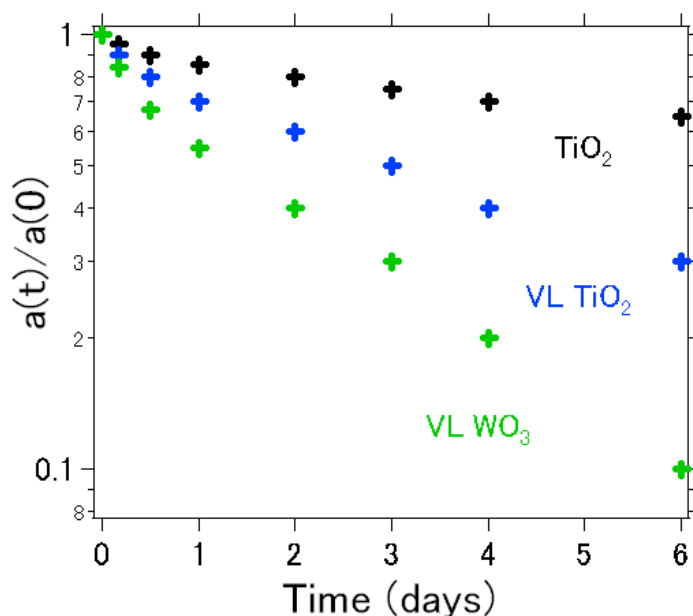


Visible Light Response Type Photocatalytic Materials (Silver Nano Colloides, Hydroxy Apatite complex type)

FUJI SP TiO₂, WO₃ series
FUJI ASL TiO₂, WO₃ series

We have developed FUJI SP, ASL TiO₂, WO₃ series as Visible Light Response Type Photocatalytic Materials based on years of our experience in the field of organic pigment, functional material manufacturing technology, industrial powder fine grinding, nano size particle dispersion technique. We had modified the surface and bulk property of TiO₂ and WO₃ to possess visible light response.

Moreover, by making complex with silver nano colloids and hydroxyl apatite, they can absorb (night time, in the dark) and decompose bacteria (day time, under illumination). This is very original to our company technology. Below figure indicates the photo degradation rate property of methylene blue with our photocatalytic materials.

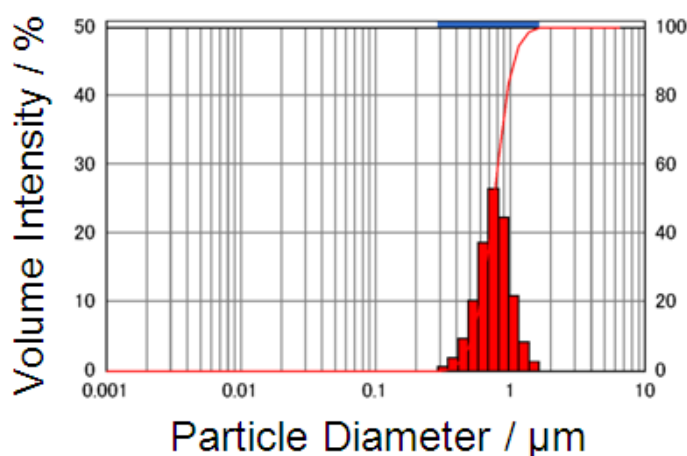


Photocatalytic degradation curve of Methylene blue

Time resolved absorption spectra for the bleaching process of methylene blue (values were taken of the absorption peak at 665 nm as methylene blue aqueous solution) under sun light irradiation. (VL : Visible Light Response Type)

Particle Diameter Distribution

Based on our fine particle dispersion technique, we can control the size of nano particle diameter, such as to make particle size smaller in order to increase the available chemical reaction site, in order to obtain more photocatalytic sites at surface. Please consult us anytime to modify particle size diameter including surface properties.



We are also developing printable ink or paint for Photocatalytic paint using FUJI TiO₂ or WO₃ series based on water, or any type of organic solvent. For example, below table indicates the basic property of paint or ink slurry.

FUJI ASL TiO₂ or WO₃	10.0 – 40.0 %
Resin and additive	0.8 – 12.0 %
Silver Nano Colloids	0.01 - 5.0 %
Hydroxy Apatite	0.01 - 10.0 %
Water or Organic Solvent (Terpineol, NMP, MIBK, Toluene, BCA etc...)	50.0 - 80.0 %
Viscosity	4.0 – 300000 mPa·s/ 25 °C (Viscosity can be modified for customer's request for their printing method)
Particle size of FUJI ASL TiO₂ or WO₃	60.0 nm – 300.0 nm

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Fuji TECHNICAL INFORMATION

We can prepare ink or paint slurry either organic solvent base such as IPA (iso propyl alcohol), MEK (n-methyl pyrrolidone), NMP (N- Methyl pyrrolidone) etc.....and water. We can also modify the particle size, concentration of other additives such resin or dispersing chemical etc... We will prepare suitable ink using appropriate resin and chemicals in order to have strong adhesion towards substrate such as PET, PP, PE film, glass, metal, or ceramic substrate, as customer requests. Furthermore, we can perform surface coating, metal doping, inorganic oxide coating (SiO_2 , Al_2O_3 , ZrO_2 etc...) and so on, in order to modify particle property. (To prevent substrate damage caused by TiO_2 or WO_3 photocatalytic property itself). In addition, we can also modify the amount of silver nano colloids and hydroxy apatite to control the effect of decomposing and absorbing the bacteria.

We will be glad to discuss with your detail technical request anytime.

Thank you in advance.

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