

Cerium Oxide Nanoparticles Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

<https://marketpublishers.com/r/CFBD1451CC7EEN.html>

Date: June 2023

Pages: 145

Price: US\$ 2,499.00 (Single User License)

ID: CFBD1451CC7EEN

Abstracts

The global cerium oxide nanoparticles market size reached US\$ 795.4 Million in 2022. Looking forward, IMARC Group expects the market to reach US\$ 2,230.4 Million by 2028, exhibiting a growth rate (CAGR) of 18.3% during 2023-2028.

Cerium oxide nanoparticles (CeNPs), also known as nanoceria, are inorganic antioxidants displaying bio-relevant activities that mimic superoxide dismutase (SOD), catalase, peroxidase, and oxidase. They are synthesized using hydrothermal, solvo-thermal, and micro emulsification methods. They have unique characteristics, such as high catalytic activity, large surface area, switchable redox reactivity, and oxygen transferability, at a nanoscale level that vary according to the size, shape, charge, and surface coating and reactivity. As a result, CeNPs find extensive applications in chemical mechanical planarization (CMP), biomedicine, and energy storage across the globe.

Cerium Oxide Nanoparticles Market Trends:

There is a considerable rise in the utilization of CeNPs in corrosion protection, fuel oxidation catalysis, and automotive exhaust treatment. They are also used in polishing wafers during semiconductor circuit manufacturing. Besides this, CeNPs are employed in the personal care industry on account of their ultraviolet (UV) light filtering potential. Moreover, governments of numerous countries are focusing on reliance on renewable energy for reducing pollution levels and carbon emissions. This, along with the increasing use of CeNPs in solar cells around the world, is driving the overall sales and profitability. Apart from this, CeNPs have tumor-suppressing properties in vitro and in vivo for various cancers, such as lung, colon, and ovarian, which is catalyzing the demand for CeNPs worldwide. Additionally, the lattice structure of CeNPs forms oxygen

vacancies, which enable them to act as scavengers of free radicals in physiological conditions. This, coupled with the burgeoning pharmaceutical industry, is positively influencing the market. Furthermore, the increasing focus of market players on expanding their product portfolio is projected to strengthen the growth of the market in the upcoming years.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global cerium oxide nanoparticles market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on form, synthesis method and application.

Breakup by Form:

- Dispersion
- Powder

Breakup by Synthesis Method:

- Traditional Synthesis Methods
- Green Synthesis Methods

Breakup by Application:

- Energy Storage
- Polishing Agent
- Personal Care
- Pharmaceuticals
- 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 American Elements, Cerion LLC, Inframat Corporation, Meliorum Technologies Inc., Nanophase Technologies Corporation, Nanostructured & Amorphous Materials Inc., NYACOL Nano Technologies Inc., PlasmaChem GmbH, SkySpring Nanomaterials Inc. and Strem Chemicals Inc. (Ascensus Specialties LLC).

Key Questions Answered in This Report

1. What was the size of the global cerium oxide nanoparticles market in 2022?
2. What is the expected growth rate of the global cerium oxide nanoparticles market during 2023-2028?
3. What are the key factors driving the global cerium oxide nanoparticles market?
4. What has been the impact of COVID-19 on the global cerium oxide nanoparticles market?
5. What is the breakup of the global cerium oxide nanoparticles market based on the form?
6. What is the breakup of the global cerium oxide nanoparticles market based on the application?
7. What are the key regions in the global cerium oxide nanoparticles market?
8. Who are the key players/companies in the global cerium oxide nanoparticles market?

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