

Isopropanol



China set to become self-sufficient in isopropanol: The past and the future of the Asian isopropanol industry

Background

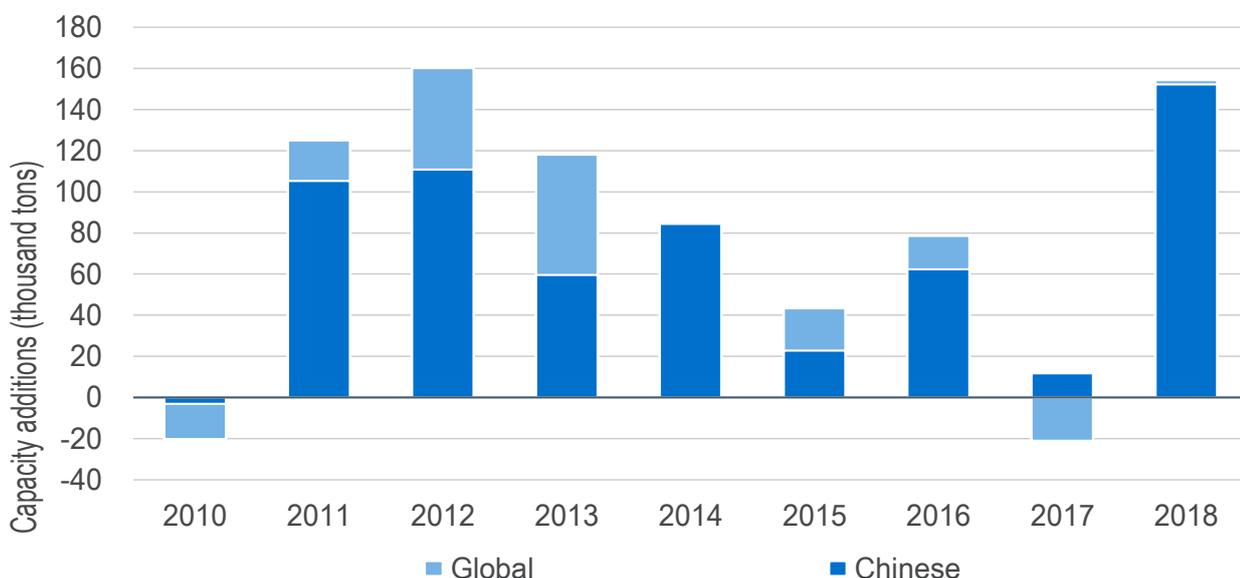
Isopropanol (also referred to as IPA, isopropyl alcohol, 2-propanol, sec-propyl alcohol or rubbing alcohol) is widely used as a solvent in personal care, cosmetics, pharmaceuticals, foods, adhesives, inks and coatings, as a cleaning agent for electronic devices and as a petrochemical intermediate feedstock.

Isopropanol can be produced from propylene or acetone feedstocks via three commercial routes. Direct propylene hydration and the indirect sulphuric acid process utilise propylene and together account for more than 76 percent of total capacity in 2018. Acetone hydrogenation is the other process route and has become increasingly popular in Asia. In 2000, the route accounted for two percent of global capacity and by 2018 this had jumped to nearly 25 percent. The competitive position between the two production routes varies year-on-year, depending largely on the price and availability of the two feedstocks. For end-uses where very high purity isopropanol is required, propylene-based isopropanol is more desirable due to the concern over residual impurities in acetone-based isopropanol (i.e. benzene).

2010 to 2018: Overcapacity in China

Isopropanol production is concentrated in Asia Pacific, North America and Western Europe, representing around 95 percent of global capacity in 2018. The capacity base in Asia Pacific surpassed North America's capacity in 2012, primarily following the start-up of several new facilities in China and South Korea.

Global Capacity Additions, 2010 to 2018



2010 to 2018: Overcapacity in China (continued)

China is currently the largest isopropanol producer in Asia Pacific, following a massive slate of new capacity addition between 2010 and 2018. Over these years, global capacity additions totalled 650 000 tons with Chinese capacity accounting for 93 percent of the added volumes. Over the same period, demand in China increased by only 70 000 tons incrementally, equivalent to a rate of 3.1 percent per year. As of 2018, these additions have resulted in a massive surplus in Chinese capacity.

From an average operating rate of 80 percent between 2000 and 2010 for Chinese producers, the country's average rate in 2018 is 43 percent. Many plants have been operating intermittently given the poor margins which have also resulted in the mothball and closure of several isopropanol plants in China and South Korea and the delay of other plants, although most are now operating. Lower propylene pricing since 2015 and increases in acetone availability due to capacity build have helped the competitiveness of both routes over the past three years but the underlying overcapacity still remains.

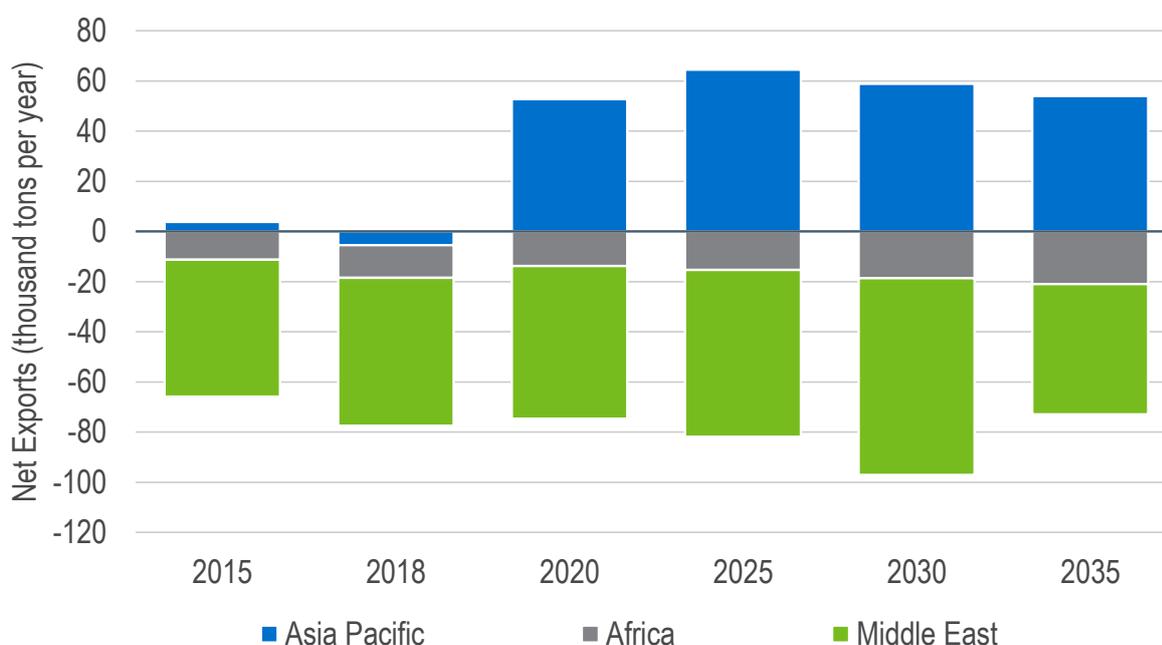
Overall, China is now balanced in isopropanol with a small net deficit of around 7 000 tons. In comparison, China had an average deficit in isopropanol of 90 000 tons between 2000 and 2010

A fragile balance in China and global opportunities for Asian producers

As weak demand and regional overcapacity continue amidst the poor economy, competition between producers across the region is expected to intensify with average operating rates remaining relatively low in the region over the medium-term. Operating rates in Asia Pacific are forecast to stay below-70 percent until 2034, with further capacity rationalisation also expected in China as the operating rate averages about 10 to 15 percent below the regional average.

Future import volume to China is expected to decline as the country continues to move towards self-sufficiency. The preference for propylene-based isopropanol in some applications among several Asian countries is likely to limit the export opportunity of acetone-based isopropanol from China and the country is expected to remain relatively balanced over the forecast.

Isopropanol Net Exports for Key Regions, 2015 to 2035



A fragile balance in China and global opportunities for Asian producers

With improving feedstock availability and costs as well as Chinese self-sufficiency, the region is forecast to be a small net exporter over the forecast. Producers in Singapore, South Korea, Taiwan and Japan are well-placed to export beyond Asia as their producers are primarily propylene-based and back-integrated with feedstocks.

Major export destinations for the region are likely to be Africa, the Middle East as well as within South-East Asia. There are no firm capacity additions in Africa or the Middle East over the forecast and any development of a capacity base is speculative. Within South-East Asia, there is one firm capacity addition in Malaysia and another in India over the near-term. As a result, Asia exports are likely to increasingly target Africa and the Middle East over the long-term.

Summary

For further information, please refer to Nexant's report "[Market Analytics: Isopropanol - 2018](#)". This report provides analysis and forecasts to 2035 of supply and demand of the global isopropanol markets. This analysis identifies the issues shaping the industry as well as provide demand, supply and net trade data for 40 countries.

Daniel Saxton- Senior Analyst
dsaxton@nexant.com

+44 (0)20 7950 1600
1 King's Arms Yard
London
EC2R 7AF
United Kingdom