

The Global Market for Antimicrobial Smart Coatings 2017-2027

https://marketpublishers.com/r/GD4F94FF9F9EN.html

Date: September 2017 Pages: 205 Price: US\$ 1,075.00 (Single User License) ID: GD4F94FF9F9EN

Abstracts

Antimicrobial smart coatings enabled by materials advances will greatly impact a wide range of markets, as the need to combat threats from bacteria and viruses grows, especially in the healthcare sector. These coatings will also meet the requirement to not only neutralize harmful microbes but also selectively choose.

This 205 page report highlights the latest innovations and products in the antimicrobial smart coatings market, developed by large companies and start-ups. Report contents include:

Materials analysis: Materials used in antimicrobial smart coatings, their properties, benefits of usage and applications (Materials covered include silver and nanosilver, zinc oxide nanoparticles, graphene, novel biomaterials, carbon nanotubes, sulfates, silicon dioxide, copper, hydrogels, chitosan and nanocellulose nanocellulose).

Coatings analysis: Types of antimicrobial smart coatings under development.

Market analysis: Analysis of end user markets for antimicrobial smart coatings including:

Interiors

Stainless steel, glass, plastics and ceramic surfaces

Medical facilities and sensitive building applications

Air conditioning and ventilation systems



Hand rails

Restroom accessories

Medical

Medical hygiene-medical devices and surface hygiene

Wall coatings for hospitals

Hospital furniture

Dental implants, synthetic bones, catheters and artificial heart valves

Orthopaedic implants

Pharmaceutical labs

Medical textiles

Packaging

Food packaging

Polymeric films with anti-microbial properties for food packaging

Nanosilver coatings

Antibacterial coatings on plastic films

Textiles

Cotton textiles for clothing and apparel

Antibacterial cotton textiles for clothing and apparel

Interior textiles



Construction

Anti-mould and mildew coatings

Floor materials (coverings)

Exterior protective wood coatings

Paints

Food processing Food preparation facilities

Food packaging

Food processing equipment

Filtration

Water purification

Air filtration units

Other

Fitness equipment.

Storage containers and tanks.

Water coolers and ice-making equipment.

Market revenues forecasts: Detailed forecasts of the antimicrobial smart coatings market, by end user markets (revenues \$ millions).

Producer profiles: Smart antimicrobial coatings producer profiles (Profiles of over 60 producers)



Contents

1 INTRODUCTION

- 1.1 Aims and objectives of the study
- 1.2 Market definition

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

- 3.1 Antimicrobial smart coatings
- 3.2 Nanocoatings
- 3.3 Market drivers and trends
 - 3.3.1 Need for more effective protection and improved asset sustainability
 - 3.3.2 Need for improved healthcare
 - 3.3.3 Need for improved hygiene
 - 3.3.4 Sustainable coating systems and materials
- 3.4 Market and technical challenges
 - 3.4.1 Durability
 - 3.4.2 Dispersion
 - 3.4.3 Transparency
 - 3.4.4 Production, scalability and cost

4 SMART ANTIMICROBIAL COATINGS

- 4.1 Properties
- 4.2 Benefits of using smart antimicrobial coatings
- 4.2.1 Types
- 4.3 Market size and opportunity
 - 4.3.1 Main markets
- 4.3.2 Regional demand
- 4.4 Hydrophobic coatings and surfaces
 - 4.4.1 Hydrophilic coatings
 - 4.4.2 Hydrophobic coatings
 - 4.4.2.1 Properties
- 4.5 Superhydrophobic coatings and surfaces
 - 4.5.1 Properties
 - 4.5.2 Durability issues



- 4.5.3 Nanocellulose
- 4.6 Oleophobic and omniphobic coatings and surfaces
- 4.6.1 SLIPS
- 4.6.2 Covalent bonding
- 4.6.3 Step-growth graft polymerization
- 4.6.4 Applications

5 MATERIALS USED IN ANTIMICROBIAL SMART COATINGS

- 5.1 COPPER
- 5.1.1 Properties and applications
- 5.2 GRAPHENE
- 5.2.1 Properties and coatings applications
- **5.3 CARBON NANOTUBES**
- 5.3.1 Properties and applications
- 5.4 SILICON DIOXIDE/SILICA NANOPARTICLES
- 5.4.1 Properties and applications
- 5.5 SILVER AND NANOSILVER
- 5.5.1 Properties and applications
- 5.6 CHITOSAN
- 5.6.1 Properties and applications
- 5.7 HYDROGELS
- 5.7.1 Properties and applications
- 5.8 ZINC OXIDE NANOPARTICLES
- 5.8.1 Properties and applications
- 5.9 SILANES
- 5.9.1 Properties and applications
- 5.10 SULFATES
- 5.10.1 Properties and applications
- 5.11 NANOCELLULOSE
- 5.11.1 Properties and applications
- 5.12 NOVEL BIOMATERIALS
- 5.12.1 Properties and applications

6 SMART ANTIMICROBIAL COATINGS REGULATIONS

- 6.1 Europe
 - 6.1.1 Biocidal Products Regulation
 - 6.1.2 Food safety



6.1.3 United States

6.1.4 Asia

7 ANTI-MICROBIAL SMART COATINGS MARKET ANALYSIS

7.1 MARKET DRIVERS AND TRENDS

- 7.1.1 Need for improved anti-microbial formulations
- 7.1.2 Rise in bacterial infections
- 7.1.3 Growing problem of microbial resistance
- 7.1.4 Growth in the bio-compatible implants market
- 7.1.5 Anti-microbial packaging biofilm market is growing
- 7.1.6 Need for improved water filtration technology
- 7.1.7 Proliferation of touch panels
- 7.1.8 Growth in the market for anti-microbial textiles
- 7.2 BENEFITS OF ANTIMICROBIAL SMART COATINGS

7.3 APPLICATIONS

- 7.3.1 Interiors
 - 7.3.1.1 Stainless steel, glass, plastics and ceramic surfaces
 - 7.3.1.2 Medical facilities and sensitive building applications
 - 7.3.1.3 Air conditioning and ventilation systems
 - 7.3.1.4 Hand rails
- 7.3.1.5 Restroom accessories
- 7.3.2 Medical
 - 7.3.2.1 Medical hygiene-medical devices and surface hygiene
 - 7.3.2.2 Wall coatings for hospitals
 - 7.3.2.3 Hospital furniture
 - 7.3.2.4 Dental implants, synthetic bones, catheters and artificial heart valves
- 7.3.2.5 Orthopaedic implants
- 7.3.2.6 Pharmaceutical labs
- 7.3.2.7 Medical textiles
- 7.3.3 Packaging
 - 7.3.3.1 Food packaging
- 7.3.3.2 Nanosilver coatings
- 7.3.3.3 Antibacterial coatings on plastic films
- 7.3.4 Textiles
- 7.3.4.1 Cotton textiles for clothing and apparel
- 7.3.4.2 Interior textiles
- 7.3.5 Construction
 - 7.3.5.1 Anti-mould and mildew coatings



- 7.3.5.2 Floor materials (coverings)
- 7.3.5.3 Exterior protective wood coatings
- 7.3.5.4 Paints
- 7.3.6 Food processing
- 7.3.6.1 Food preparation facilities
- 7.3.6.2 Food packaging
- 7.3.6.3 Food processing equipment
- 7.3.7 Filtration
 - 7.3.7.1 Water purification
 - 7.3.7.2 Air filtration units
- 7.3.8 Other
- 7.4 GLOBAL MARKET SIZE

8 END USER MARKETS FOR ANTIMICROBIAL SMART COATINGS

- 8.1 AUTOMOTIVE
 - 8.1.1 Market drivers and trends
 - 8.1.2 Applications
 - 8.1.3 Global market size
 - 8.1.3.1 Global revenues 2010-2027
 - 8.1.4 Companies

8.2 CONSTRUCTION, ARCHITECTURE AND EXTERIOR PROTECTION

- 8.2.1 Market drivers and trends
- 8.2.2 Applications
- 8.2.3 Global market size
- 8.2.3.1 Global revenues 2010-2027
- 8.2.4 Companies

8.3 ELECTRONICS

- 8.3.1 Market drivers and trends
- 8.3.2 Applications
- 8.3.2.1 Waterproof coatings
- 8.3.3 Global market size
- 8.3.3.1 Global revenues 2010-2027
- 8.3.4 Companies
- 8.4 HOUSEHOLD CARE, SANITARY AND INDOOR AIR QUALITY
 - 8.4.1 Market drivers and trends
 - 8.4.2 Applications
- 8.4.3 Global market size
- 8.4.3.1 Global revenues 2010-2027



- 8.4.4 Companies
- 8.5 MEDICAL & HEALTHCARE
- 8.5.1 Market drivers and trends
- 8.5.2 Applications
- 8.5.3 Global market size
- 8.5.3.1 Global revenues 2010-2027
- 8.5.4 Companies
- 8.6 TEXTILES AND APPAREL
 - 8.6.1 Market drivers and trends
 - 8.6.2 Applications
 - 8.6.3 Global market size
 - 8.6.3.1 Global market revenues 2010-2027
 - 8.6.4 Companies

9 ANTIMICROBIAL SMART COATINGS COMPANY PROFILES. 155-198 (61 COMPANY PROFILES)

10 REFERENCES



Tables

TABLES

Table 1: Properties of antimicrobial smart coatings

Table 2: Disadvantages of commonly utilized superhydrophobic coating methods

Table 3: Markets for antimicrobial smart coatings

Table 4: Contact angles of hydrophilic, super hydrophilic, hydrophobic and superhydrophobic surfaces

Table 5: Applications of oleophobic & omniphobic coatings

Table 6: Materials used in antimicrobial smart coatings and applications

Table 7: Graphene properties relevant to application in coatings

Table 8: Anti-microbial smart coatings-Materials used, principles, properties and applications.

Table 9: (A) illustrates biocidal nanocoating resistance to bacteria. (B) illustrates biocidal nanocoating resistance to fungus

Table 10: Materials utilized in anti-microbial smart coatings-benefits and applications

Table 11: Market assessment for anti-microbial smart coatings

Table 12: Opportunity for anti-microbial smart coatings

Table 13: Revenues for anti-microbial smart coatings, 2010-2027, US\$, conservative and optimistic estimates

Table 14: Revenues for antimicrobial smart coatings in the automotive industry,

2010-2025, US\$, conservative and optimistic estimate

Table 15: Automotive antimicrobial smart coatings product developers

Table 16: Revenues for antimicrobial smart coatings in construction, architecture and exterior protection, 2010-2027, US\$

Table 17: Construction, architecture and exterior protection antimicrobial smart coatings product developers

Table 18: Revenues for antimicrobial smart coatings in electronics, 2010-2027, US\$, conservative and optimistic estimates

Table 19: Antimicrobial smart coatings product developers in electronics

Table 20: Revenues for antimicrobial smart coatings in household care, sanitary and indoor air quality, 2010-2027, US\$, conservative and optimistic estimates

Table 21: Household care, sanitary and indoor air quality antimicrobial smart coatings product developers

Table 22: Revenues for antimicrobial smart coatings s in medical and healthcare,

2010-2027, US\$, conservative and optimistic estimates

Table 23: Medical and healthcare antimicrobial smart coatings product developers Table 24: Revenues for antimicrobial smart coatings in textiles and apparel, 2010-2027,



US\$, conservative and optimistic estimates

Table 25: Textiles antimicrobial smart coatings product developers



Figures

FIGURES

Figure 1: Markets for antimicrobial smart coatings 2016, %

Figure 2: Markets for antimicrobial smart coatings 2027, %

Figure 3: Regional demand for antimicrobial smart coatings

Figure 4: (a) Water drops on a lotus leaf

Figure 5: A schematic of (a) water droplet on normal hydrophobic surface with contact angle greater than 90° and (b) water droplet on a superhydrophobic surface with a contact angle > 150°

Figure 6: Contact angle on superhydrophobic coated surface

Figure 7: Self-cleaning nanocellulose dishware

Figure 8: SLIPS repellent coatings

Figure 9: Omniphobic coatings

Figure 10.: Antimicrobial activity of Graphene oxide (GO)

Figure 11: Mechanism of microbial inactivation and degradation with anti-microbial

PhotoProtect nanocoatings

Figure 12: Schematic of silver nanoparticles penetrating bacterial cell membrane

Figure 13: Antibacterial mechanism of nanosilver particles

Figure 14: Current end user markets for anti-microbial smart coatings

Figure 15: Revenues for smart anti-microbial coatings, 2010-2027, US\$, conservative and optimistic estimates

Figure 16: Revenues for antimicrobial smart coatings in the automotive industry, 2010-2027, US\$

Figure 17: Revenues for antimicrobial smart coatings s in construction, architecture and exterior protection, 2010-2027, US\$

Figure 18: Revenues for antimicrobial smart coatings in electronics, 2010-2027, US\$, conservative and optimistic estimates

Figure 19: Revenues for antimicrobial smart coatings s in household care, sanitary and indoor air quality, 2010-2027, US\$, conservative and optimistic estimates

Figure 20: Revenues for antimicrobial smart coatings in medical and healthcare,

2010-2027, US\$, conservative and optimistic estimates

Figure 21: Revenues for antimicrobial smart coatings s in textiles and apparel,

2010-2027, US\$, conservative and optimistic estimates



I would like to order

Product name: The Global Market for Antimicrobial Smart Coatings 2017-2027 Product link: <u>https://marketpublishers.com/r/GD4F94FF9F9EN.html</u>

Price: US\$ 1,075.00 (Single User License / Electronic Delivery) If you want to order Corporate License or Hard Copy, please, contact our Customer Service: <u>info@marketpublishers.com</u>

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <u>https://marketpublishers.com/r/GD4F94FF9F9EN.html</u>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name: Last name: Email: Company: Address: City: Zip code: Country: Tel: Fax: Your message:

**All fields are required

Custumer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <u>https://marketpublishers.com/docs/terms.html</u>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970