

Webcatalog

**A company specializing in nanomaterials
that creates a clean environment.**



(주)대수하이테크

DAESOO HI-TECH CO.,LTD

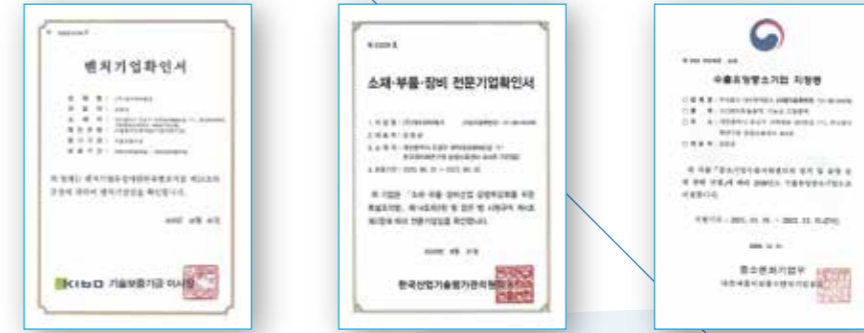
01 About Us

DAESOO HI-TECH, a venture established in 2016, is a specialized optical material developer with manufacturing and application technology of titanium dioxide(TiO2), which has various functions such as sterilization, deodorization, stain resistance, discoloration prevention and super-hydrophilicity. By grafting TiO2 onto the environmental field, we develop a catalyst applicable to air purification, odor removal and recalcitrant contaminants removal in water, and the technology is widely recognized. Implementing commercialization with our own technology, we supply it in the domestic market. Our technological prowess and marketability have also been noted in Japan, the center of photo-catalyst technology. In addition, we export our antibacterial-based TiO2 solution, DSC-200E, to Japan and Singapore from 2020 thanks to the approved quality.

02 Featured Business

- 1 Nano-technology R&D of Environmental New Materials
- 2 Titanium Dioxide(TiO2) Technology Development
- 3 Technology Development of Sterilizing, Antibacterial & Deodorizing Materials
- 4 Super-hydrophilic Coating Solution Technology Development
- 5 Technology Development of Coating Solution with Contaminant & Discoloration Prevention
- 6 Nano-catalyst Technology Development

03 Certification



- 1 Venture Company Certification
- 2 Material/Parts/Equipment Specialist Certification
- 3 Designation Letter for Promising Export SMEs



Titanium dioxide sol DSC-100W

01. Features

- Highly Active TiO₂ Coating Solution
- Exceptional Photo-catalytic Effect by Room-Temperature Drying
- Corrosion Prevention, Chemical & Abrasion Resistance of the Substrate under Processing
- Excellent Sterilizing/Antimicrobial Effect (Lasting 1 year +)

02. Physical Properties

Category	Characteristic
Product Form	Milky-white Liquid
Crystalline Solid	Anatase
Content	1-5wt%
Main Component	TiO ₂ , H ₂ O
Particle Shape	Spherical
Particle Size	30-40nm
pH	pH of 3-4
Coating Film Thickness	App. 400nm
Coating Method	Dipping, Spraying and Roll Coating

03. Applications

- Sterilizing/Antibacterial/Deodorizing Effect in Building Interior
- Self-Cleaning Effect of General Wallpaper & Painted(Oil-Based) Surfaces
- Treatment of Volatile Organic Compounds Emitted from Industrial Processes
- Clean Room Facilities incl. Semiconductor Manufacturing Factories



Titanium dioxide sol DSC-200E

01. Features

- Maintaining Transparency, Original Color & Appearance After Coating
- Forming Highly Intense Transparent Thin Film by Room-Temperature Drying
- Excellent Corrosion Prevention, Chemical Resistance & Abrasion Resistance of the Substrate under Processing
- Hydrophilic Coating Solution with Stain Resistance & Discoloration Prevention

02. Physical Properties

Category	Characteristic
Product Form	Clear liquid
Crystalline Solid	Anatase
Content	0.1-3wt%
Main Component	TiO ₂ , H ₂ O, Ethanol
Particle Shape	Spherical
Particle Size	<10nm
pH	pH of 4-5
Coating Film Thickness	App. 300nm
Coating Method	Dipping, Spraying and Roll Coating

03. Applications

- Sterilizing/Antibacterial/Deodorizing Effect on Coated Wallpaper, Tiles, Wood, Plastic, Curtain, etc.
- Super-hydrophilicity & Self-cleaning Effect of Automobile Windshield & Side Mirrors and Exterior Glass & Painted(Water-based) Surfaces of Buildings
- Maintaining Signs and Public Facilities Clean and Preventing Discoloration by Blocking UV Rays



KAMAN·P



01. Features

- Maintaining Sterilizing/Antibacterial Effect for Long through Photo-catalytic Reaction of TiO₂
- Removing Various Bacteria and Viruses
- Maintaining Sterilization Effect on Object Surfaces with One Spray

02. Applications

Wide space

Spray with fogging machine



* Purchase separately

Small space

Wipe with soft cloth after spray



Restaurant, Cafe

School(hall)

Office



Mask

Hand, handle

Clothing, Fiber



• home



• washroom



• car



• restaurant

03. Effect/Efficacy (BS EN 1276, BS EN 1650 Test Report Results) _30th Aug. 2021(U.A.E)

- 1) Staphylococcus Aureus ATCC 6538, 99.999% Sterilization
- 2) Escherichia Coli ATCC 10536, 99.999% Sterilization
- 3) Pseudomonas Aeruginosa ATCC 15442, 99.999% Sterilization
- 4) Enterococcus Hirae ATCC 10541, 99.999% Sterilization
- 5) Candida Albicans ATCC 10231, 99.999% Sterilization

Test on E. Coli



Control group
(Initial, E. coli)

Test group
(after 1 min, E. coli)

Test group
(after 24hours, E. coli)

Test on Staphyl. A.



Control group
(Initial, S. aureus)

Test group
(after 1 min, S. aureus)

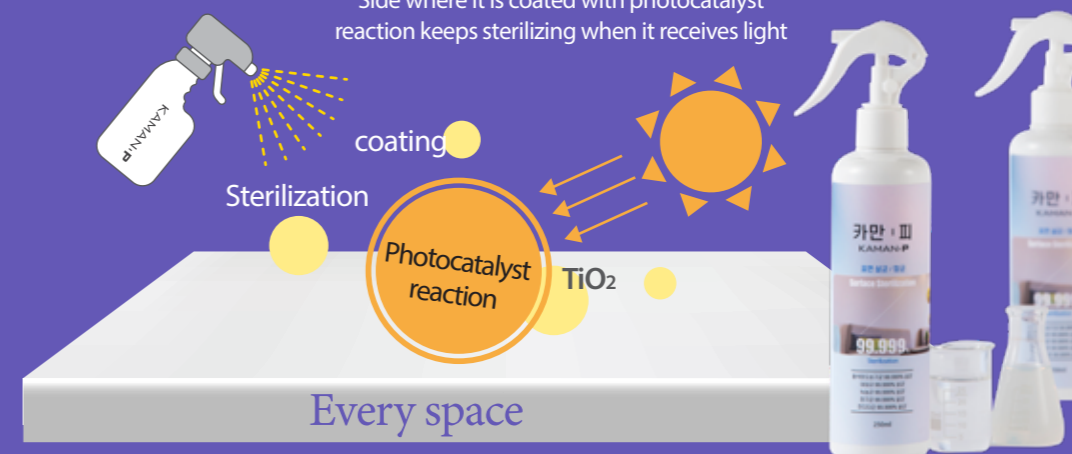
Test group
(after 24hours, S. aureus)

Indoor Air Quality Improvement & Surface Antibacterial Action



Glance at the Photocatalyst

Side where it is coated with photocatalyst reaction keeps sterilizing when it receives light



Hydrophilic Coating Agent for Vehicles (Outside Use Only)

Clean View

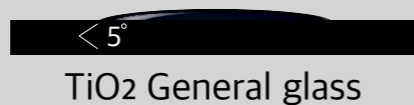
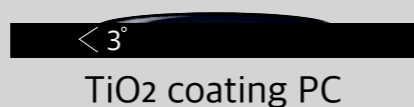
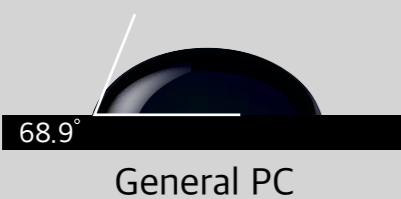


01. Features

- Since various contaminants stick to the surface of the material, it is necessary to use a detergent for cleaning. However, the surface coated with TiO₂ can always keep the surface clean with just rain or water because of its hydrophilic properties.
- As the TiO₂ coated surface is exposed to light, the contact angle of droplets is gradually decreased by its properties.
- The surface reaches super-hydrophilicity when exposed to light enough. In other words, since the surface does not repel water at all, water spread from it without forming droplets.

02. Contact Angle with Hydrophilicity

[Contact angle analysis of glass and polycarbonate]



03. Effect/Efficacy



Anti-pollution. [2 years after coating]



Mirror



Windshield



Rear window



Side glass



Side Mirror

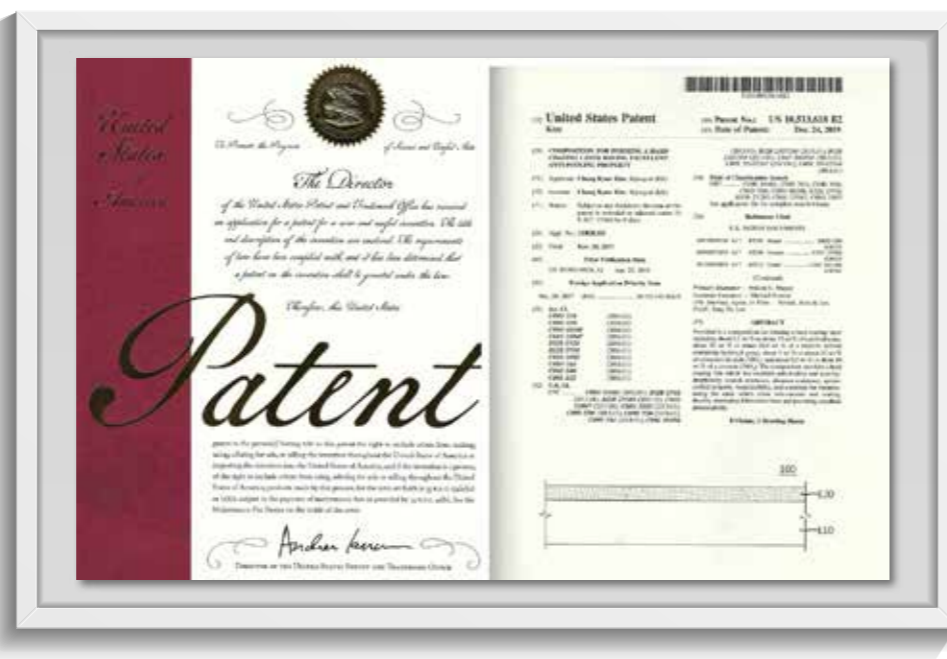
Hydrophilic (Before and after coating the glass)



Titanium plate



Certification Information



• **Patent: Hard Coating Composition Having Excellent Anti-fouling and Hard Coated Material Using the Same**

1. To provide a TiO₂ composition with excellent anti-fouling, super-hydrophilic and antimicrobial function and purifying effects of wastewater
2. To provide a TiO₂ composition with excellent photo-catalyst effect in the visible light region as well as the ultraviolet one

• **Item: Titanium Dioxide Sol / Test Report: RoHS**

Ten Hazardous Substances (Heavy Metals) Test
Hazardous Toxic Substances (Heavy Metals) Test: Not Detected



• **Item: Disinfectant / Certifying Country: United Arab Emirates (U.A.E)**

Acquisition of Sterilization Product Certificate and Certification Mark (ECAS Mark)
Main Ingredients: Titanium Dioxide Sol, Ethanol
Test Standard: 1. BS EN 1276/2019 2. BS EN 1650
1. Staphylococcus Aureus ATCC 6538, 99.999% Sterilization
2. Escherichia Coli ATCC 10536, 99.999% Sterilization
3. Pseudomonas Aeruginosa ATCC 15442, 99.999% Sterilization
4. Enterococcus Hirae ATCC 10541, 99.999% Sterilization
5. Candida Albicans ATCC 10231, 99.999% Sterilization



• **Item: Disinfectant**
• **Certifying Country: Republic of Korea**

Household Chemical Products Subject to Safety Assessment _
Certificate of Report for Safety Standards
(KEITI: Korea Environmental Industry and Technology Institute)



(주)대수하이테크

DAESOO HI-TECH CO.,LTD



- Headquarters/Factory: A316, Daedeok Biz Center, 17, Techno 4-ro, Yuseong-gu, Daejeon, ROK
- Tel : 82-42-863-0830 Fax: 82-70-8277-2049
- www.daesoohitech.com
- email: kck3225@naver.com

Webcatalog