------About Titan------

-Management Philosophy

Nano Photo-catalyst has its widespread uses since it has been found, these include features such as : anti-bacteria, inhibition of virus, decomposition of odor, purification, anti-aspergillus and non-toxicity,etc. Since photo-catalyst has a superior property of not generating any harmful material after its processing, in addition, it can be applied in many fields which create multiple economic interests, therefore, it is a perfect and new environmental friendly material; since photo-catalyst simply uses its physical property to harden virus protein and inhibit its activity, and the goals of inhibition of virus the same as SARS coronavirus can then be achieved ; moreover, floatage, bacteria and toxic cancer-causing gases (such as : formaldehyde, ether, benzene)in the air can thus be decomposed. It has been widely applied in the outer wall and indoor of the building such as hospital, residence house, business building, hotel, school, public facility, etc. to prevent the so-called SICK HOUSE syndrome and create superior living environment.

-Product features

The TiO_2 Nano Photo-catalyst of Titan Environmental Technology Corporation owns the world’ s exclusive indoor visible light patent, the product still has very strong effect in the wavelength range of 388 ~ 520 nm(such as the light from fluorescent lamp, LED lamp, light bulb, etc. which are commonly seen indoors), the product received 2001 Super Excellence Product Award from Nikkei Business Publishing, on Feb. 2004, Japanese media says : Professor Hiroshi Ushijima in the Graduate Institute

of Medicine at Tokyo University has applied the “visible light response type photo-catalyst” of ECODEVICE corporation (our company is one of its distributor) and verified that the product can effectively inhibit the activity of astrovirus (which has the same DNA as SARS coronavirus).

The currently global available more than 4000 photo-catalyst products can only be activated by UV light (with a wavelength below 388nm), but actually, UV equipment is not suitable to be installed indoors because it might be harmful to human health.

In addition, The TiO_2 Nano Photo-catalyst of Titan Environmental Technology Corporation is not the common short term adsorption type available in the market, it has been verified by the experiments that the formaldehyde did not get reduced after heating up to 80 ℃, the formaldehyde is indeed decomposed.

-Cooperation between industry and academy

Titan Environmental Technology Corporation has a very professional R&D team, we are the exclusive domestic company which gets licensed from a patent of “visible light response type photo-catalyst” owned by ECODEVICE corporation, which is a Japanese company. We are also the largest domestic distributor of the “outdoor photo-catalyst” product owned by SUN&RAIN corporation, which is also a Japanese company. We are an excellent paradigm company recognized by the Architecture and Building Research Institute, Ministry of the Interior, R.O.C., we are also the exclusive domestic company which receives the technology from a project called “Visible light nano photo-catalyst function-defining project”, with a project no. of NSC93-2622-E-011-010-CC3,which is an academy and industry cooperation project sponsored by National Science Council, Executive Yuan.We also are the exclusive

domestic company which receives the photo-catalyst application technology through academy and industry cooperation from a top technology team at Industrial Technology Research Institute,in the mean time, our product is a double guarantee of both quality and performance.

-----The world of photo-catalyst-----

-What you should know about photo-catalyst

What is a catalyst?

It is kind of an “activator” which accelerates the reaction in the environment it is applied to but it won’t generate any reaction change.

What is a photo-catalyst?

That is, light is used as the catalyst, the function and effect is through the illumination of light, solar energy is used in outdoor, but UV light which won’t harm human body is used as the catalyst in indoor. Through improvement, new photo-catalyst technology which can activate photo-catalyst through **visible light** has been developed too.

Activate photo-catalyst

Inorganic TiO_2, titanium oxide, can generate powerful capability to oxidize and reduce free radical through the illumination of light, it can decompose harmful organic chemical material into non-harmful CO_2 and water.

-----Principle of photo-catalyst-----

When titanium oxide photo-catalyst senses the optical source, the surface of titanium oxide will generate electrons and holes, physical reaction and micro current(OH free radical)will be generated, it will react with water and oxygen to produce activated oxygen, the activated oxygen will cut the molecular structure of organic compound, therefore, organic compound can be decomposed (goals such as anti-bacteria, removal of the odor in the air, decomposition of cancer-causing chemical materials, purification of nitro oxygen compound, etc. can thus be achieved).Therefore, through the use of photo-catalyst, all the harmful organic compound can finally be decomposed into non-toxic materials such as CO_2 and water.

註1 Remark 1

Hole：When electrons in the valence band are activated and jump to the conduction band, holes of positive charge will be generated correspondingly in the valence band.That is, holes and electrons are generated at the same time, the generated electrons have very strong reducing power, “holes”, on the contrary, have very powerful oxidizing capability.

註2 Remark 2

OH free radical：It is formed when an oxygen atom is bonded to a hydrogen atom, that is, one hydrogen atom is taken away from the water (H_2O) molecule.

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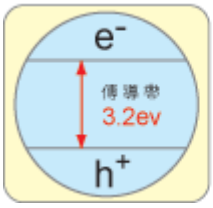
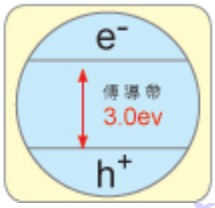
註3 Remark 3

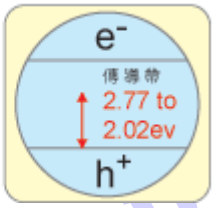
Organic compound：It’s a simple compound containing carbon, it is carbon-containing compound except carbonate.

註4 Remark 4

The conduction band of general photo-catalyst is 3.2ev	The conduction band of the current visible light photo-catalyst available in the Taiwan market is 3.0ev	The conduction band of world's exclusive visible light photo-catalyst is 2.77ev ~ 2.02ev, we are the distributor of this product.







The applications of photo-catalyst

Photo-catalyst not only can be applied in purifying the indoor environment, it can also be applied in improving the earth environment contaminations such as: atmosphere, water, soil, etc., in addition, it can be widely used to decompose the harmful organic compounds dissolved in the water and air, as well as in the anti-bacteria and stain-prevention fields. In order to meet the requirements of different applications, the most appropriate raw materials have to be chosen according to the requirements, therefore, many different kinds of raw materials have been developed one after another in order to realize the applications and the full effectiveness of photo-catalyst. What is the most cared things in the mind of people living in Taiwan after SARS? According to a survey report in the end of May 2003 from "Common Wealth magazine " targeting at 4000 people living in Taiwan, it shows with priorities in the following order :"personal sanitation and health"(73%), "Care more about civic virtue"(62.2%), "Work harder for the benefit of Taiwan society"(55.6%)," The cleanliness of residence house and its neighborhood ", etc.

-Indoor photo-catalyst

Currently, the TiO_2 nano photo-catalyst of Titan Environmental Technology Corporation owns the world's exclusive patent, that is, it can be activated by the visible light indoors, strong reaction can be achieved at wavelength in the range of 388 ~ 520 nm(such as the light from fluorescent lamp, LED lamp, light bulb, etc. which are commonly seen indoors), the generated photo-catalyst reaction can effectively inhibit virus and destroy all kinds of bacteria：

Feb. 2004, Japanese media says : Professor Hiroshi Ushijima in the Graduate Institute of Medicine at Tokyo University has effectively inhibited the activity of astrovirus (which has the same DNA as SARS coronavirus).

Gram' s positive bacteria：

For example, Streptococcus, Staphylococcus aureaus, Diphtheria, Bacillus, etc.

Gram's negative bacteria：

For example, Escherichia coli, Typhoid, Hepatitis bacillus. Microbe type such as：Aureaus. Mould such as ：Microsporum, Candida.

It can also eliminate the indoor environmental toxic materials：

Eliminate indoor organic odor(smoke, aspergillus odor, etc.), decompose volatile organic compounds (V.O.C.) (such as formaldehyde, ether, benzene, and chlorine,etc.), reduce the infectious contact paths of the bacteria.

註1 Remark 1

The global current more than 4000 types of photo-catalyst products can only be activated by UV light (wavelength below 388 nm), actually, the UV dosage used is too high which could possibly endanger human health.

---Outdoor photo-catalyst---

The TiO_2 Nano Photo-catalyst which can convert harmful materials into non-harmful materials can have widespread use in fields such as :

Purification of atmosphere pollutions such as : the commonly seen NOx, Sox, etc. (such as the cancer-causing gases emitted by normal vehicles, plants, incinerators, etc.), the purification of water, soil purification and regeneration ; in addition to environmental engineering applications,TiO_2 titanium oxide Nano Photo-catalyst has been widely used in improving the outside and inside walls and glass of a building, the wall of a tunnel in the super highway, the sound isolation board ; meanwhile, in the cleaning, stain-prevention and waste gas decomposition application of asphalt road surface and traffic sign in the traffic roads.

-Product application

Publication date: Nov. 19, 2001

”Visible light response type”photo-catalyst technology application—In the tooth bleaching clinic test performed by the ceramic research group (department head：龜山哲也) and ceramic research group (group leader：野浪享) of Industry Research Institute of Japanese Independent Administrative Government Corporation and Ecodevice company,the world’s first successfully developed ”Visible light response type ” titanium oxide photo-catalyst has been used for tooth bleaching

materials, a contract has been signed with Showa Pharmaceutical Co. Ltd. in Japan for patent implementation for clinical test purpose.

The major compositions are “Visible light response type” titanium oxide Photo-catalyst and low concentration (3.5%) hydrogen peroxide bleaching materials, coat the materials on the surface of the tooth and illuminate it with light for several minutes, the discolored tooth due to exterior factor such as color precipitation will become white and clear in as short as several minutes, the color level change can be obviously contrasted.

The newly developed “Visible light response type ”titanium oxide Photo-catalyst material is different than the bleaching material used before, for example, it won’t hurt the gum of the tooth, it has less possibility to cause damage to the enamel and cause any allergy. Because titanium oxide has excellent material and non-harmful property, it greatly reduce the cost of a patient and the technological burden of a doctor.

Titan Environmental Technology Corporation cordially welcome you, don’t hesitate to ask any questions regarding to the development of Nano Photo-catalyst, you can get the services you need by the following ways, after we receive your requests, our dedicated customer service personnel will contact you immediately, they will provide the information you need or answer your questions.

Register to be our distributors

If you want to join the Photo-catalyst development and distributing system of Titan Environmental Technology Corporation and be a member of a top Photo-catalyst development team, please click on the “register to be a distributor” button and fill in ”

Questionnaire for joining the Photo-catalyst distributor team of Titan Environmental Technology Corporation" and send it, after we receive your requests, our dedicated customer service personnel will contact you immediately, they will provide the information you need or answer your questions.

Registration and security announcement

The form "Questionnaire for joining the Photo-catalyst distributor team of Titan Environmental Technology Corporation" you have filled is only for application purpose and for the information archiving and contact purpose in our company, it does not mean that you have the related rights of a distributors or the form has legal bonding power. Without your written permission, our company will not use your information for other purposes.

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