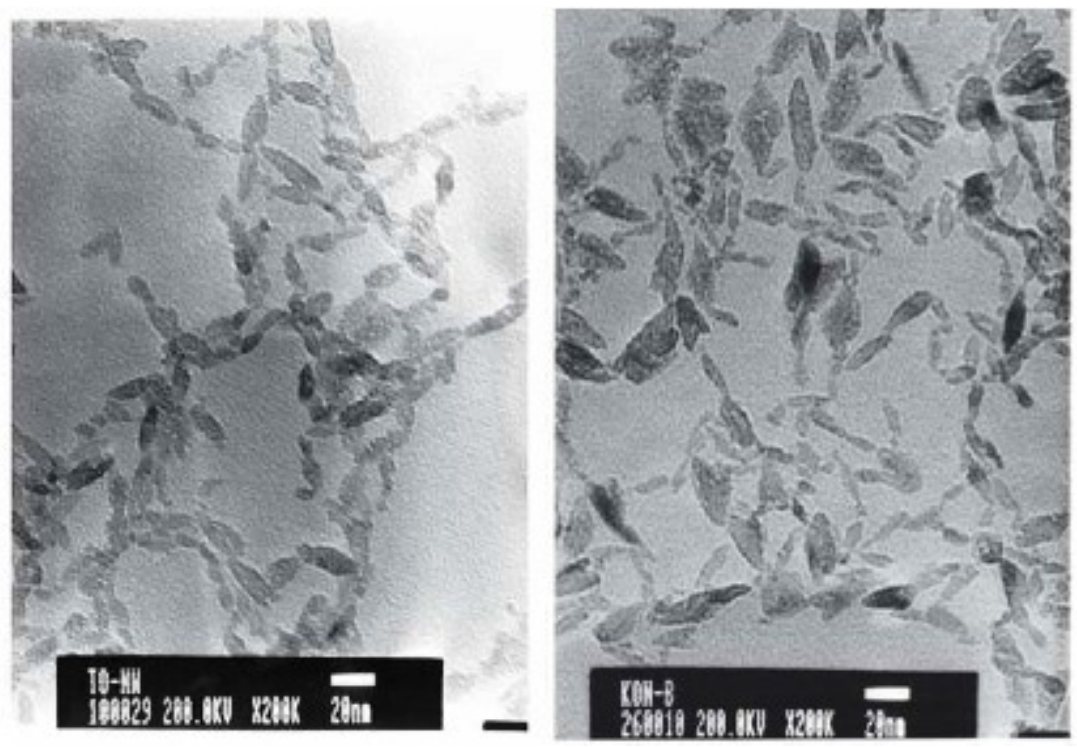
Transmission electron micrographs of anatase particles in TOsols and TPXsol autoclaved at 200.

Electronic Microscope SEM photo

TOsol and TPXsol anatase TiO2 Nanoparticles Aqueous Dispersion Comparison



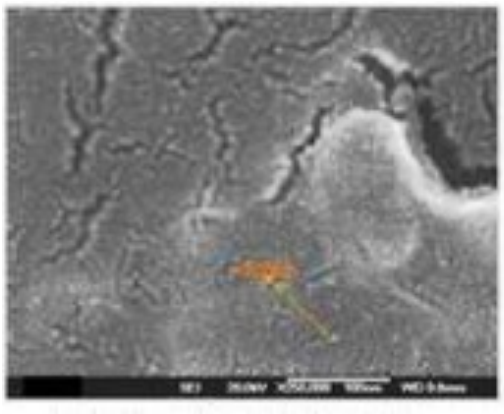
TOsol— Nano Particle in Aqueous state　　**TPXsol— Nano Particle in Aqueous state**

Note:

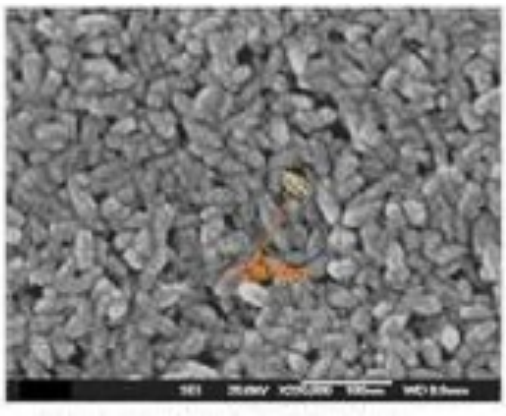
1. The photocatalyst TiO2 in the market today are generally used strong acid or solvent to dissolve titanium dioxide into liquid form. These solvent-based photocatalyst coating are easily precipitate or corrugate into gel over time. The side effect of this production method are highly acidic and contain high level of volatile organic compound renders the coating to be unstable or unusable in a very short period of time.
2. Peroxotitanium Acid modified anatase TiO2 (TPXsol) crystallized in an irregular micro arrowhead shape allows an uniformly dispersion in a neutral aqueous solution. It allows strong bonding adhesion to the inorganic and organic substrate etc..
3. The small particle size in our PTA and TPX form a denser film which increase the contact surface area. As result, it makes greater photo-catalytic oxidation and photo-induced superhydrophilicity properties.
4. Heat treatment may be provided for enhancing the adhesion properties and increase the film hardness up to 8H.
5. The desire photoctalyst coating film thickness is in between 0.25um to 1.0um
6. The PTA solution has a number of practical advantages— they were neutral, stable liquids, the crystallization temperature was low, and the production process was easy. Therefore, PTA solution are potential raw materials for the fabrication of titanium film.
7. Among product certification, the Photocatalysis Industry Association of Japan (PIAJ) has set the industrial standards guidance which requires the photocatalyst product to pass certain performance guideline, compliance, safety verification through JIS testing method in order for product to be deemed appropriate to sell in the market. Our product has obtained the safety tests certification with the following testing standard: (1) Acute Oral Toxicity Test, (2) Primary Skin Irritation test, (3) Microbiological Mutagencity Test

Nano Composite Membrane

Heat Treated PTA-85sol (8.2nm)



Room Temperature TPX-85sol (28nm)



Regular TiO2 solution (600nm)