III Nanometer Grade Titanium Dioxide in China

III-1 Summary of Nanometer Grade Manufacturers

In 2002, the total capacity of nanometer grade TiO2 in China was only 1,000 MTs/year. Up to November 2005, there are 9 active producers of nanometer grade TiO2 in China. The total capacity amounts to 2,000 MTs/year.

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Table III-1-1 Current nanometer grade manufacturers, 2005

Report No.	Abbreviation	Launch time	Location	Ownership	Speciality	Cap.'05 (MTs/year)	Output'05 (MTs)
III-6.1							
III-6.2							
III-6.3							
III-6.4							
III-6.5							
III-6.6							
III-6.7							
III-6.8							
III-6.9	Haier-QUST	2003	Shandong	Private	Anatase	100	90
Total							

III-4 Application and Consumption of Nanometer TiO2 in China

Nanometer grade TiO2 can be well applied in many fields such as top grade coating, plastic, paper-making and certain electron materials.

- **Optical catalyzer**

During treatment processes of organic waste water and organic contamination in atmosphere, nanometer grade TiO2, as the optical catalyzer can well resolve many chemicals such as halide aliphatic hydrocarbon, halide aromatic hydrocarbon, organic acid species, hydroxybenzene species, nitryl aromatic hydrocarbon, substitute aniline and certain contaminations in atmosphere such as carbinol, acetone, etc.

Some optical catalyzer sheets are installed at the sideways of freeway or in tunnel in order to eliminate oxynitride of automobile's trail gas.

Self-clean glass is covered by transparent TiO2 light-actalyzer coat. When the film with such coat is treated with sunlight or UV light, the organic contamination attaching to the surface of glass is soon oxidized to CO2 and H2O then into self-volatilization. Thus self-clean glass is welcomed as door / window materials in hospital, mirror in top grade bathroom, glass of automobile and curtain-wall of high construction, etc.

Additionally, as optical catalyzer, nanometer grade TiO2 also possess of high sterilizing ability, which can do harm to green purulence bacillus, colibacillus and auratus staphylococcusthus, etc. Thus it is welcomed by operating-table in hospital, bathtub, ceramic tile and toilet, etc. What's more, it can cause death of cancer cell; it seems to be delight news to cure of malignancy.

- **Photoelectricity –sunlight power transforming materials**

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- **UV-protection effect & Transparency & Innocuity**

For special effect of UV-protection effect, transparency and innocuity, nanometer grade TiO2 is the ideal additive for anti-sun skin-protecting products, and can be applied in natural and synthetic fibre as good UV-protection solvent.

When used in plastic wrapper, nanometer grade TiO2 shows a good dispersing characteristic, as a result, the plastic wrapper appears a high transparency. Also for its innocuity, it is welcomed in food packaging materials, agriculture plastic film, etc.

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