HexamethyleneDiamine Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Sales Channel (Direct, Indirect), By End Use (Nylon-6,6 Production, Hexamethylene Diisocynate, Water Treatment Chemicals, Others), By Region and Competition, 2020-2030F

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Report description:

Market Overview
The Global HexamethyleneDiamine Market was valued at USD 8,506.86 million in 2024 and is projected to reach USD 12,824.89 million by 2030, growing at a CAGR of 7.47% during the forecast period. Hexamethylenediamine (HMDA) is a versatile organic compound primarily used in the production of nylon 6,6, a material essential in manufacturing fibers, resins, and engineering plastics. Its role extends to specialized chemicals, such as curing agents for epoxy resins and additives for coatings, further driving its market demand. The primary market growth driver is the increasing demand for nylon 6,6 across automotive, textile, and consumer goods industries due to its mechanical strength, heat resistance, and durability. As global industries demand more advanced, cost-efficient, and sustainable materials, HMDA remains a critical building block. However, concerns over the environmental impact of traditional production methods are prompting the adoption of cleaner, more sustainable manufacturing processes to meet stricter environmental regulations.
Key Market Drivers
Growth in Textile Industry
The textile industry's expansion is a major driver for the hexamethylenediamine market. From 1975 to 2020, global textile fiber production more than tripled, with projections indicating a further increase to 160 million metric tons by 2030. Nylon, produced using HMDA, is a staple synthetic fiber in textiles due to its durability, elasticity, resistance to abrasion, and moisture-wicking properties. As global demand for synthetic fibers rises, particularly in fashion, sportswear, and industrial fabrics, so too does the demand for HMDA. The textile sector in emerging economies, especially China and India, has accelerated this demand, as these countries dominate global textile production. China alone accounts for over 50% of the world's textile production, and its textile

exports reached approximately USD 316 billion in 2022. As global textile markets continue to grow, particularly in Asia-Pacific regions, the need for HMDA to produce nylon 6,6 for various applications remains a driving force in the market.

Key Market Challenges

Volatility in Raw Material Prices

A significant challenge faced by the global HMDA market is the volatility in raw material prices. HMDA is primarily derived from adipic acid and cyclohexane, which are sourced from petrochemical processes. These raw materials are highly susceptible to price fluctuations due to geopolitical events, supply-demand imbalances, crude oil price shifts, and regulatory changes. Changes in crude oil prices, for example, directly impact the cost of adipic acid and cyclohexane, thus affecting HMDA production costs. Increased feedstock prices can squeeze profit margins, particularly for companies operating on fixed pricing agreements or long-term contracts. Sudden spikes in raw material prices can lead to supply chain disruptions, forcing manufacturers to seek alternative sources or adjust production schedules. This volatility impacts the stability of the market, requiring manufacturers to adapt quickly to maintain profitability.

Key Market Trends

Shift Toward Bio-Based Feedstocks

A transformative trend in the global HMDA market is the growing adoption of bio-based feedstocks for its production. In 2022, Asahi Kasei partnered with Genomatica to develop hexamethylenediamine (HMD) derived from biomass-based raw materials, a process known as bio-HMD. Asahi Kasei, traditionally using fossil fuels to produce HMD, aims to shift towards more sustainable, renewable resources. This shift aligns with the global push toward reducing carbon footprints and adopting green chemistry principles. The demand for sustainable materials, especially in the production of polyamide 66 (used in automotive and electronics components), has been driving this change. Bio-based HMDA provides a more environmentally friendly alternative, enabling companies to meet stricter environmental standards and support the global transition toward more sustainable manufacturing practices.

Key Market Players

- Ascend Performance Materials
- BASF SE
- Solvay SA
- Domo Chemicals
- Wanhua Chemical (Ningbo) Co., Ltd
- Shandong NHU Fine Chemical Technology Co., Ltd.
- Huafeng Group Co., Ltd.
- Tianchen Qixiang New Material Limited Company
- Fujian Rongchen New Materials Co., Ltd.
- Ningxia Ruitai Technology Co., Ltd.

Report Scope:

In this report, the Global HexamethyleneDiamine Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

- HexamethyleneDiamine Market, By Sales Channel:
o Direct
o Indirect
- HexamethyleneDiamine Market, By End Use:
o Nylon-6,6 Production
o Hexamethylene Diisocynate
o Water Treatment Chemicals
o Others
- HexamethyleneDiamine Market, By Region:
o North America
 United States

 Canada
 Mexico
o Europe
 France
 United Kingdom
 Italy
 Germany
 Spain
o Asia Pacific
 China
 India
 Japan
 Australia
 South Korea
o South America
 Brazil
 Argentina
 Colombia
o Middle East & Africa
 South Africa
 Saudi Arabia
 UAE
Competitive Landscape
Company Profiles: Detailed analysis of the major companies present in the Global HexamethyleneDiamine Market.
Available Customizations:
Global HexamethyleneDiamine Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:
Company Information
- Detailed analysis and profiling of additional market players (up to five).

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