Note: Key data/information in this sample page is hidden, while in the report it is not.

1 Titanium dioxide production in China

1.1 Overview

After the rapid growth in the past few years, China has become the biggest titanium dioxide production country in 2009. And as of H1 2011, the titanium dioxide capacity has reached [redacted]t/a.

Meanwhile, the product structure in China has been much more reasonable than it was before. The capacity of rutile titanium dioxide is [redacted]t/a in 2011, accounting for about [redacted]% of the total capacity, while the figure was [redacted]t/a in 2006, about [redacted]% of the total.

Although the chloride process has progressed little in the past five years, it is likely to advance a little faster in the following [redacted] years, under the implementation of some sustainable policies, such as the Promotion Scheme for Clean Production in Titanium Dioxide Industry, published by the MIIT.

1.2 Current titanium dioxide production situation in China

1.2.1 Titanium dioxide production information in China

The production of titanium dioxide in China has accomplished a stable increase in the past [redacted] years. Though some medium or small plants suspended production or even shut down due to the global financial crisis, the situation gets much better in 2010. For example, Hubei Liming Chemical Co., Ltd., who suspended its production in the end of 2009 and restarted production in late 2010, is a witness. And the recovery is mostly attributed to the adoption of some supportive national policies of expanding domestic demand and the increasing downstream industries. The operating rates are [redacted]% and [redacted]%, respectively in 2010 and H1 2011, compared with [redacted]% in 2009.

1.2.2 Titanium dioxide manufacturers' information in China

There are [redacted] active titanium dioxide producers in China, among which Pangang Group Steel Vanadium & Titanium Co., Ltd. (PGVT) owns three manufacturers, Hunan Zhuzhou Chemical Industry Group Co., Ltd.-CNSIC and Yunnan Fuming Hutong Titanium Dioxide Co., Ltd. owns two manufacturers respectively, which means there are 66 active manufacturers in China at present, with the total capacity of [redacted]t/a.

Table 1.2.2-2 Capacity of top 30 titanium dioxide manufacturers in China, 2010-H1 2011, t/a

No.	Abbreviation	Capacity, 11'			Capacity, 10'		
		Anatase	Rutile	Non-pigment	Anatase	Rutile	Non-pigment
1	Shandong Dongjia	[redacted]					
2	Lomon Titanium						
3	Shandong Dawn						
4	Jinan Yuxing						
5	Henan Billions						
6	Zhejiang Xinfu						
7	Jiangsu Zhentai						
8	Jiangxi Tianguang						
9	Anhui Annada						
10	Sichuan Dahutong						
11	Sichuan Kangrui						
12	Nanjing Titanium						
13	Yunnan Zechang						
14	Panyu Titanium						
15	Dongfang Titanium						
16	Taihai Titanium						
17	Tianlun Titanium						
18	Gansu Huayuan						
19	Pangang Titanium						
20	Sichuan Zhuoyue						
21	Guangxi BlueStar						
22	Guangxi Feidie						
23	Yunnan Hutong						
24	Wudi Seastar						
25	Sichuan Dingxing						
26	Hunan Yongli						
27	Luohe Xingmao						
28	Hongfeng Titanium						
29	Hunan Current						
30	Jinzhou Titanium						
Subtotal							
Others							
Total							

Source: CCM International

2 Benchmarking

2.1 Overview of manufacturers

In summary, four Chinese titanium dioxide manufacturers are discussed in this chapter, namely Jinzhou Titanium Industry Co., Ltd. (Jinzhou Titanium), Sichuan Lomon Titanium Co., Ltd.(Sichuan Lomon), Pangang Group Titanium Industry Co., Ltd.(Pangang Titanium), Shanghai Jianghu Titanium White Product Co., Ltd. (Shanghai Jianghu).

Jinzhou Titanium, with about [redacted] staff now, was formed on the basis of the former Jinzhou Titanium Alloy Group Titanium Dioxide Factory. Jinzhou Titanium is still the only manufacturer that adopts chloride process in titanium dioxide production, and claims that it has mastered the core technology of chloride process after ten years' research.

2.3 Jinzhou Titanium benchmarking analysis

The following table shows Jinzhou Titanium's situation in H1 2011, including production, distribution network, waste treatment, etc.

Table 2.3-1 Jinzhou Titanium's basic information, H1 2011

Item	Comment
Production	The capacity is [redacted]t/a in 2010 and will reach [redacted]t/a in 2012. The operating rate at present is about 70%. It has four brands of products, covering coating, plastic, paper making, ink etc. And it has exploited a new brand CR-300, used in high-end paper making in Oct. 2011.
Distribution network	Sell products via agents in [redacted] market segments, like Guangdong, Shandong, Jiangsu, Zhejiang, etc. Direct sales to several large clients.
Waste treatment	Sell hydrochloric acid (20%) at USD[redacted]/t. Recycle vanadium from waste residue.
Feedstock supply	High titanium slag and rutile concentrate ore: Domestic sourcing of titanium slag from nearby Shenyang and Dandong City, as well as Sichuan Province; Close to Tianjin Port, which is the most important port of rutile concentrate ore.
	Petrol coke: Outsourcing
	Oxygen, Cl2: Self-supply
Technology innovation	After ten years' research of chloride process, Jinzhou Titanium claims that it has mastered the core technology of chloride process.
Research investment	Own a research centre, but the investment fund is less than [redacted]% of the sales, in researching product properties, and just focuses on [redacted] or [redacted] properties in application research.

Source: CCM International

Table 2.3-2 Direct cost of titanium dioxide production of Jinzhou Titanium, H1 2011

	Item	Unit consumption, kg/kg	Price, USD/kg	Unit cost, USD/kg	Share in production cost
Raw material	High titanium slag	[redacted]	[redacted]	[redacted]	[redacted]
	Liquid chlorine	[redacted]	[redacted]	[redacted]	[redacted]
	Petrol coke	[redacted]	[redacted]	[redacted]	[redacted]
	Others	[redacted]	[redacted]	[redacted]	[redacted]
Subtotal			/	[redacted]	[redacted]
Utility	Water	[redacted]	[redacted]	[redacted]	[redacted]
	Electricity	[redacted]	[redacted]	[redacted]	[redacted]
	Steam	[redacted]	[redacted]	[redacted]	[redacted]
Subtotal			/	xx	xx
Labor		/	[redacted]	[redacted]	[redacted]
Maintenance		/	[redacted]	[redacted]	[redacted]
Total		/	[redacted]	[redacted]	[redacted]

Note: Others refer to other raw materials in post treatment processing and crystal seed.

Source: CCM International