

# Nanoporous Membranes Market Report by Material Type (Organic, Inorganic, Hybrid), Fabrication Method (Phase Inversion, Interfacial Polymerization, Track-etching, Electrospinning), Application (Water Treatment, Fuel Cells, Biomedical, Food Processing, and Others), and Region 2024-2032

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## Abstracts

The global nanoporous membranes market size reached US\$ 871.3 Million in 2023. Looking forward, IMARC Group expects the market to reach US\$ 1,492.7 Million by 2032, exhibiting a growth rate (CAGR) of 6% during 2024-2032.

Nanoporous membranes consist of pores with diameters in the range of nanometers and sub nanometers that can separate liquid or gaseous mixtures. They are widely available in organic, inorganic, and hybrid variants. They are rapidly replacing the traditional water treatment technologies due to their low energy consumption, high efficiency, cost-effectiveness, operation at room temperature, and simple process. Nanoporous membranes also find extensive applications in electrocatalysis, nanodevice fabrication, energy, environmental science, and analytical science. Nowadays, researchers are focusing on developing specialized nanoporous adsorbent products for use in the electronics manufacturing and biomedical sectors, which is escalating their demand across the globe.

Nanoporous Membranes Market Trends:

Nanoporous membranes exhibit excellent performance for water purification and aids in filtering numerous pollutants, such as salts, microbes, organic molecules, and metallic ions. As a result, the rising need to treat wastewater containing minute contaminants due to the shortage of freshwater sources represents the primary factor driving the

market growth. Additionally, the governing agencies of various countries are implementing stringent regulations regarding wastewater treatment on industries utilizing water in massive volumes. Along with this, the increasing number of water treatment plants and rising water salination activities are accelerating product adoption rates. Besides this, the emerging biomedical applications of nanoporous membranes in drug delivery, single molecular analysis, immunoisolation, biosensing, and separation and sorting of biomolecules are propelling the market growth. Furthermore, the leading market players are making heavy investments in research and development (R&D) activities to introduce innovative product variants and gain a competitive edge. Other factors, including the rising product usage in the food processing industry, growing inclination toward biological water treatment technologies, and technological advancements, are also creating a positive market outlook.

#### Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global nanoporous membranes market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on material type, fabrication method and application.

#### Breakup by Material Type:

- Organic
- Inorganic
- Hybrid

#### Breakup by Fabrication Method:

- Phase Inversion
- Interfacial Polymerization
- Track-etching
- Electrospinning

#### Breakup by Application:

- Water Treatment
- Fuel Cells
- Biomedical
- Food Processing
- Others

## Breakup by Region:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

## Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Alfa Laval AB, Applied Membranes Inc., AXEON Water Technologies, DuPont de Nemours Inc., Hunan Keensen Technology Co. Ltd., inopor GmbH (Rauschert GmbH), InRedox LLC, Koch Separation Solutions (Koch Industries Inc.), Nitto Denko Corporation, Osmotech Membranes Pvt. Ltd., SiMPore Inc. and SmartMembranes GmbH.

## Key Questions Answered in This Report

1. What was the size of the global nanoporous membranes market in 2023?

2. What is the expected growth rate of the global nanoporous membranes market during 2024-2032?
3. What has been the impact of COVID-19 on the global nanoporous membranes market?
4. What are the key factors driving the global nanoporous membranes market?
5. What is the breakup of the global nanoporous membranes market based on the material type?
6. What is the breakup of the global nanoporous membranes market based on the application?
7. What are the key regions in the global nanoporous membranes market?
8. Who are the key players/companies in the global nanoporous membranes market?

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