

Global Gas Chromatography Market Size Study, by Product (Reagents, Accessories & Consumables), by End-Use (Pharmaceutical & Biotechnology Companies, Research & Academic Institutes, Food & Beverage, Environmental Testing, Petrochemical & Industrial, Others), and Regional Forecasts 2022-2032

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Abstracts

The Global Gas Chromatography Market was valued at approximately USD 3.82 billion in 2023 and is anticipated to grow at a compound annual growth rate (CAGR) of 6.5% over the forecast period from 2024 to 2032. Gas chromatography (GC) is an analytical technique used to separate and analyze compounds that can be vaporized without decomposing. In GC, a sample is introduced into a column, where it is carried by an inert gas (the mobile phase) through a stationary phase, usually a coated column or material. As the sample components travel through the column, they interact differently with the stationary phase, leading to their separation based on their boiling points and affinities. The separated compounds are then detected and quantified, often using a detector like a flame ionization detector (FID) or mass spectrometer (MS). Gas chromatography is widely used in various fields, including chemistry, environmental science, and pharmaceuticals, for its ability to analyze complex mixtures with high precision and accuracy.

The market's growth is propelled by ongoing advancements in Gas Chromatography (GC) instruments, which are becoming increasingly sophisticated with enhanced sensitivity, resolution, and user-friendliness. These innovations are crucial for applications across various industries, including pharmaceuticals, food & beverage, environmental monitoring, and petrochemicals. Gas Chromatography plays a vital role in ensuring the safety, purity, and effectiveness of drugs, making it indispensable in the pharmaceutical and biotechnology sectors. It is utilized in the analysis of raw materials,

intermediates, and finished products, ensuring compliance with stringent regulations imposed by authorities like the FDA. The demand for personalized medicine and the need for precise analytical techniques in drug development further drive the growth of the GC market. Additionally, the increasing stringency of environmental regulations globally is fueling the demand for GC in monitoring air, water, and soil quality, particularly as countries ramp up efforts to combat pollution.

The key regions considered in the study include Asia Pacific, North America, Europe, Latin America, and the Middle East and Africa. The dominating region in the gas chromatography market is North America, particularly the United States. This dominance is largely due to the region's advanced research and development infrastructure and its strong presence in key industries that rely on gas chromatography, such as pharmaceuticals, environmental analysis, and chemical manufacturing. The U.S. has a well-established network of laboratories, academic institutions, and industrial facilities that drive demand for sophisticated analytical tools. The fastest-growing region in the gas chromatography market is Asia-Pacific. This growth is driven by the region's rapid industrialization, expanding pharmaceutical and chemical industries, and increasing investments in research and development. Countries like China, India, and Japan are experiencing a surge in demand for advanced analytical technologies due to their burgeoning manufacturing sectors and growing focus on quality control and environmental monitoring. Additionally, the rise in academic and research activities, coupled with a growing emphasis on healthcare and food safety, further propels the adoption of gas chromatography in the region.

Major market players included in this report are:

GE Healthcare
Shimadzu Corporation
Thermo Fisher Scientific, Inc.
Agilent Technologies
Bio-Rad Laboratories, Inc.
Dani Instruments SpA
W. R. Grace & Co.-Conn
Restek Corporation
Buchi
SRI Instruments
Buchi Labortechnik AG
Skalar Analytical B.V.
Phenomenex, Inc.
Fisons Instruments Ltd.

Horiba, Ltd.

The detailed segments and sub-segment of the market are explained below:

By Product:

Reagents

Accessories & Consumables

By End-Use:

Pharmaceutical & Biotechnology Companies

Research & Academic Institutes

Food & Beverage

Environmental Testing

Petrochemical & Industrial

Others

By Region:

North America

U.S.

Canada

Europe

Germany

UK

France

Italy

Spain

Rest of Europe

Asia Pacific

China

Japan

India

Australia

South Korea

Rest of Asia Pacific

Latin America

Brazil

Mexico

Rest of Latin America

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

Years considered for the study are as follows:

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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