

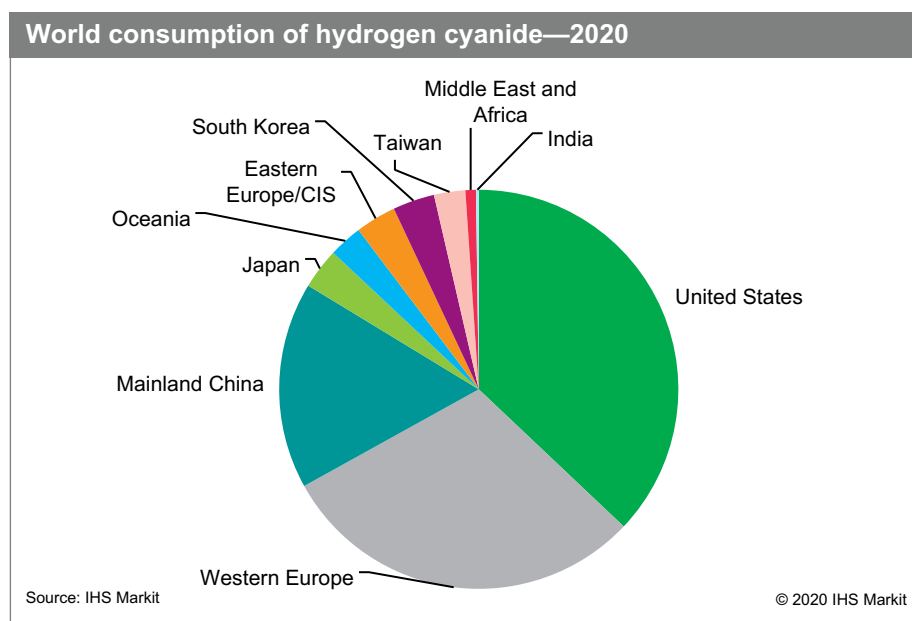
Hydrogen Cyanide

16 November 2020

Abstract

Hydrogen cyanide (HCN) is extremely toxic. At manufacturing plants, extensive monitoring systems are compulsory in areas of production and use. It is extremely difficult to transport and store, so most HCN is produced and used on site and inventories are kept to a minimum. There is no international trade in HCN.

The following pie chart shows consumption of hydrogen cyanide by major region:



HCN is a vital building block for many chemical and life-supporting applications. The major global use over the last decade is as a starting material, together with butadiene, for the production of adiponitrile. Most adiponitrile produced is hydrogenated to hexamethylenediamine (HMDA), an important intermediate in the production of nylon-type polyamide 66, 610, 612, and hexamethylene diisocyanate. Growth in HCN consumption for adiponitrile closely follows the nylon resin and fiber market.

Acetone cyanohydrin is used primarily to produce methyl methacrylate (MMA), which is in turn used for coatings and sealants and for polymethylmethacrylate production. MMA can also be produced from ethylene. Lucite, BASF, and Evonik have developed new technology that does not use hydrogen cyanide. The advantage is that the difficult and dangerous handling of hydrogen cyanide can be avoided, resulting in a possibly cheaper product. One disadvantage is the extremely high construction cost of the new process.

For more detailed information, see the table of contents, shown below.

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IHS Markit's Chemical Economics Handbook – *Hydrogen Cyanide* is the comprehensive and trusted guide for anyone seeking information on this industry. This latest report details global and regional information, including



Global summary;
regional coverage



Producers with
annual capacities
and plant sites



Production figures
and trends



Consumption and
forecasts by end use
application



Manufacturing
processes and
environmental issues



Trade – imports
and exports

Key benefits

IHS Markit's Chemical Economics Handbook – *Hydrogen Cyanide* has been compiled using primary interviews with key suppliers and organizations, and leading representatives from the industry in combination with IHS Markit's unparalleled access to upstream and downstream market intelligence and expert insights into industry dynamics, trade, and economics.

This report can help you

- Identify trends and driving forces influencing chemical markets
- Forecast and plan for future demand
- Understand the impact of competing materials
- Identify and evaluate potential customers and competitors
- Evaluate producers
- Track changing prices and trade movements
- Analyze the impact of feedstocks, regulations, and other factors on chemical profitability

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