Photocatalyst Market projected to surpass US$6.938 billion by 2030 at a CAGR of 8.83%

The global photocatalyst market is expected to grow at a CAGR of 8.83%, reaching a market size of US$6.938 billion in 2030 from US$4.545 billion in 2025.

NOIDA, UTTAR PRADESH, INDIA, December 10, 2024 /EINPresswire.com/ -- According to a new study published by Knowledge Sourcing Intelligence, the global photocatalyst market is projected to grow at a CAGR of 8.83% between 2025 and 2030 to reach US$6.938 billion in 2030.

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A photocatalyst is a part of a catalyst that functions when light strikes it. There are many materials with photocatalytic properties, of which titanium dioxide is regarded as the most successful photocatalyst. Titanium dioxide is usually white powder, and from white paper, plastics pigments, it is obtained and also used in cosmetics since it absorbs UV rays.

The rising use of titanium dioxide in developed countries like Japan is another push for the need for photocatalysts. Increased visibility of self-cleaning and anti-fogging surfaces has also increased the utility applications of titanium dioxide because of its hydrophilic properties. Many more will come in to add to the growing market due to research being done all over the world towards titanium dioxide photocatalysis applications.

Moreover, the global photocatalyst market is expected to see significant potential in future opportunities owing to advanced research and development on photocatalysts as disinfectants. There have been researches based on photocatalysis as an encouraged methodology without the use of conventional techniques such as chlorination which are potentially hazardous byproducts in the disinfection of pathogenic microorganisms. The photocatalytic method is feasible and effective for disinfection of air and water matrices depending on their modification for different applications. Thus, it is feasible to carry out photocatalysis even in spaces that are difficult to impossible to clean.

Further, research is currently being done on applications in medical environments for disinfection using photocatalytic processes. It also investigates bioimplants supplied with photocatalytic coatings to inhibit bacterial proliferation on them. Moreover, Numerous applications possible from this photocatalytic disinfection technique are indicated by research and studies into indoor ambient air, environment health, biology and medicine, laboratories and hospitals, pharmaceutical and food industry, plant protection, wastewater and effluent treatment and drinking water disinfection.

Additionally, capability enhancement and convenience-in-object applications are penetrating the market with cutting-edge technologies. Photocatalysts in anti-fogging media, self-cleaning surfaces, and antibacterial coatings find their wide usage. Consumer awareness regarding clean, low-maintenance, and eco-friendly has initiated this trend. For example, among the new air purifying devices, Samsung Electronics offers a high-end air purifier with a new photocatalyst filter that no longer requires frequent filter changes.

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The global photocatalyst market is segmented by type into three major categories: Titanium oxide, zinc oxide, and others. Titanium dioxide is widely used as a photocatalyst in a variety of energy and environmental applications because of its high photoactivity, stability, affordability, and environmental and human safety. The increasing growth of the photocatalysts industry is due to increased amounts of titanium dioxide in developed countries, especially Japan. The increasing application of its hydrophilic utilities, such as anti-fogging and self-cleaning properties, is due to the increasing application of titanium dioxide. Over recent years, photo-induced hydrophilicity has greatly widened the scope of applications for materials coated with titanium dioxide in self-cleaning applications increasing the demand for titanium dioxide. TiO2 provides cleaning and bactericidal activity as a photocatalyst and forms part of self-cleaning paints.

The global photocatalyst market by application is segmented into construction and infrastructure, self-cleaning, air purification, water treatment, anti-fogging, and others. Increasing demand for photocatalysts all over the world is accompanied by the emerging photo-catalytic water treatment and air purification sectors. In water treatment applications, photocatalysts are most often used for breaking down leftover dyes from paper and textile industries. It has been extensively used for wastewater treatment and water disinfection. In addition, with the help of parabolic sun-concentrating reactors, contaminated groundwater has been purified due to the green advanced oxidation method and photocatalysis abilities to mineralize various pollutants. Photocatalysis is also applied experimentally on an engineering scale for discharge effluent treatments from a resin industry and a scale factor for solar photocatalytic treatment of industrial non-biodegradable persistent chlorinated water contaminants.

Moreover, emerging water treatment sectors and increasing markets of photocatalysts in water

treatment applications create a booming scenario on the global market. Along with this, the market for air purification also experiencing development due to awareness of the effects of air pollution. Such noise-less PCO air purifiers are indicated to the increase in adopting them, such as among residential consumers, for PCO air purifiers.

Based on geography, the North American region of the global photocatalyst market is growing significantly due to the presence of significant manufacturers, the greatest number of technology patents, and widespread technology use. Further, it is expected that this increase will be augmented by increasing research and development initiatives in this country. As a result of increased consumption of the product in the construction sector of the country, it is also expected that there will be scope for China in future growth. Rising pollution in the country is likely to result in promoting the use of cheaper photocatalyst-based air purification which is expected to boost the market during the forecast period.

As a part of the report, the major players operating in the Global photocatalyst market that have been covered are Photocat, Photocatalyst Coatings NZ Ltd., Okitsumo Inc., Sigma Aldrich, Palccoat, Kaltech Global, Ishihara Sangyo Kaisha, Ltd., The Catalysts Group, Admatechs, Sharp.

The market analytics report segments the global photocatalyst market as follows:

- By Type

  - Titanium Oxide
  - Zinc Oxide
  - Others

- By Application

  - Construction and Infrastructure
  - Self-Cleaning
  - Air Purification
  - Water Treatment
  - Anti-Fogging
  - Others

- By Geography

  - North America

- USA
- Canada
- Mexico

o South America

- Brazil
- Argentina
- Others

o Europe

- Germany
- France
- UK
- Others

o Middle East and Africa

- Saudi Arabia
- UAE
- Others

o Asia Pacific

- China
- India
- Japan
- South Korea
- Taiwan
- Thailand
- Indonesia
- Others

Companies Profiled:

- Photocat
- Photocatalyst Coatings NZ Ltd.
- Okitsumo Inc.
- Sigma Aldrich
- Palccoat
- Kaltech Global
- Ishihara Sangyo Kaisha, Ltd.
- The Catalysts Group
- Admatechs
- Sharp

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