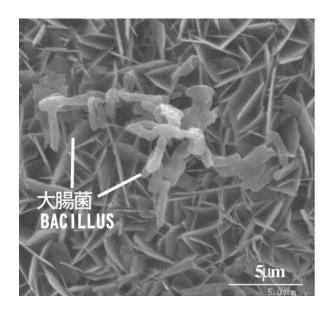
## Photocatalyst by the titanium dioxide that covered apatite

## Titanium dioxide that caused the crystal of apatite separated

Apatite is excellent in the adsorption ability such as the bacteria, viruses, ammonia, nitrogen oxide, aldehyde etc. Therefore, the apatite is an environment improvement material. While, Photocatalyst holds strong oxidization power by receiving light which the ability to disassemble harmful organic chemical substance, bacteria, foul-smelling etc. and change to carbonic acid gas and water. On the other hand, The powder of photocatalyst cannot be used as it is, because when it mixes to a paint and fiber, it decompose the material of those substances causing discoloration and destruction. Also, Photocatalyst is not able to collect



organic matters, bacteria, etc in the air or water, but only the ones sticked accidentally. Furthermore, as a major defect, phtocatalyst cannot work without light. Therefore, to cover the above defects, we have developed the composite material, which is titanium dioxide coated with crystal of apatite. It has various advantage as shown below and its application is very wide.

- (1) The photocatalyst by the titanium dioxide that covered apatite has an effect semipermanently. Because, Titanium dioxide disassembles the substance that apatite absorbed.
  - (2) Apatite absorbs the bacteria and harmful substance even if light does not hit.
  - (3) Titanium dioxide disassembles the harmful substance that apatite absorbed.

Titanium dioxide that covered apatite

Photocatalyst by the titanium dioxide that covered apatite is excellent from a conventional photoatalyst.

- 1. Apatite absorbs the substance even if light does not hit
- 2. Titanium dioxide disassembles a harmful substance.
- 3. Photocatalyst by the titanium dioxide that covered apatite is the newest technology of Japan.

**Air pollution**: Remove nitrogen oxide

**Air purification**: Remove the volatility organic matter that is the cause of a sick house syndrome

Antibacteria  $\cdot$  Antimold  $\cdot$  Washing Bleaching  $\cdot$  Sterilization

We have developed under the guidance of Engineering Dr. Toru Nonami, National Institute of Advanced Industrial Science and Technology.

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