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Global Polycarbodiimides Anti-hydrolysis Agent Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global Polycarbodiimides Anti-hydrolysis Agent market size is expected to reach $ 1279 million by 2032, rising at a market growth of 8.9% CAGR during the forecast period (2026-2032).

In 2025, global sales volume of polycarbodiimide hydrolysis stabilizers reached 17,000 metric tons, with an average price of US$40,793 per ton.

Polycarbodiimide hydrolysis stabilizers are functional polymer additives featuring polycarbodiimide (?[R?N=C=N]??) as the active ingredient. Their primary function is to terminate autocatalytic degradation chains through an irreversible reaction between the carbodiimide groups (?N=C=N?) on the polymer chain and the carboxylic acid end-groups generated by the hydrolysis of materials containing ester or amide groups (such as polyesters, polyamides, and polyurethanes), thereby significantly extending the service life of the polymer in hot and humid environments. Classified as 'chain-end capping' hydrolysis stabilizers, they differ from traditional stabilizers?such as hydrotalcites or epoxides that rely on physical adsorption or different reaction mechanisms?by offering high efficiency at low dosage levels (typically 0.5?3.0 wt%).

The core raw materials for polycarbodiimide hydrolysis stabilizers are aromatic or aliphatic diisocyanate monomers (e.g., 4,4'-MDI, 2,4-TDI, HDI, IPDI, XDI), which account for 55%?75% of raw material costs; their prices are highly correlated with upstream petroleum-based feedstocks (aniline, toluene, phosgene), and significant fluctuations in MDI prices during 2021?2022 notably drove up PCDI production costs. Catalyst systems (e.g., trialkylphosphines, phospholene oxides, or organotin compounds, accounting for 5%?12%) play a decisive role in determining the degree of polymerization, molecular weight distribution, and reaction selectivity, with some high-

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efficiency catalysts being patent-protected. Solvents (toluene, xylene, DMF, or NMP, accounting for 8%?15%) are used to control the exothermic polymerization reaction and require subsequent recovery or treatment. Additionally, stabilizers/antioxidants (to prevent premature reaction of the ?N=C=N? groups) and carrier resins (for masterbatch products) are required. In terms of cost structure, raw material procurement accounts for 60%?75% of total production costs, with fluctuations in isocyanate monomer prices representing the most significant variable; polymerization process control (strict moisture exclusion, CO? removal, molecular weight regulation) and subsequent purification (precipitation, washing, drying, pulverization) account for 20%?30%; and packaging, quality inspection, and environmental treatment (including residual isocyanate control and solvent recovery) account for 5%?15%. As PCDI hydrolysis stabilizers are high-value-added fine chemicals, general-grade products yield a gross margin of approximately 25%?35%. In contrast, high-end specialty grades (featuring low volatility and medical certification) command gross margins of 50%?70% due to high technical barriers and strong customer loyalty; however, these require continuous R&D investment to meet stringent downstream demands regarding processing stability, compatibility, and long-term durability.

This report studies the global Polycarbodiimides Anti-hydrolysis Agent production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Polycarbodiimides Anti-hydrolysis Agent and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Polycarbodiimides Anti-hydrolysis Agent that contribute to its increasing demand across many markets.

Highlights and key features of the study
Global Polycarbodiimides Anti-hydrolysis Agent total production and demand, 2021-2032, (Tons)
Global Polycarbodiimides Anti-hydrolysis Agent total production value, 2021-2032, (USD Million)
Global Polycarbodiimides Anti-hydrolysis Agent production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (Tons), (based on production site)
Global Polycarbodiimides Anti-hydrolysis Agent consumption by region & country, CAGR, 2021-2032 & (Tons)
U.S. VS China: Polycarbodiimides Anti-hydrolysis Agent domestic production,

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consumption, key domestic manufacturers and share
Global Polycarbodiimides Anti-hydrolysis Agent production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (Tons)
Global Polycarbodiimides Anti-hydrolysis Agent production by Type, production, value, CAGR, 2021-2032, (USD Million) & (Tons)
Global Polycarbodiimides Anti-hydrolysis Agent production by Application, production, value, CAGR, 2021-2032, (USD Million) & (Tons)

This report profiles key players in the global Polycarbodiimides Anti-hydrolysis Agent market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Advancion (US), BASF (DE), Stahl (NL), Nisshinbo (JP), DSM (NL), LANXESS (DE), Covestro (DE), Sch?fer-Additivsysteme (DE), Technical Control (HK), Shanghai Langyi Functional Materials Co., Ltd. (CN), etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Polycarbodiimides Anti-hydrolysis Agent market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (Tons) and average price (US$/Ton) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Polycarbodiimides Anti-hydrolysis Agent Market, By Region:

United States

China

Europe

Japan

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South Korea

ASEAN

India

Rest of World

Global Polycarbodiimides Anti-hydrolysis Agent Market, Segmentation by Type:

Liquid

Powder

Other

Global Polycarbodiimides Anti-hydrolysis Agent Market, Segmentation by Structural Type:

Aromatic

Aliphatic

Alicyclic

Global Polycarbodiimides Anti-hydrolysis Agent Market, Segmentation by Molecular Weight:

Low Molecular Weight (20,000)

Global Polycarbodiimides Anti-hydrolysis Agent Market, Segmentation by Application:

Paints and Coatings

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Plastic

Others

Companies Profiled:

Advancion (US)

BASF (DE)

Stahl (NL)

Nisshinbo (JP)

DSM (NL)

LANXESS (DE)

Covestro (DE)

Sch?fer-Additivsysteme (DE)

Technical Control (HK)

Shanghai Langyi Functional Materials Co., Ltd. (CN)

Key Questions Answered:
1. How big is the global Polycarbodiimides Anti-hydrolysis Agent market?
2. What is the demand of the global Polycarbodiimides Anti-hydrolysis Agent market?
3. What is the year over year growth of the global Polycarbodiimides Anti-hydrolysis Agent market?
4. What is the production and production value of the global Polycarbodiimides Anti-hydrolysis Agent market?
5. Who are the key producers in the global Polycarbodiimides Anti-hydrolysis Agent market?
6. What are the growth factors driving the market demand?

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