

Cyclopentane Market - Forecast from 2026 to 2031

<https://marketpublishers.com/r/C990446CB777EN.html>

Date: January 2026

Pages: 144

Price: US\$ 3,950.00 (Single User License)

ID: C990446CB777EN

Abstracts

Cyclopentane Market is projected to grow at a 5.32% CAGR, increasing from USD 513.882 million in 2025 to USD 701.164 million in 2031.

The cyclopentane market is poised for robust growth, driven by escalating demand for refrigerators, insulated containers, and insulating building materials. Cyclopentane's increasing adoption as an environmentally preferable alternative to hydrochlorofluorocarbons (HCFCs) aligns with global sustainability objectives, while supportive government regulations and heightened awareness of its versatile applications and eco-friendly profile further accelerate market expansion.

A primary driver is the rising demand in the refrigeration sector. Produced via high-pressure, high-temperature cracking of cyclohexane over alumina, cyclopentane serves predominantly as a blowing agent in polyurethane foam production for appliances such as freezers and refrigerators. Moderate growth anticipated in the refrigeration segment during the forecast period will create substantial opportunities for cyclopentane suppliers. This demand stems from the food and beverage industry's need for consistent temperature control in storage units, alongside a surge in requirements from hospitals, pharmacies, clinics, and diagnostic centers for secure, temperature-sensitive storage of blood, derivatives, and medications.

Increased utilization in the automotive and construction industries also propels market momentum. The superior thermal insulation and physical properties of cyclopentane-blown polyurethane foams have spurred their uptake in these sectors, where lightweight, high-performance insulation is critical. Ongoing expansion in construction, automotive, and manufacturing is expected to sustain elevated demand for blowing agents, directly benefiting cyclopentane consumption in foam production for appliances and structural applications.

Stringent government regulations represent another key growth catalyst. As climate change concerns intensify, authorities and international bodies are implementing rigorous policies to curb greenhouse gas emissions and phase out high-global warming potential (GWP) substances. Cyclopentane, with its low GWP and zero ozone depletion potential (ODP), emerges as a compliant, sustainable blowing agent for polyurethane foams. Its use enhances product energy efficiency and performance while facilitating regulatory adherence, encouraging widespread adoption across industries.

The expanding packaging industry offers additional avenues for market advancement. Booming e-commerce, consumer goods, and industrial sectors drive requirements for robust, protective packaging solutions. Cyclopentane-based foams excel in cushioning fragile items during transit, making them a preferred material. Growing emphasis on sustainability prompts the sector to seek low-carbon alternatives; cyclopentane's low-GWP profile supports efforts to reduce environmental impact and carbon footprints, aligning with evolving consumer and regulatory expectations.

High demand from the consumer electronics and appliance segment further underpins growth. Rising global living standards and technological adoption fuel expansion in these industries, where lightweight materials and effective thermal insulation are essential for performance and energy efficiency. Manufacturers favor cyclopentane-blown foams for their low density and superior insulating characteristics. Increasing consumer preference for eco-conscious, high-performing products, combined with manufacturers' sustainability goals and compliance needs, reinforces cyclopentane's appeal given its negligible greenhouse gas impact and non-ozone-depleting nature.

Regionally, Asia Pacific is projected to exhibit high growth rates over the forecast period. Surging adoption in residential and commercial refrigeration applications in countries like China and India drives regional demand. China, a major producer and consumer of HCFCs, faces mounting pressure to phase them out due to environmental imperatives. Initiatives such as World Bank-funded programs to eliminate HCFC production and consumption are creating significant opportunities for cyclopentane and other non-HCFC blowing agents.

In market developments, the HCS Group subsidiary Haltermann Carless introduced a new line of low-carbon, mass-balanced pentane products in February 2023. This ISCC PLUS-certified portfolio encompasses blends, n- and iso-pentane, and cyclopentane, targeted at applications prioritizing carbon footprint reduction, including building and refrigerator insulation. The certified mass balance approach enables verifiable emission reductions across supply chains, supporting customers in advancing circular and

bioeconomy objectives.

The cyclopentane market benefits from converging factors: regulatory tailwinds favoring low-GWP alternatives, sectoral expansions in refrigeration, construction, automotive, packaging, and consumer electronics, and regional dynamics in Asia Pacific. Its role as a sustainable blowing agent positions cyclopentane centrally in efforts to enhance energy efficiency, ensure product performance, and meet stringent environmental standards, fostering continued market progression amid global sustainability transitions.

Key Benefits of this Report:

Insightful Analysis: Gain detailed market insights covering major as well as emerging geographical regions, focusing on customer segments, government policies and socio-economic factors, consumer preferences, industry verticals, and other sub-segments.

Competitive Landscape: Understand the strategic maneuvers employed by key players globally to understand possible market penetration with the correct strategy.

Market Drivers & Future Trends: Explore the dynamic factors and pivotal market trends and how they will shape future market developments.

Actionable Recommendations: Utilize the insights to exercise strategic decisions to uncover new business streams and revenues in a dynamic environment.

Caters to a Wide Audience: Beneficial and cost-effective for startups, research institutions, consultants, SMEs, and large enterprises.

What do businesses use our reports for?

Industry and Market Insights, Opportunity Assessment, Product Demand Forecasting, Market Entry Strategy, Geographical Expansion, Capital Investment Decisions, Regulatory Framework & Implications, New Product Development, Competitive Intelligence

Report Coverage:

Historical data from 2021 to 2025 & forecast data from 2026 to 2031

Growth Opportunities, Challenges, Supply Chain Outlook, Regulatory Framework, and Trend Analysis

Competitive Positioning, Strategies, and Market Share Analysis

Revenue Growth and Forecast Assessment of segments and regions including countries

Company Profiling (Strategies, Products, Financial Information, and Key Developments among others.

Cyclopentane Market Segmentation

By Function

Blowing Agent & Refrigerant

Solvent & Reagent

Others

By Application

Refrigerators

Containers & Sippers

Personal Care Products

Electrical & Electronics

Insulating Construction Material

Fuel & Fuel Additives

Others

By End User

Construction

Automotive

Others

By Geography

North America

United States

Canada

Mexico

South America

Brazil

Argentina

Others

Europe

Germany

France

United Kingdom

Spain

Others

Middle East and Africa

Saudi Arabia

UAE

Others

Asia Pacific

China

India

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South Korea

Indonesia

Thailand

Others

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