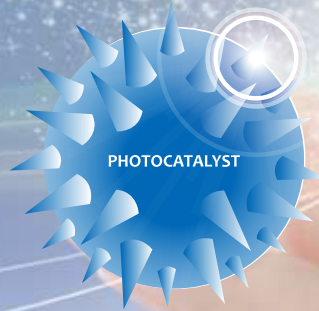


Titanium Dioxide Coated with Apatite

# Nanobest photocatalyst can adsorb organic substances



Photocatalyst for Environmental Purification

# NANOBEST

Visible light responsive apatite-coated titanium dioxide

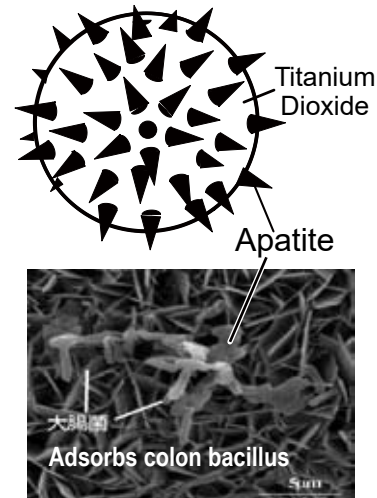
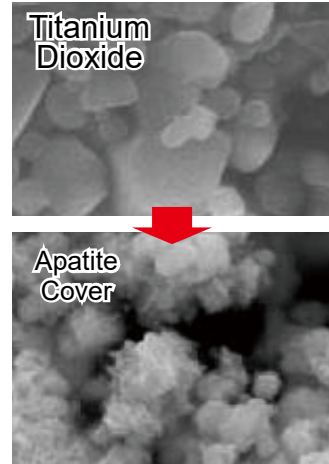
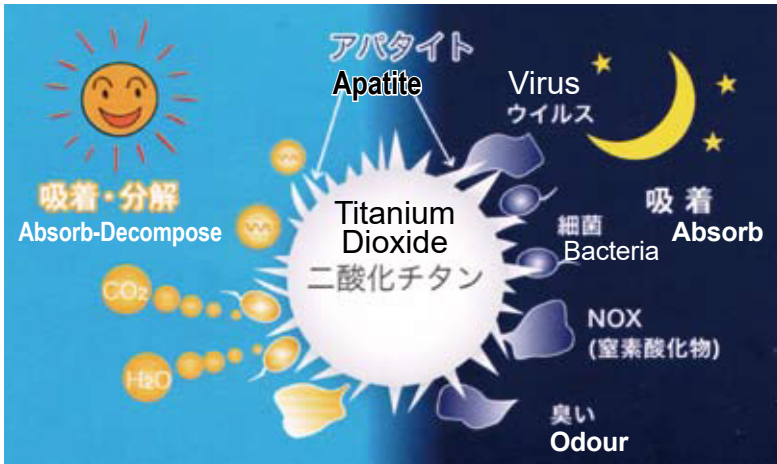
## Decomposition starts when exposed to light

It absorbs light to generate strong oxidizing power, and decomposes dilute substances and organic chemical substances in the air and water.

## Continues to absorb and decompose

Visible light responsive apatite-coated titanium dioxide (iron-based)

The substance adsorbed by apatite is decomposed and removed by titanium dioxide when exposed to light, so the adsorption capacity of apatite is regenerated. It can adsorb a large amount of bacteria and harmful substances even without light such as at night. Therefore it can be adsorbed and removed harmful substances without light for several days in normal household.



Since titanium dioxide does not come into direct contact with the base due to apatite, the base will not be decomposed.

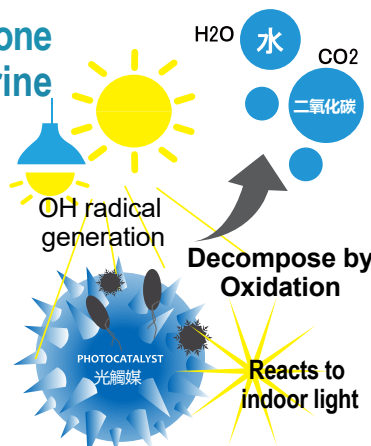
**No binder required**

**Apatite adsorbs bacteria and odours at night**

**Reacts to fluorescent lights and faint light**

**Disinfection Power** ≈ 1.35 times ozone  
≈ 2 times chlorine

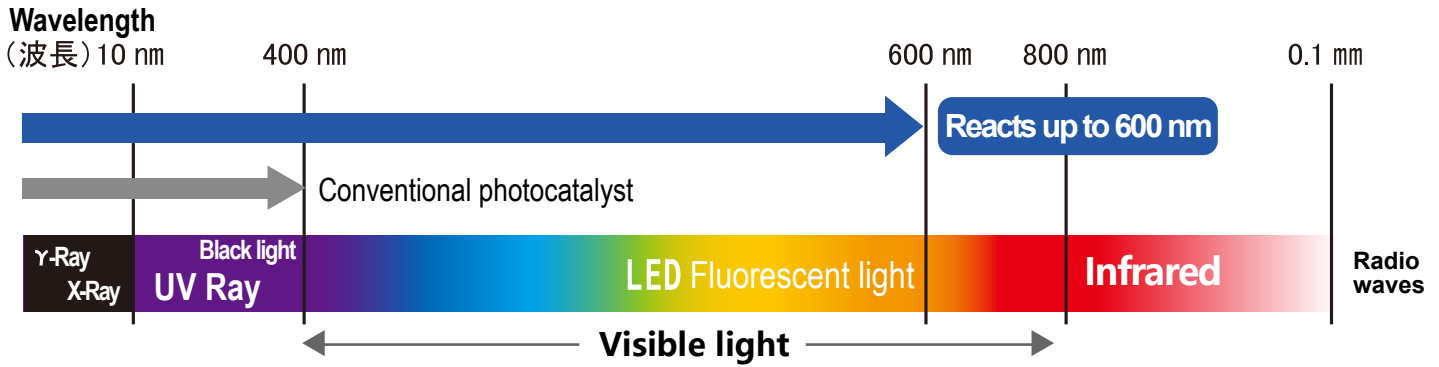
**OH radical**  
In response to light (catalytic reaction)  
**Generates strong active oxygen**  
Oxidize organic substances and decompose them into water and carbon dioxide



Oxidant	Oxidation Potential (Volts)	Relative Potential (against chlorine value)
★ OH radical	2.80	2.05
Oxygen atom	2.42	1.78
Ozone	2.07	1.52
Hydrogen Peroxide	1.77	1.30
Hydrogen Peroxide Radical	1.70	1.25
Hypochlorous Acid	1.49	1.10
Chlorine	1.36	1.00

# 【Light in response to this photocatalyst】

Visible light responsive apatite coated titanium dioxide  
Apatite coating + iron-doped titanium dioxide



**Safe!** Safe enough to be used in spacecraft and hospital operating rooms

The main components are titanium dioxide / apatite / water

Titanium dioxide is used in foods such as white chocolate and cosmetics such as toothpaste and lipstick. (Food additive)  
Apatite is a mineral mainly composed of phosphorus and calcium, and is also abundant in teeth and bones.  
In addition, it does not use surfactants or fragrances, so it can be used and drained with peace of mind.

**Over 99% super antibacterial and antiviral!**

It decomposes to carbon dioxide and water, and does not need to be washed away.

Coliform bacteria / Legionella / Staphylococcus aureus

Decomposes organic substances such as virus (COVID-19, norovirus, influenza) / hospital-acquired MRSA / mould

**Deodorization!**

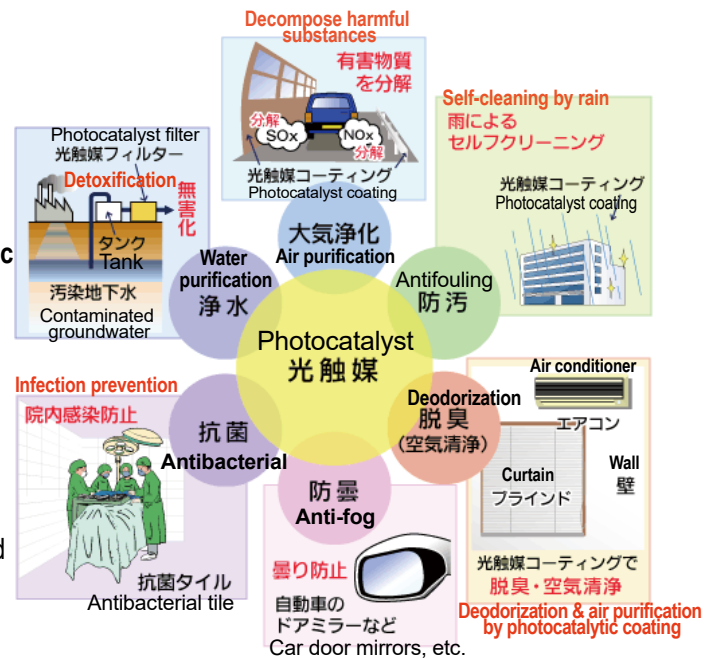
Odour disappears as a result of decomposing the cause without wrapping and hiding it.

Common deodorant sprays only wrap and hide odours which reappear over time. Nanobest photocatalyst decomposes organic substances (sources of odour), resulting in deodorization.

**The effect keeps on!**

Antibacterial, antifouling, deodorant, antifungal!

Viruses, dirt, or organic substances that adhere to the part where the Nanobest photocatalyst is attached will be decomposed again when exposed to light. This effect will continue.



Various applications of photocatalyst

Disinfection

Deodorant

Cleaning

Water & air purification

Dirt prevention

Keep fresh



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PIAJ (Photocatalyst Industry Association of Japan)