



China Hydrofluoric Acid Industry Report, 2009-2010

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3.5 Status Quo of Electronic-Grade Hydrofluoric Acid Market

3.5.1 Supply

Owing to technical limitations, before 2009, domestic electronic-grade hydrofluoric acid was of relatively small output, mainly depending on import. In Dec. 2009, the 6000-tonnage electronic-grade hydrofluoric acid per annum project of Zhejiang Kaiheng Electronic Materials Co., Ltd. went into operation, greatly relieving the tense supply of electronic-grade hydrofluoric acid in China. In 2010H1, the annual 3000-ton electronic-grade hydrofluoric acid project of Fujian Shaowu Yongfei Chemical Co., Ltd. successfully went into operation, further expanding the total supply capability of domestic electronic-grade hydrofluoric acid. In addition, multi-fluorine and multi-electronic-grade hydrofluoric acid project has fulfilled lab test and is now in pilot test.

However, along with the recovery of electronic industry, global electronic-grade hydrofluoric acid demand witnesses a relatively rapid growth, the currently domestic planned capacity and output is far from the market demand.

Electronic-Grade Hydrofluoric Acid Projects under Construction or to be Constructed in China, 2009-2010 (Unit: ton)

Manufacturer	Capacity	Remark
Zhejiang Kaiheng Electronic Materials Co., Ltd.	***	*****
Fujian Shaowu Yongfei Chemical Co., Ltd.	***	*****
Zhejiang Lansol Fluorchem Co., Ltd.	***	*****
Yingpeng Group	***	*****

Source: ResearchInChina

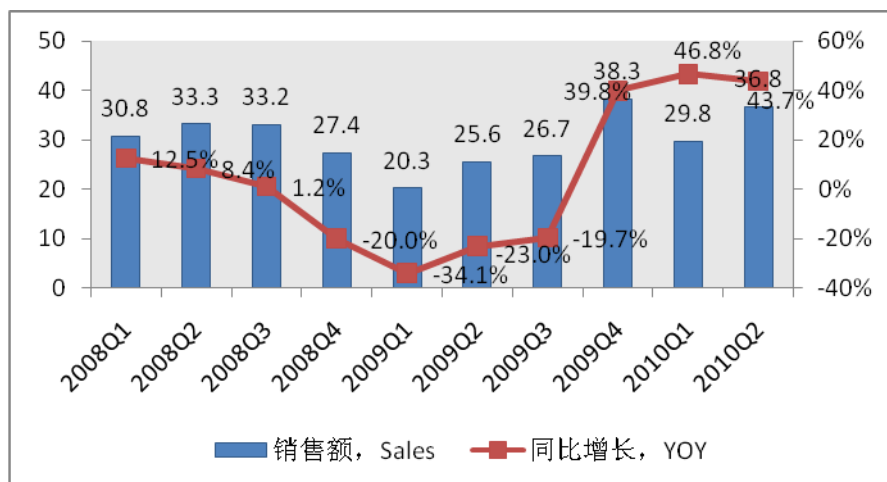
3.5.2 Demand

Electronic-grade hydrofluoric acid is one of the electronic chemical products with the largest application amount. In the manufacturing of IC and ultra large scale IC, electronic-grade hydrofluoric acid is one of the vital auxiliary materials, mainly applied in procedures like wafer surface cleaning, and cleaning & corrosion during chip processing; in LCD industry, it is applied in glass substrate cleaning, silicon nitride, silicon dioxide erodent, etc.; in solar PV industry, it is applied in silicon wafer surface cleaning, erodent, etc.

Global and Chinese electronic and solar power industries have taken on a preferable growth tendency since 2010. Take Chinese IC industry as an example.

Profited from the rapid development of both domestic and overseas markets as well as the low cardinal number effect of industrial low valley in the first half of the year before, Chinese IC output in 2010H1 amounted to 30.25 billion, up 49.4%YoY, and the industry obtained a revenue of RMB66.603 billion, increased by 45.1% against RMB45.899 billion in the same period last year. Generally, the sales of the industry in the first half of this year not only returned to the level in 2008H1 (RMB64.025 billion) but also achieved certain increase. According to the statistics of customs, in 2010H1, the import value of IC arrived at US\$72.25 billion, up 45.9%YoY, and the export value hit US\$13.69 billion, up 42.6%YoY.

Sales and Growth Rate of Integrated Circuit Industry in China, 2008Q1-2010Q2 (Unit: RMB billion, %)



Source: CSIA; ResearchInChina

The rapid growth of downstream industry certainly will drive ahead the demand of upstream products; promisingly, the demand of Chinese electronic-grade hydrofluoric acid will maintain a stable two-digit increase.

6.1 YingPeng Group

6.1.1 Profile

YingPeng Group is mainly engaged in the production and sales of fluorine chemicals including anhydrous hydrogen fluoride, fluorine refrigerant, ODS substitute, and pesticide. It's a large enterprise integrating fluorite mining, fluorine chemical processing and logistics. It has 14 subsidiaries, including eight in Zhejiang, two in Jiangxi and four in Anhui. YingPeng Chemical Co., Ltd. is its core enterprise, which was restructured into a joint venture in June 1996 from Yongkang Chemical Industry Corporation, a key state-owned enterprise of Yongkang City.

Since June 2002, YingPeng had cooperated with large international companies including Japanese Itochu Corporation, South Korean Kouseisya Co., Ltd. (Ulsan Chemical) and Indian Gujarat Fluorochemicals Limited (GFL) to establish joint ventures including Zhejiang YiPeng, TengPeng, ZhongPeng, HouPeng and Anhui Xuancheng HengYuan, and introduced foreign capital and advanced technologies. At present, YingPeng has five production bases in Yongkang, Jinhua, Hangzhou of Zhejiang, Ganzhou of Jiangxi and Xuancheng of Anhui, mainly producing 2 million tons of fluorite, 135,000 tons of hydrofluoric acid, 37,000 tons of refrigerant F22, 300,000 tons of sulfuric acid and 1,000 tons of sulfuryl fluoride annually.

Subordinate Enterprises of YingPeng Group (Unit: Ton/Year)

Subsidiary	Main Business	Note
YingPeng Chemical Co., Ltd.	20,000 tons of hydrofluoric acid / year	It transformed into a joint venture with Taiwan's Maoye Group in 1996.
Xuancheng HengYuan Chemical Co., Ltd.	40,000 tons of hydrofluoric acid / year	It's invested by the British Virgin Islands Zhejiang YingPeng Chemical (BVI) Co., Ltd., Indian Gujarat Fluorochemicals Limited (GFL) and YingPeng Chemical Co., Ltd., with contribution of 8.1%, 33.8% and 58.1% respectively.
Zhejiang HouPeng Chemical Co., Ltd.	15,000 tons of hydrofluoric acid / year	It's a joint venture invested by Chinese YingPeng Chemical Co., Ltd. and South Korean Kouseisya Co., Ltd. with USD5.02 million.
Zhejiang PengYou Chemical Co., Ltd.	R22 (Freon) and other fluorine chemical products	It's invested by Chinese YingPeng Chemical Co., Ltd., Japanese Sumitomo Corporation, and Shanghai Sumitomo Co., Ltd. with USD6 million. After the transfer of shares in April 2008, YingPeng Chemical Co., Ltd. held 75% stake and Zhejiang YingPeng (BIV) held 25% stake.
Zhejiang ZhongPeng Chemical Co., Ltd.	180,000 tons of 98% sulfuric acid, 120,000 tons of 105% sulfuric acid, 72 million kWh of electricity annually	It's a Sino-Japan joint venture established by YingPeng Chemical Co., Ltd. and Japanese Itochu Corporation.
Zhejiang TengPeng Chemical Co., Ltd.	15,000 tons of high-purity anhydrous hydrogen fluoride and other fluorine chemical products annually.	It's a joint venture invested by Chinese YingPeng Chemical Co., Ltd. and Japanese Itochu Corporation with USD4.62 million.
Jiangxi YingPeng Chemical Co., Ltd.	40,000 tons of fine fluorite powder, 30,000 tons of anhydrous hydrofluoric acid annually	It's a joint venture established by British Virgin Islands Maoye Mining Co., Ltd., British Virgin Islands Jiangxi YingPeng Chemical Co., Ltd. and YingPeng Chemical Co., Ltd.

Zhejiang YiPeng Chemical Co., Ltd.	Anhydrous hydrogen fluoride, electronic-grade hydrogen fluoride, fluorine refrigerant, industrial sulfuric acid, refined sulfuric acid, sulfur fluoride, ODS substitutes.	It was originally invested by YingPeng Chemical Co., Ltd. and Itochu Corporation. In 2009, YingPeng Chemical acquired the stake of Itochu to make Zhejiang YiPeng a wholly-owned subsidiary of YingPeng Chemical.
Xuancheng HengYuan Mining Co., Ltd.	Fluorite ore mining, processing and fluorite powder business	It's a wholly owned enterprise invested by YingPeng Chemical Co., Ltd. in Anhui Province.
Yongkang YingPeng Logistics Co., Ltd.	It's a third-party logistics company engaged in the storage, transportation, handling, packaging and distribution of hazardous chemicals, and is also one of the first batch of enterprises qualified for the transport of dangerous goods in Zhejiang Province.	

Source: YingPeng Group, ResearchInChina

6.1.2 Operation and Prospect

To meet the needs of enterprise development, and achieve enterprise restructuring and upgrading, the Board established YingPeng Group on May 6, 2009, and established the Group headquarters in Yongkang. On May 11, the Group headquarters was formerly put into operation.

The Group headquarters is mainly responsible for plan approval, supervision, coordination, and auditing. Subordinate companies are independent profit centers. The Group's development orientations are to: 1. expand access to fluorite resources to maintain the leading position in hydrofluoric acid; 2. Reinforce the business of electronic fluorine chemicals, including electronic grade hydrofluoric acid, high purity sulfuric acid, lithium hexafluorophosphate, etc.; 3. Seize the market of ODS substitutes, R32, R125 mixed refrigerant, and develop new refrigerants. In the next three years, around the development orientations, it will expand the possession of fluorite ore, increase investment in hydrofluoric acid, and invest in electronic grade hydrofluoric acid and ODS substitute projects.

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