

# **Global AI in Chemicals Market Size Study, by Component (Hardware, Software, Services), by Business Application (R&D, Production, Supply Chain Management, Strategy Management), by End User (Basic Chemicals, Advanced Materials, Active Ingredients, Green & Biochemicals, Paints & Coatings, Adhesives & Sealants, Water Treatment & Services), and Regional Forecasts 2022-2032**

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## **Abstracts**

The Global AI in Chemicals Market is valued at approximately USD 1.14 billion in 2023 and is anticipated to grow with a healthy growth rate of more than 39.72% over the forecast period 2024-2032. AI in chemicals refers to the application of artificial intelligence technologies to the chemical industry to enhance processes, optimize production, and drive innovation. AI techniques, such as machine learning and data analytics, are used to analyze complex chemical data, predict outcomes, and improve the design of chemical products and processes. This includes optimizing reaction conditions, identifying new materials, and enhancing quality control. AI helps accelerate research and development, reduces operational costs, and enhances safety by predicting potential risks. The integration of AI in chemicals facilitates more efficient and precise operations, leading to advancements in product development and process optimization within the industry. Furthermore, advanced analytics and machine learning algorithms enable precise cost and performance estimations, while AI-driven automation streamlines experimental procedures, thereby enhancing efficiency, accuracy, and safety.

The growing demand for AI in research and development is significantly driving the AI in

chemicals market. As the chemical industry seeks to accelerate innovation and streamline R&D processes, AI technologies provide critical support by analyzing vast amounts of data, predicting experimental outcomes, and optimizing chemical processes. AI facilitates the discovery of new materials, improves reaction conditions, and enhances product development through advanced algorithms and machine learning. This capability allows researchers to make data-driven decisions more efficiently and effectively, thereby reducing time and costs associated with traditional R&D methods. Consequently, the increasing reliance on AI to advance research and development fuels the expanding demand for AI solutions within the chemical sector.

The key region in the Global AI in Chemicals Market include North America, Europe, Asia Pacific, Latin America, and Middle East & Africa. Geographically, North America is expected to hold the largest share of the AI in Chemicals market in 2023, driven by robust R&D funding and strategic government initiatives promoting AI. The region's strong focus on innovation and digital transformation drives the adoption of AI technologies to enhance chemical processes, optimize production, and accelerate product development. Major corporations and research institutions in North America are leveraging AI to gain competitive advantages, improve operational efficiency, and foster innovation. Additionally, supportive government policies and substantial funding for AI-driven initiatives contribute to North America's leadership in this rapidly growing market. Furthermore, the Asia-Pacific region is poised to grow at the fastest CAGR, fueled by its diverse chemical industry and supportive governmental policies.

Major market players included in this report are:

IBM

Schneider Electric

Google

Microsoft

SAP

AWS

NVIDIA

C3.ai

GE Vernova

Siemens

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

By Component:

Hardware

Software

Services

By Business Application:

R&D

Production

Supply Chain Management

Strategy Management

By End User:

Basic Chemicals

Advanced Materials

Active Ingredients

Green & Biochemicals

Paints & Coatings

Adhesives & Sealants

Water Treatment & Services

Other End Users

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Rest of Latin America

Middle East & Africa

Saudi Arabia

South Africa

RoMEA

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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