



CCM Data & Business
Intelligence

Research of Fluorite, AHF, HFC-152a and HCFC-142b in China

The First Edition

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1. Introduction

Research scope and targets

Target: The report reveals the policies and environmental regulatory actions in fluorine industry and analyses their impacts on production, producers, prices and consumption of fluorine in China. The main products for this study consist of fluorite, AHF, HFC-152a and HCFC-142b.

Region: China

Time scope: 2014–H1 2017

2. Methodology

The report is formulated by methods as follows:

1. Desk research

The sources of desk research are various, including published magazines, journals, government statistics, industrial statistics, customs statistics, seminars as well as information from the internet. A lot of work has gone into the compilation and analysis of the obtained information. When necessary, checks have been made with Chinese suppliers regarding production information.

2. Telephone interviews

CCM has carried out extensive telephone interviews in order to survey the market of fluorine industry in China.

Interviewees cover the following:

- Key producers
- Key traders
- Material suppliers
- Associations
- Experts

Data processing and presentation

The data collected and compiled are sourced from:

- CCM's database, ValoTracer
- Published articles from periodicals, magazines and journals, and third-party databases
- Statistics from governments and international institutes
- Telephone interviews with domestic producers, service suppliers, governments, etc.
- Third-party data providers
- Comments from industrial experts
- Professional databases from other sources

- Information from the internet

The data from various sources have been combined and cross-checked to make this report as precise and scientific as possible. Throughout the process, a series of internal discussions took place in order to analyse the data and draw conclusions from them.

3. Executive summary

Fluorine industry has been one of the fastest developing and most promising chemical industries in China. China has become one of the largest fluorine production and consumption areas. There are four important sectors for China's fluorine industry, including inorganic fluoride, fluor-refrigerant, fluor polymer and fluor-intermediate.

China is the country that has the highest proven fluorite reserves. In 2016, it had recoverable fluorite reserves of about 40 million tonnes, next to South Africa. In 2016, the output of fluorite in the world is about 6.4 million tonnes, down by about 4% year on year. China remains the largest fluorite producer with 4.2 million tonnes of output in 2016, accounting for more than 65% of global total. Most of China's fluorite deposits are associated fluorite deposits, and the monomineral-fluorite deposits are relatively scarce. It is obviously that the available resources are limited.

As of H1 2017, there were more than 200 fluorite producers in China. More than 90% of them are private enterprises, among which, most are in a small scale. The specifications and prices of fluorite produced by these small-scale enterprises vary from each other, which causes chaos in China's fluorite market.

China is the largest producer of anhydrous hydrogen fluoride (AHF) in the world. In 2016, AHF enjoyed the capacity and output at 2.4 million t/a and 1.32 million tonnes respectively. In recent years, over-investments have led to overcapacity in AHF industry. With the continuous efforts of environmental supervision and regulation, AHF's downstream new refrigerants and fluoride resins is seeing good development and the demand for AHF from them is expected to increase.

In order to prevent the ozone layer from destruction, a series of adjustments and upgrades have been made to ODS substitutes driven by the Montreal Protocol and related policies. With the reduction and transfer of capacity of foreign HFCs and HCFCs, China has gradually become one of the largest producers and consumers for HFCs and HCFCs in the world. At present, the phase-out plan for HCFCs in China is steadily going on. Chinese government has carried out quota management on the production and consumption of HCFCs. For HFCs, Chinese government will begin to control its production and consumption after 2019.

HFC-152a and HCFC-142b account for a small proportion of HFCs and HCFCs respectively, and these two products can also be applied in other fields besides refrigerants. Currently, polyvinylidene fluoride (PVDF), a downstream product of HFC-152a and HCFC -142b, is

seeing rapid development. It is believed that HFC-152a and HCFC-142b still have potential to grow in the next few years.

Since domestic HFC-152a is mainly used for the production of HCFC-142b, a large proportion of the enterprises produce both of these products at the same time, such as Changshu 3F Zhonghao Chemical New Materials Co., Ltd., Shandong Dongyue Chemical Co., Ltd. The capacities of China's HFC-152a and HCFC-142b have kept stable in recent years and the output of them witnessed steady increase during the same period.

4. What's in this report?

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

1 Overview of fluorine industry in China

1.3 Affecting policy on fluorine industry in China

1.3.1 Main policies affecting China's fluorine industry after 2000

Table 1.3.2-1 Major fluorite producers affected by environmental protection activities in China, Sept.–Nov. 2017

No.	Producer	Impact
1	XXX	XXX
2	XXX	XXX
3	XXX	XXX
4	XXX	XXX
5	XXX	XXX
6	XXX	XXX
7	XXX	XXX

Source: CCM

Table 1.3.2-2 Major AHF producers affected by environmental protection activities in China, Sept.–Nov. 2017

No.	Producer	Impact
1	XXX	XXX
2	XXX	XXX.
3	XXX	XXX
4	XXX	XXX
5	XXX	XXX
6	XXX	XXX

Source: CCM

2 Fluorite

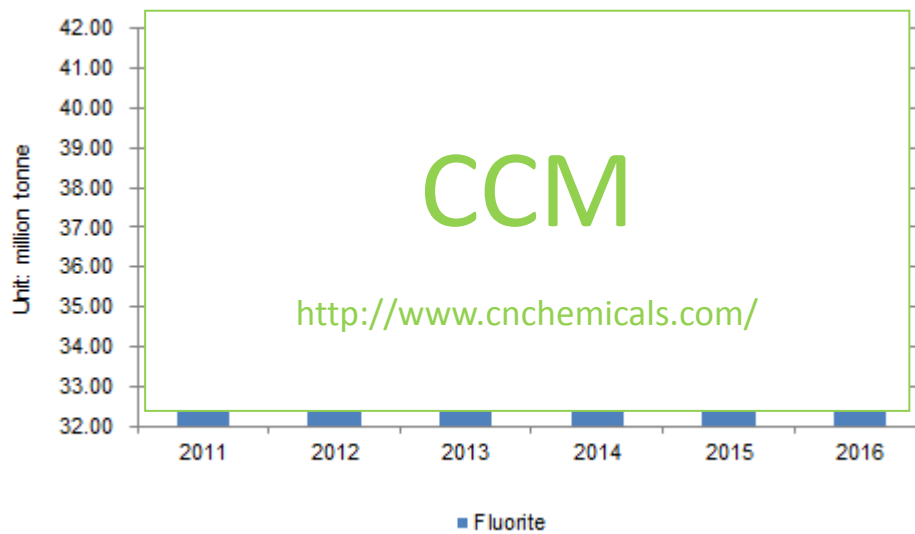
2.2 Production of fluorite in China

From 2011 to 2016, fluorite recoverable fluorite in China had been increasing as a whole at a CAGR of XXX %. In 2016, the identified recoverable fluorite reserves in the country were about XXX million tonnes.

According to the statistics from the Ministry of Land and Resources, China has a predicted fluorite reserves of about XXX million tonnes. Currently, the proven fluorite reserve is XXX million tonnes. The increase or decrease of recoverable fluorite reserves depends on the following aspects.

...

Figure 2.2-1 Recoverable fluorite reserves in China, 2011–2016



Note: The data in 2016 is estimated based on the data from USGS.

Source: National Bureau of Statistics of People's Republic of China, USGS, CCM

2.3 Major producers of fluorite in China

As of H1 2017, there were more than XXX fluorite producers in China. Among them, more than 25 producers have a capacity of equal to or more than XXX t/a. Among the enterprises with fluorite capacity of less than XXX t/a, most of them have a capacity of XXX t/a–XXX t/a .

Table 2.3-1 Capacity of fluorite in China by major producer, 2014–H1 2017, t/a

No.	Producer	Abbreviation	Capacity (t/a)			
			2017H1	2016	2015	2014
1	Centralfluor Industries Group, Inc.	CFIC	XXX	XXX	XXX	XXX
2	Zhejiang Wuyi Shenlong Flotation Co., Ltd.	Zhejiang Shenlong	XXX	XXX	XXX	XXX
3	China Kings Resources Group Co., Ltd.	Kings Resources	XXX	XXX	XXX	XXX
4	Sinochem Lantian Co., Ltd.	Sinochem Lantian	XXX	XXX	XXX	XXX
5	Chifeng Sky-Horse Fluorite Industry Development Co., Ltd.	Chifeng Sky-Horse	XXX	XXX	XXX	XXX
6	Zhejiang Wuyi Sanlian Industrial Development Co., Ltd.	Wuyi Sanlian	XXX	XXX	XXX	XXX
...						

Note: Statistical fluorite products include high grade fluorite lump ore ($\text{CaF}_2 \geq 65\%$), metallurgical grade fluorite powder ($\text{CaF}_2 \geq 75\%$) and acid grade fluorite powder ($\text{CaF}_2 \geq 97\%$).

Source: CCM

2.4 Price of fluorite in China



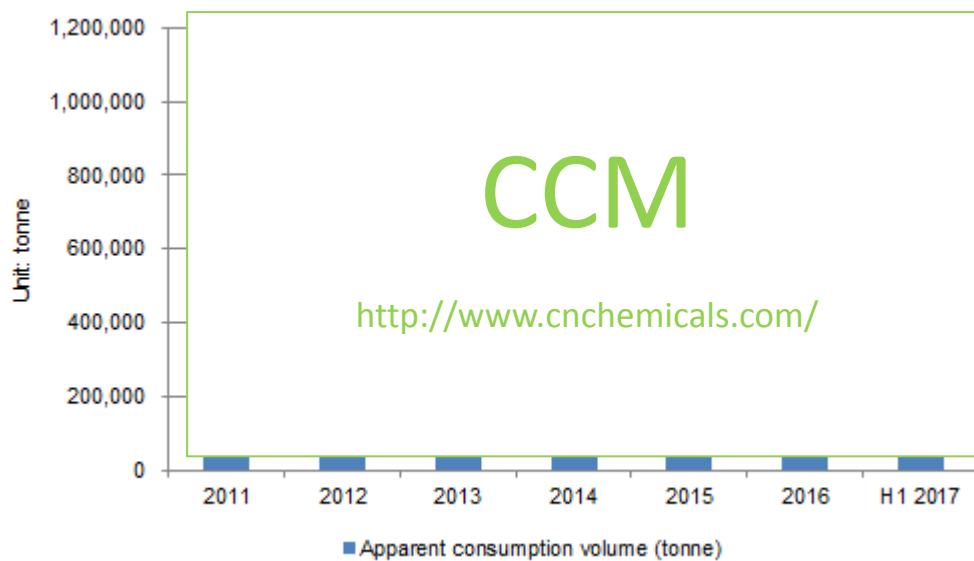
Note: CaF₂>97%: containing more than 97% calcium fluoride by weight.

Source: CCM

3 Anhydrous hydrogen fluoride (AHF)

3.5 Consumption of AHF in China

Figure 3.5-1 Apparent consumption of AHF in China, 2011–H1 2017



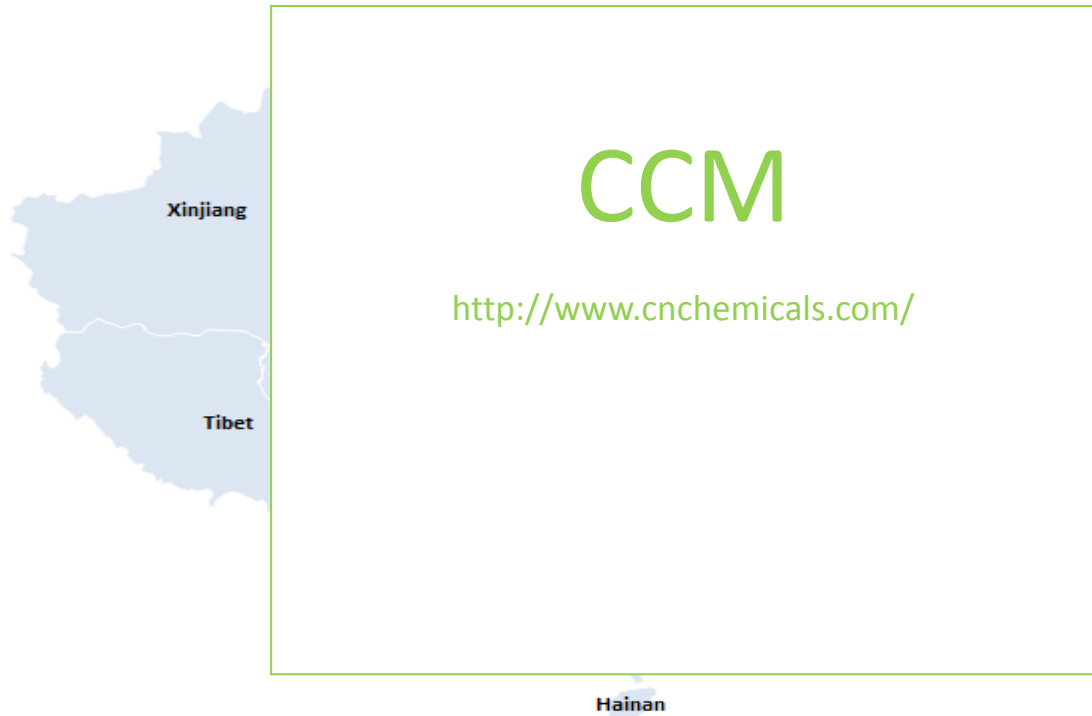
Note: Apparent consumption=Output+Import-Export, rounded to hundred

Source: China Customs & CCM

4 HFC-152a

4.2 Major producers of HFC-152a in China

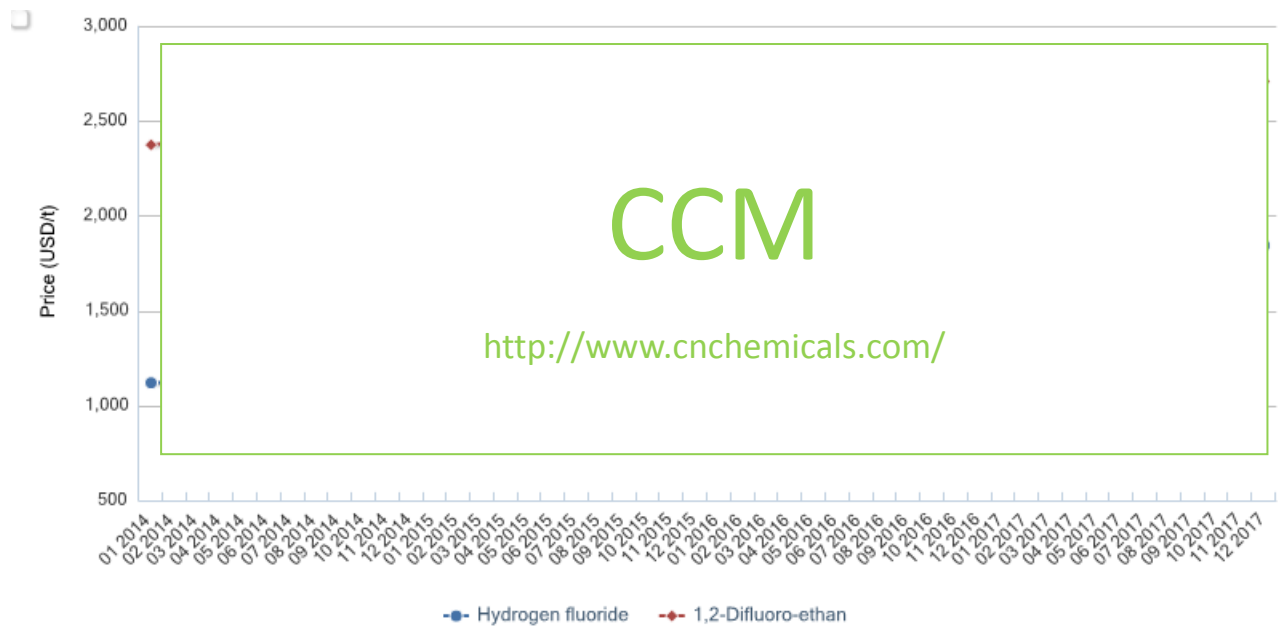
Figure 4.2-1 Distribution of Chinese HFC-152a producers, H1 2017



Source: CCM

4.3 Price of HFC-152a in China

Figure 4.3-1 Monthly ex-works prices of HFC-152a and AHF in China, Jan. 2014–Dec. 2017



Source: CCM

4.4 Consumption of HFC-152a in China

Figure 4.4-2 Consumption pattern of HFC-152a by application field in China, H1 2017



Source: CCM

If you want more information, please feel free to contact us.

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