

The Global Market for Antimicrobial, Antiviral and Antifungal Nanocoatings 2022-2032

<https://marketpublishers.com/r/GB4AF83B20CAEN.html>

Date: February 2022

Pages: 342

Price: US\$ 1,100.00 (Single User License)

ID: GB4AF83B20CAEN

Abstracts

The global COVID-19 crisis has greatly increased industry demand for antimicrobial and antiviral coatings, especially for high touch surfaces in healthcare, retail, hotels, offices and the home.

Nanocoatings can demonstrate up to 99.9998% effectiveness against bacteria, formaldehyde, mold and viruses, and are up to 1000 times more efficient than previous technologies available on the market. They can work on multiple levels at the same time: anti-microbial, anti-viral, and anti-fungal, self-cleaning and anti-corrosion. Nanocoatings companies have partnering with global manufacturers and cities to develop anti-viral facemasks, hazard suits and easily applied surface coatings.

Their use makes it possible to provide enhanced antimicrobial, antiviral, mold-reducing and TVOC degrading processes, that are non-toxic and environmentally friendly, allowing for exceptional hygiene standards in all areas of work and life. As a result, it is possible create a healthier living and working environment and to offer holistic solutions to people with a diminished immune system. Nano-based surface coatings prevent the spread of bacteria, fungi and viruses via infected surfaces of so called high-traffic objects, such as door and window handles in public places, hospitals, public buildings, schools, elderly homes etc.

Antimicrobial, Antiviral, and Antifungal Nanocoatings are available in various material compositions, for healthcare and household surfaces, for indoor and outdoor applications, to protect against corrosion and mildew, as well as for water and air purification. Nanocoatings also reduce surface contamination, are self-cleaning, water-repellent and odour-inhibiting, reducing cleaning and maintenance

Antimicrobial, Antiviral, and Antifungal Nanocoatings can be applied by spraying or dipping and adhere to various surfaces such as glass, metals and various alloys, copper and stainless steel, marble and stone slabs, ceramics and tiles, textiles and plastics.

Nanoparticles of different materials such as metal nanoparticles, carbon nanotubes, metal oxide nanoparticles, and graphene-based materials have demonstrated enhanced anti-microbial and anti-viral activity. The use of inorganic nanomaterials when compared with organic anti-microbial agents is also desirable due to their stability, robustness, and long shelf life. At high temperatures/pressures organic antimicrobial materials are found to be less stable compared to inorganic antimicrobial agents. The various antimicrobial mechanisms of nanomaterials are mostly attributed to their high specific surface area-to-volume ratios, and their distinctive physico-chemical properties..

Antimicrobial, antiviral and antifungal nanocoatings applications include, but are not limited to:

Medical facilities and laboratories

Medical equipment;

Fabrics and clothing like face masks;

Hospital furniture;

Hotels and other public spaces;

Window glass;

Pharmaceutical labs;

Packaging;

Food packaging areas and restaurants;

Food processing equipment;

Transportation, air ducts and air ventilation systems;

Appliances;

Sporting and exercise equipment;

Containers;

Aircraft interiors and buildings;

Cruise lines and other marine vessels;

Restroom accessories;

Shower enclosures;

Handrails;

Schools and childcare facilities;

Playgrounds.

Report contents include:

Size in value for the Antimicrobial, Antiviral, and Antifungal Nanocoatings market, and growth rate during the forecast period, 2017-2032. Historical figures are also provided, from 2010.

Antimicrobial, Antiviral, and Antifungal Nanocoatings market segments analysis. End users markets include interiors (e.g. household, retails, hotels, workplace, business environments), sanitary, indoor hygiene, medical & healthcare, textiles, plastics packaging etc.

Size in value for the End-user industries for nanocoatings and growth during the forecast period.

Market drivers, trends and challenges, by end user markets.

Market outlook for 2022.

In-depth market assessment of opportunities for nanocoatings, by type and markets.

Antimicrobial, Antiviral, and Antifungal Nanocoatings applications.

Analysis of nanomaterials utilized in Anti-microbial, Anti-viral, and Anti-fungal surface treatments, coatings and films including

nanosilver

graphene

nanosilica

titanium dioxide nanoparticles/powders

zinc oxide nanoparticles/powders

nanocellulose

carbon nanotubes

fullerenes

copper oxide nanoparticles

iron oxide nanoparticles

gold nanoparticles

nitric oxide nanoparticles

iron oxide nanoparticles

boron nitride nanoparticles

magnesium oxide nanoparticles

aluminium oxide nanoparticles

organic nanoparticles

chitosan nanoparticles

2D Materials

Black Phosphorus.

Layered double hydroxides (LDHs)

Transition metal dichalcogenides (TMDs)

Graphitic carbon nitride (g-C₃N₄)

MXENE

Hydrophobic and hydrophilic coatings

Superhydrophobic coatings and surfaces.

In-depth analysis of antibacterial and antiviral treatment for antibacterial mask, filter, gloves, clothes and devices.

156 company profiles including products, technology base, target markets and contact details. Companies features include Advanced Materials-JTJ s.r.o., Bio-Fence, Bio-Gate AG, Covalon Technologies Ltd., EnvisionSQ, Fusion Bionic, GrapheneCA, Integricote, Nano Came Co. Ltd., NanoTouch Materials, Nanoveu, NBD Nanotechnologies, NitroPep, OrganoClick, HeiQ Materials, Green Earth Nano Science, Reactive Surfaces, Kastus, Halomine, Spartha Medical SAS, sdst, myNano, Voneco and many more.

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