

Isosorbide Market Forecasts to 2030 – Global Analysis By Product (Isosorbide Mononitrate, Isosorbide Dinitrate, Dimethyl Isosorbide (DMI), Pure Grade Isosorbide, Technical Grade Isosorbide and Other Products), Functionality, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Isosorbide Market is accounted for \$0.82 billion in 2024 and is expected to reach \$1.58 billion by 2030 growing at a CAGR of 11.2% during the forecast period. Isosorbide is a bicyclic organic compound derived from glucose. It is commonly used as a renewable, biodegradable alternative in the production of polymers, particularly in bioplastics, such as polyesters. Isosorbide is produced through the dehydration of sorbitol, a sugar alcohol. Isosorbide-based materials are known for their high thermal stability and mechanical properties.

Market Dynamics:

Driver:

Rising demand for biodegradable plastics

With increasing environmental concerns over plastic waste, industries are shifting towards eco-friendly alternatives. Isosorbide, derived from renewable resources, provides a biodegradable option for producing high-performance plastics used in packaging, automotive parts, and consumer goods. Government regulations promoting the reduction of plastic waste and the adoption of renewable materials further drive demand. As a result, the growing push for sustainability accelerates the adoption of

isosorbide-based plastics, expanding its market globally.

Restraint:

Technological barriers in large-scale production

Technological barriers in large-scale production of isosorbide stem from the complexity and cost of the production process. Current methods often require specialized equipment, high energy consumption, and expensive catalysts, making large-scale production less economically viable. Additionally, achieving consistent quality and yield at a larger scale is challenging, as small-scale lab processes may not be directly scalable. These factors contribute to higher production costs and limited capacity, which hampers the widespread adoption of isosorbide-based products.

Opportunity:

Advancements in biochemical technologies

Innovative processes, such as biocatalysis and fermentation-based methods, enable the sustainable and cost-effective conversion of renewable feedstocks like glucose and sorbitol into isosorbide. These technologies also enhance the purity and yield of isosorbide, making it a more attractive option for various industries, including bioplastics, pharmaceuticals, and automotive. Additionally, breakthroughs in enzymatic processes allow for a more eco-friendly approach, aligning with the growing demand for sustainable and green materials, further driving market expansion globally.

Threat:

Availability of alternatives

Traditional plastics and petrochemical-based materials are often less expensive and more readily available than isosorbide-based bioplastics, which can deter industries from adopting isosorbide despite its environmental advantages. Additionally, other bio-based alternatives, such as polylactic acid (PLA) and polyethylene terephthalate (PET), compete in applications like packaging and automotive, limiting the widespread adoption of isosorbide. This competition slows market growth and adoption in certain sectors.

Covid-19 Impact

The covid-19 pandemic had a mixed impact on the isosorbide market. On one hand, disruptions in supply chains and reduced industrial activities led to a temporary slowdown in production and demand. On the other hand, the growing focus on sustainable solutions during the pandemic led to increased interest in biodegradable plastics and renewable materials, boosting the demand for isosorbide. The pharmaceutical sector also saw continued demand for isosorbide-based products, such as heart medications, during the crisis.

The isosorbide dinitrate segment is expected to be the largest during the forecast period

The isosorbide dinitrate segment is predicted to secure the largest market share throughout the forecast period. Isosorbide dinitrate is a medication used primarily to treat angina pectoris (chest pain) and heart failure by acting as a vasodilator. It works by relaxing and widening blood vessels, which reduces the heart's workload and improves blood flow. Its effectiveness in treating cardiovascular conditions makes it a crucial component in heart disease management.

The healthcare segment is expected to have the highest CAGR during the forecast period

The healthcare segment is anticipated to witness the highest CAGR during the forecast period. Isosorbide has significant healthcare applications, particularly in the treatment of cardiovascular conditions. Isosorbide dinitrate, a derivative, is commonly used as a vasodilator to manage angina and heart failure by relaxing blood vessels and improving blood flow. Beyond its direct pharmaceutical uses, isosorbide is also explored in drug delivery systems and as a potential platform for the development of sustainable, biodegradable medical devices due to its biocompatibility.

Region with largest share:

Asia Pacific is expected to register the largest market share during the forecast period driven by rising demand for sustainable bioplastics, particularly in countries like China, India, and Japan. Government initiatives in the region are promoting eco-friendly alternatives. Major companies, including Mitsubishi Chemical Corporation, DuPont, and Archer Daniels Midland Company, are leading in the production and development of isosorbide-based products. With increasing industrial applications and environmental awareness, the market in this region is expected to witness significant growth in the coming years.

Region with highest CAGR:

North America is expected to witness the highest CAGR over the forecast period fuelled by increasing demand in industries such as packaging, automotive, and consumer goods. Strong government regulations on reducing plastic waste and promoting renewable materials further propel the market. Key players in the region include ADM, DuPont, and BioAmber, which are advancing the development of isosorbide-based solutions. With a growing shift toward green technologies and environmentally friendly products, the North American isosorbide market is expected to experience steady expansion in the coming years.

Key players in the market

Some of the key players profiled in the Isosorbide Market include Mitsubishi Chemical Corporation, Alfa Aesar, Tokyo Chemical Corporation, Thermo Fisher Scientific, Chemsy International, Arkema S.A., SK Chemicals Corporation, Sigma-Aldrich Corporation, Chemscene LLC, DuPont, Roquette Freres, ADM Corporation, Parchem Fine & Specialty Chemicals, Ecogreen Oleochemicals, Archer Daniels Midland Company and Zydus Lifesciences.

Key Developments:

In November 2024, Roquette Freres advanced its efforts in sustainable chemistry by introducing a new biopolymer-grade isosorbide tailored to meet the growing demand in the packaging and automotive sectors. This innovative product leverages Roquette's expertise in plant-based solutions, offering a bio-based alternative to traditional petroleum-derived materials.

In October 2024, Mitsubishi Chemical Corporation introduced a new isosorbide-based product aimed at enhancing high-performance coatings. This bio-based material is designed to reduce volatile organic compound (VOC) emissions, promoting eco-friendlier coatings. The product offers improved durability and performance in paints, addressing both environmental concerns and the need for superior coating quality.

In February 2024, Zydus Lifesciences received final approval from the U.S. Food and Drug Administration (USFDA) to market Sacubitril and Valsartan tablets, which are prescribed for managing chronic heart failure in adults. These tablets help reduce the risks of death and hospitalization associated with the condition.

Products Covered:

Isosorbide Mononitrate

Isosorbide Dinitrate

Dimethyl Isosorbide (DMI)

Pure Grade Isosorbide

Technical Grade Isosorbide

Other Products

Functionalities Covered:

Plasticizers

Stabilizers

Intermediates

Additives

Other Functionalities

Applications Covered:

Polymers & Resins

Active Pharmaceutical Ingredients (APIs)

Drug Formulations

Sweeteners

Packaging Materials

Other Applications

End Users Covered:

Automotive

Construction

Healthcare

Cosmetics

Food & Beverages

Electronics

Other End Users

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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