properties as good resilience, abrasion resistance, flex resistance, hardness, and tensile strength for product-specific end-use applications. The automotive sector continues to be the backbone of the rubber and rubber-processing chemicals industries. Most rubber-processing chemicals are older products and are consumed predominantly in the manufacture of automotive tires.

The following pie chart shows world consumption of rubber-processing chemicals:



The markets for most of the rubber-processing chemicals track the general production and consumption of the major synthetic rubbers (e.g., SBR, PBR, EPDM), as well as the natural rubber markets. The tire and automotive industries have a huge impact on demand for rubber-processing chemicals.

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China is experiencing a shift from rapid development to slower development, which has been reflected in a slowdown of growth in the rubber and relevant industries as well. The largest end-use market, the automotive industry, is also experiencing a slowdown, and in this environment, China's rubber production is expected to grow at an average annual rate of around 5% for the next five years; consumption of rubber-processing chemicals is also forecast to grow at a rate of about 5% per year.

North American consumption of rubber-processing chemicals will continue to follow the demand and use pattern of the rubber industry and is expected to exhibit a 1–2% average annual growth rate during 2015–20. From 2011 to 2015, rubber-processing chemical consumption in North America slightly declined, primarily as a result of weakness in domestic demand and increased tire imports from Asia.

Other Asia, including Southeast Asia and India, is a large producer and consumer of natural rubbers. Consumption of rubber-processing chemicals in Other Asia is large and growing. Demand is expected to continue to grow along with economic growth. In this region, India, Malaysia, Thailand, and Indonesia are large consumers of rubber-processing chemicals.

The European market for rubber-processing chemicals has been recovering since 2014, after the strong decline in 2009. The recovery is most pronounced in Central Europe. On the other hand, the recession in Russia and Ukraine led to a decline in rubber production and rubber chemicals in 2015 and 2016. The market in the Middle East and Africa is growing rapidly, but from a small base.

Consumption of rubber-processing chemicals will grow globally at an average annual rate of 3.5%.

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