

Nanomaterials Market By Material Type (Carbon Based Nanomaterials, Metal and Non-Metal Oxides, Metal, Dendrimers, Nanoclay, Nanocellulose), By End Use Industry (Paints & Coatings, Adhesives & Sealants, Health Care & Life Science, Energy, Electronics & Consumer Goods, Personal Care, Others): Global Opportunity Analysis and Industry Forecast, 2021-2031

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Report description:

The global nanomaterials market was valued at \$16.3 billion in 2021 and is projected to reach \$62.8 billion by 2031, growing at a CAGR of 14.6% from 2022 to 2031.

Nanomaterials are nanometer-scale structures with at least one dimension less than 100 nanometers. They are classified as having zero, one, two, or three dimensions. They are amorphous or crystalline zero-dimensional nanomaterials and come in a wide variety of shapes and sizes. Nanotubes, nanorods, and nanowires are examples of one-dimensional nanomaterials. Nanofilms, nanosheets, and nanocoatings are examples of two-dimensional nanomaterials with platelet-like structures. Two-dimensional nanoparticles can be made from a variety of chemical compounds and incorporated into matrix materials. Three-dimensional nanomaterials are bulk nanomaterials with three arbitrarily large dimensions above 100 nm. They include nanoparticle dispersions, nanowire bundles, and nanotubes.

Nanomaterials possess an antibacterial action toward different pathogens, owing to which it is incorporated into various biomedical uses and commercial products. The bactericidal activity of nanomaterials such as silver nanoparticles is due to the silver cations, which have the potential to attach specifically to thiol groups of bacterial proteins and disrupt their physiological activity, which leads to death of cell. Moreover, nanomaterials play a significant role in dermal contraction during wound healing contributing to increased rate of wound closure. These properties make nanomaterials ideal in a variety of applications such as face masks, wound care, medical devices, textiles, and others. In addition, safe medical tools coated with nanomaterials are being developed, owing to its characteristics such as countermeasures against infectious diseases.

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But, potential of safety risk to health and environment is restraining the growth of the nanomaterials market. However, increase in R&D efforts around the globe have revealed new areas of application in the nanomaterials industry. There is an excellent opportunity to start collaboration with these players around the industry when nanomaterials improve material conductivity, resistivity, strength and durability. Therefore, these companies would get a chance to share their business strategy, manufacturing process, and market approach. Investment in R&D activities is expected to provide massive business opportunities to the nanomaterials industry due to the collaboration of different manufacturers on nanomaterials.

The nanomaterials market is segmented on the basis of material type, end user industry, and region. Depending on material type, the market is categorized into carbon based nanomaterials, metal & non-metal oxides, metals based nanomaterials, dendrimers nanomaterials, nanoclay, and nanocellulose.

On the basis of end user industry, the market is divided into paint & coatings, adhesives & sealants, healthcare & life science, energy, electronics & consumer goods, personal care, and others. On the basis of region, the market is studied across North America, Europe, Asia-Pacific, and LAMEA.

The report further covers strategies adopted by key players to sustain the competitive environment and increase their market share. In addition, the report covers profiles of key industry participants, such as Arkema Group, Daikin Industries Ltd, DuPont, Evonik Industries AG, Lanxess Corporation, LG Chem, Merck KGaA, Nanoco Technologies Ltd, Nanocyl S.A., and Umicore N.V.

COVID-19 Impact on Market

The industries that require nanoparticles for producing products, including automotive and aviation, were shut down, the demand for carbon nanomaterials has declined dramatically, restricting the market growth of nanomaterials during the pandemic. However various R&D organizations invested in research where nanomaterials used in the detection, prevention, and treatment of COVID-19 and other viral infections. Because of antibacterial, antioxidant, and anticancer capabilities, nanomaterials are rapidly being used in biomedical or imaging applications, implants, photothermal therapy, and drug delivery. Such medical applications are expected to reduce the impact on the growth caused by Covid-19.

Key Benefits For Stakeholders

- This report provides a quantitative analysis of the market segments, current trends, estimations, and dynamics of the nanomaterials market analysis from 2021 to 2031 to identify the prevailing nanomaterials market opportunities.
- The market research is offered along with information related to key drivers, restraints, and opportunities.
- Porter's five forces analysis highlights the potency of buyers and suppliers to enable stakeholders make profit-oriented business decisions and strengthen their supplier-buyer network.
- In-depth analysis of the nanomaterials market segmentation assists to determine the prevailing market opportunities.
- Major countries in each region are mapped according to their revenue contribution to the global market.
- Market player positioning facilitates benchmarking and provides a clear understanding of the present position of the market players.
- The report includes the analysis of the regional as well as global nanomaterials market trends, key players, market segments, application areas, and market growth strategies.

Key Market Segments

By Material Type

- Carbon Based Nanomaterials
- Metal and Non-Metal Oxides
- Metal
- Dendrimers
- Nanoclay
- Nanocellulose

By End Use Industry

- Paints Coatings
- Adhesives Sealants
- Health Care Life Science
- Energy

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- Electronics Consumer Goods
- Personal Care
- Others
- By Region
- North America
- Canada
- Mexico
- U.S.
- Europe
- Germany
- France
- Italy
- Spain
- UK
- Rest Of Europe
- Asia-Pacific
- China
- India
- Japan
- South Korea
- Australia
- Rest Of Asia-Pacific
- LAMEA
- Brazil
- South Africa,
- Saudi Arabia
- Rest Of LAMEA
- Key Market Players
- ARKEMA GROUP
- DAIKIN INDUSTRIES LTD
- DUPONT
- EVONIK INDUSTRIES AG
- LANXESS CORPORATION
- LG CHEM
- MERCK KGAA
- NANOCO TECHNOLOGIES LIMITED
- NANOCYL S.A.
- UMICORE N.V.

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