

# Hexamethylenediamine-Adiponitrile

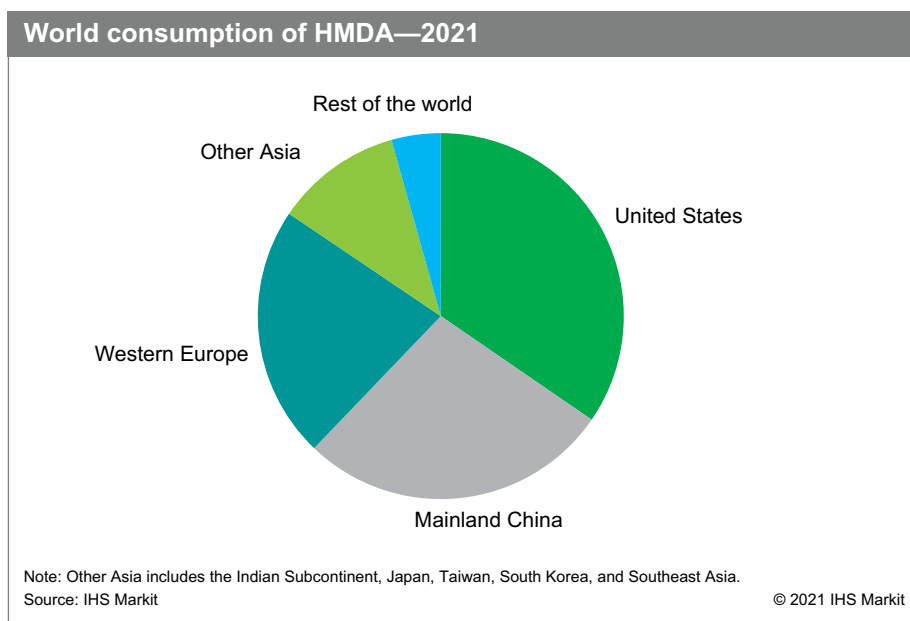
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## Abstract

Adiponitrile (ADN) is a key precursor to hexamethylenediamine (HMDA) production. More than 85% of HMDA is consumed in the nylon 66 chain, with nonnylon uses mostly in hexamethylene diisocyanate (HDI) for high-performance polyurethane paints and coatings, and epoxy curing agents, which have grown strongly in the past decade. Over the last several years, the ADN supply has been extremely tight as it bumps against the upper end of its effective capacity, thus crimping the supply of downstream HMDA and nylon 66. HMDA demand slowly recovered from the 2008 downturn through 2018 but then declined in 2020 because of the impact of COVID-19 on the global market. HMDA consumption is expected to recover over the forecast period to 2026.

Northeast Asian HMDA demand has grown the fastest over the last five years, led by mainland China, following its capacity expansions for nylon 66 and HDI. HMDA demand in Northeast Asia will continue to be the major driver in the global market; mainland China is expected to become the largest consumer of HMDA during the forecast period, surpassing the United States in 2024. The rest of Asia will remain heavily dependent on HMDA exports from the western regions in the forecast years.

The following pie chart shows world consumption of HMDA:



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Adiponitrile is produced only in the United States, Western Europe, and Japan, and since 2019, in mainland China. The United States continues to be the main exporter of ADN, as gradual capacity increases in the United States have led to increased production. In the next five years, most of the adiponitrile capacity growth will be in mainland China, and global trade flows for ADN will decline sharply as mainland China becomes more self-sufficient.

Investments in new ADN capacity are expected to be brought onstream over the next five years, far outpacing consumption growth and leading to a decline in operating rates. In contrast, HMDA capacity is expected to increase at about the same pace as consumption growth over the next five years, and so operating rates will remain relatively stable.

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

**IHS Markit's Chemical Economics Handbook – Hexamethylenediamine-Adiponitrile** 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 – Hexamethylenediamine-Adiponitrile** 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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