

III-1.2 Current situation

As of May 2008, CCM finds that six new manufacturers of nanometer titanium dioxide have emerged in China based on those in 2005. All of these new manufacturers are private players. The total increased capacity is [REDACTED] t/a. Accordingly the total capacity of nanometer titanium dioxide in China is [REDACTED] t/a by May 2008.

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Table III-1-2 Active manufacturers of nanometer grade titanium dioxide in China, 2008 (unit: capacity :t/a; output: tonne)

| No. | Abbreviation | Launch time | Location | Ownership | Specialty | Cap.'08 | Cap.'07 | Output'07 |
|--------------|--------------|-------------|------------|------------|------------------|------------|------------|------------|
| 1 | [REDACTED] | 1996 | [REDACTED] | [REDACTED] | Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 2 | [REDACTED] | 1997 | [REDACTED] | [REDACTED] | Anatase | [REDACTED] | [REDACTED] | [REDACTED] |
| 3 | [REDACTED] | - | [REDACTED] | [REDACTED] | Anatase & Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 4 | [REDACTED] | 2003 | [REDACTED] | [REDACTED] | Anatase & Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 5 | [REDACTED] | 2001 | [REDACTED] | [REDACTED] | Anatase & Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 6 | [REDACTED] | - | [REDACTED] | [REDACTED] | - | [REDACTED] | [REDACTED] | [REDACTED] |
| 7 | [REDACTED] | 2002 | [REDACTED] | [REDACTED] | Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 8 | [REDACTED] | 1998 | [REDACTED] | [REDACTED] | Anatase & Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 9 | [REDACTED] | 2002 | [REDACTED] | [REDACTED] | Anatase & Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 10 | [REDACTED] | 2006 | [REDACTED] | [REDACTED] | Anatase & Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 11 | [REDACTED] | - | [REDACTED] | [REDACTED] | Anatase & Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 12 | [REDACTED] | 2006 | [REDACTED] | [REDACTED] | Anatase & Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 13 | [REDACTED] | 2004 | [REDACTED] | [REDACTED] | Anatase & Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| 14 | [REDACTED] | 2003 | [REDACTED] | [REDACTED] | Anatase & Rutile | [REDACTED] | [REDACTED] | [REDACTED] |
| Total | | | | | | [REDACTED] | [REDACTED] | [REDACTED] |

III-2 Research on Nanometer Grade Titanium Dioxide

Nanometer grade titanium dioxide first appeared in 1980s'. According to the prominent advantages such as its unique color effect, optical catalysis and UV-protection function, it developed at a high speed.

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Table III-2-1 Current research units about Nanometer grade titanium dioxide

| Methods | Research Units |
|--------------------------------------|----------------|
| Gas phase water-solvent method | [REDACTED] |
| Gas phase oxidation method | [REDACTED] |
| Glue-solvent method | [REDACTED] |
| Solvent glue - coagulate glue method | [REDACTED] |
| Chemical sedimentation method | [REDACTED] |

III-3 Production of Nanometer Grade titanium dioxide in China

Currently, there are [REDACTED] active nanometer titanium dioxide manufacturers in China.

As for production technology, most of them adopted liquid phase technology, utilizing TiCl₄ or metatitanic acid as the raw material.

Table III-3-1 Detail information of domestic manufacturers of nanometer titanium dioxide, 2008

| No | Abbreviation | Technology | Raw material | Application | Price (RMB/kg) |
|----|--------------|--------------|--------------------------------------|----------------------------------------------|----------------|
| 1 | [REDACTED] | - | - | Cosmetics, fiber | [REDACTED] |
| 2 | [REDACTED] | Liquid phase | TiCl ₄ | Cosmetics, coating | [REDACTED] |
| 3 | [REDACTED] | Liquid phase | TiCl ₄ | Cosmetics, coating, water-treatment, textile | [REDACTED] |
| 4 | [REDACTED] | - | - | | [REDACTED] |
| 5 | [REDACTED] | - | - | - | [REDACTED] |
| 6 | [REDACTED] | Liquid phase | TiCl ₄ | Cosmetics, Air purification | [REDACTED] |
| 7 | [REDACTED] | Liquid phase | TiCl ₄ | Cosmetics, Coating, Rubber | [REDACTED] |
| 8 | [REDACTED] | Liquid phase | Metatitanic acid | Cosmetics, Fiber, Coating | [REDACTED] |
| 9 | [REDACTED] | Liquid phase | TiCl ₄ , Metatitanic acid | Coating, water-treatment, Cosmetics | [REDACTED] |
| 10 | [REDACTED] | - | - | - | [REDACTED] |
| 11 | [REDACTED] | Liquid phase | TiCl ₄ | - | [REDACTED] |
| 12 | [REDACTED] | - | - | Coating, water-treatment, Cosmetics | [REDACTED] |
| 13 | [REDACTED] | - | - | - | - |
| 14 | [REDACTED] | Liquid phase | Metatitanic acid | Textile, Water-treatment | - |