Analysis and Forecast of Vanadium Catalyst for Sulfuric Acid Production in China, 2013-2017

(Sample)

Huidian Research

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4. Status Quo of China’s Vanadium Catalyst Industry for Sulfuric Acid Production

4.1 Industry Status Quo

4.1.1 Production

China’s vanadium catalyst production started in 1950s and the first vanadium catalyst manufacturing enterprise is Nanjing Chemical Industry Co., Ltd. With the continuous development of vanadium catalyst, there are more and more manufacturing enterprises; now there are about 40 enterprises and the production scale generally is non-unified, ranging from 500 tons to several thousands of tons; they produce nearly ten types of series products (for example S101) and new vanadium catalyst. The utilization temperature can be classified into the medium-temperature type (S101, S101Q and S101-2H), low-temperature (S107, S108 and S107Q) and medium and low-temperature-type (S109-1 and S109-2) as well as the arsenic-resistant catalyst (S106); the shape is classified into the bar shape, ball shape, ring shape and daisy shape. The preparation methods of vanadium catalyst can be classified into mixed grinding method and impregnation method and Chinese domestic mainly uses the former one. In China, there are many producers with small scale and similar production method; moreover, the automation degree is not high; they all can’t make the full capacity production; so they have undesirable economic benefits and lack the competitiveness and development potential.

Shandong Aobao Chemical Industry Group Co., Ltd. launched the new type of vanadium catalyst of AS-8 and AS-9 in 2010; at present, the products are used in enterprises of Guangdong province, Inner Mongolia and other provinces.

4.1.2 Market

Currently, there are more than 500 sulfuric acid manufacturing enterprises in China. During January to December 2012, the total output of sulfuric acid reached 76.366 million tons across China. The vanadium catalyst belongs to the supporting materials to the sulfuric acid manufacturing enterprises, but it directly affects the stability, high output and exhausted gas emissions standards of the sulfuric acid production. The vanadium catalyst is critical to the sulfuric acid manufacturing enterprises, so the sulfuric acid manufacturing enterprises much emphasize the choice of vanadium catalyst. As the foreign vanadium catalyst has good performance, at present, China’s large sulfuric acid production devices mostly use the imported vanadium catalyst, which focuses on the LP series of Monsanto and VK series of Topsoe; the import volume accounts for 22% ~25% of China’s demand volume. The domestic vanadium catalyst mainly provides the service for the medium and small-sized sulfuric acid
enterprises; as the supply and demand relationship shows, the supply of vanadium catalyst is obviously larger than the demand.

5. Supply & Demand Analysis and Forecast of China’s Vanadium Catalyst for Sulfuric Acid Production

5.5 Price Analysis and Forecast

5.5.1 Current Market Price and Analysis

Tab.13 Market Price of Vanadium Catalyst

<table>
<thead>
<tr>
<th>Product</th>
<th>Price (CNY/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Vanadium Catalyst</td>
<td>18000-30000</td>
</tr>
<tr>
<td>High-effective vanadium catalyst</td>
<td>&gt;30000</td>
</tr>
<tr>
<td>Imported Vanadium Catalyst</td>
<td>40000-50000</td>
</tr>
</tbody>
</table>

Source: Market Survey

5.5.2 Factors Affecting the Price

Fig.14 Price Factors of Vanadium Catalyst

- Production Cost: The production cost of vanadium catalyst will directly affect the market price of products.
- Market Supply and Demand: The market supply and demand of vanadium catalyst will directly affect the market price of products.
- Circulation Channel: Every circulation channel will need to get some profit, so the level of circulation link will affect the price of the catalyst more or less.
- Other Factors: The price of products is also affected by the national policy, product brand, technology and other factors.
5.5.3 Future Price Trend Forecast

The price of catalyst nearly doubled from 2005 to 2010; the main reason lies in the price rising of raw materials, especially the price of diatomite. But the price showed the declining trend in 2011; meanwhile the enterprises faced the fierce competition in the industry; in order to improve the market shares, some enterprises don’t hesitate to sell products with low profit. Although the price of domestic chemical products has showed the uprising trend on the whole for recent two years, under the influences of downstream application sulfuric acid market, the vanadium catalyst product price is estimated to be still very fierce in the future few years and the great growth magnitude won’t appear.

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