

It is a water-based solution. The photocatalyst properties of TiO<sub>2</sub> titanium dioxide can eliminate bacteria/viruses and organic compounds in the air. After use, it can greatly reduce the risk of personal infection with viruses and provide high standards of health protection for our living environment, reducing the rampant Mutated bacteria/viruses and other harmful substances invisible in the air. In Hong Kong, since 2006, the MTR Corporation has sprayed nano-silver titanium dioxide coatings at all high-traffic and multi-person contact places in all its railway stations, such as electric stair handrails and buttons of ticket vending machines in stations. This measure greatly reduces the risk of subway stations becoming sites for disease transmission.

Photocatalysis of photocatalyst (Photocatalysis)

Photocatalysis is a natural phenomenon produced through the transmission of photocatalyst substances. In the late 1960s, two scholars from the University of Tokyo, Fujishima and Honda, accidentally discovered that titanium dioxide combined with ultraviolet light can break down germs/viruses during scientific experiments. Although this discovery was made half a century ago, it was not until the advent of nanotechnology at the end of the last century that it was widely used in our daily lives to improve the protection of our environmental health.

Photocatalysis is the phenomenon of accelerating the light effect through photocatalyst. In our products, titanium dioxide acts as a catalyst. When it absorbs light energy from its surroundings, its physical structure undergoes short but continuous changes. During the reduction process, if it encounters bacteria in the air, viruses or harmful organic substances such as formaldehyde, it will react with it, thereby removing the bacteria in it. The cell breaks down and decomposes the organic matter into harmless carbon dioxide and water to achieve antibacterial effect. This effect will continue in a light environment.

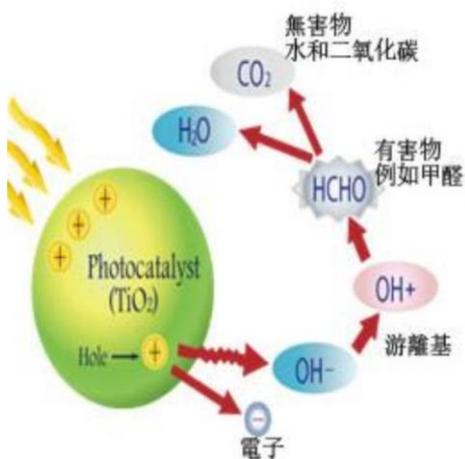
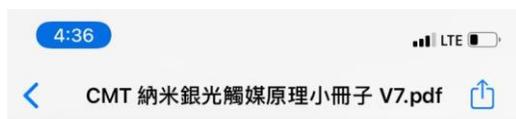
Characteristics of photocatalyst

Photocatalyst is a medium that catalyses and accelerates the light effect. Its quantity and quality will not change in the whole process. So theoretically its validity period is unlimited. But in actual use, due to the contact friction of the flow of people, it slowly leaves the surface. According to our past experience, the effectiveness of the coating ranges from weeks to years. In order to maintain its effectiveness, we recommend using water or 1:99 bleach to clean the coating instead of using strong alkali (pure bleach) or strong acid (pure vinegar) to wipe the coating, and do not use hard objects such as steel wire in the coating. Wipe the surface of the coating.

Disinfectants that are widely used in daily life, such as hypochlorous acid water, Dettol, alcohol, bleach, etc., will kill bacteria immediately when they are used, but their effect is short-lived. If you want to maintain the effect; especially in a high-traffic environment, you need to repeat the use frequently every day. In Hong Kong, places where people frequently come into contact, such as elevator buttons, need to be cleaned every hour. Our nano-silver titanium dioxide coating is a photocatalyst, not a disinfectant, and does not need to be applied frequently, effectively, and continuously protecting environmental hygiene.

Titanium dioxide is harmless to humans and animals. It is a food additive approved by the Food and Drug Administration. It is generally used in white processed foods such as milk and ice cream. Titanium dioxide is an important ingredient in sunscreen skin care products such as solar oil.

In addition to nano-sized titanium dioxide, the CMT nano-silver catalyst is composed of nano-silver particles. Titanium dioxide has an antibacterial/viral effect in the presence of light, while nano-silver particles will continuously produce silver ions regardless of whether it is light or not. It can also play a bactericidal/viral function, so CMT nano silver catalyst can play a protective role at any time. Nano silver has generally been used in the medical industry for more than 20 years, so it is definitely harmless to the human body.



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銀觸媒已取得德國 TUV 認證證明產品的殺菌率