

Survey of Fluorine Industry in China

The Seventh Edition

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Researched & Prepared by:

Kcomber Inc.

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Figure 4.3-2 Monthly ex-works price of HFP in China, Jan. 2017–June 2020

1. Introduction

Fluorine chemical products with the characteristics of chemical resistance, good resistance in high and low temperatures, aging resistance, low friction, excellent insulation, etc., are widely applied in many fields. In recent years, fluorine chemical industry has been one of the fastest developing and most promising chemical industries in China.

China's fluorine chemical can be dated back to the 1950s. With abundant fluorite reserves, the industry has grown into a large scale one after more than 60-year development.

This report presents an overview of fluorine products' production, price, import/export, consumption and policy in China, as well as a forecast on the product's future trend. You definitely will get some refreshing information on the fluorine industry from the report.

2. Approach for this report

The report is drafted by diverse methods as follows:

1) Desk research

The sources of desk research are various, including published magazines, journals, government statistics, industrial statistics, customs statistics, association 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 all kinds of suppliers regarding market information such as key manufacturers, key end-users, production, consumption, export, demand and so on.

2) Telephone interviews

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

Interviewees cover:

- Major manufacturers of fluorite
- Major manufacturers of inorganic fluorides
- Major manufacturers of organic fluorides
- Major manufacturers of semi-finished products
- Major manufacturers of finished products
- Major traders
- Associations

3) Network search

CCM employs a network to contact industry participants by using B2B website and software.

4) Data processing and presentation

The data collected and compiled is variously sourced from:

- CCM's database
- Published articles from periodicals, magazines, journals and third party databases
- Statistics from governments and international institutes
- Telephone interviews with domestic manufacturers, joint ventures, service suppliers and government agencies
- Third-party data providers
- Customs statistics
- Comments from industrial experts
- Information from the Internet

The data have been combined and cross-checked to make the report as accurate and methodologically sound as possible. Throughout the process, a series of discussions have been held within CCM to analyse the data and draw appropriate conclusions.

3. Executive summary

According to statistics from the United States Geological Survey, China's fluorite reserves rank second in the world, with the volume of XXX million tonnes in 2019. Since the end of 2016, environmental protection policies have been tightened in China. As a result, the price of fluorite has risen sharply; some companies have therefore tried their best to tap the potential for production. Domestic fluorite output recovered slightly in 2018 and achieved XXX million tonnes in 2019. The output in H1 2020 was XXX million tonnes.

Manufacturers had to turn to imported fluorite. In 2019, the import volume of fluorite was XXX tonnes, a dramatic year-on-year surge of XXX%. In H1 2020, the import volume was XXX tonnes.

With the shortage of fluorite in China, all the downstream products have experienced rocketing prices since 2017, and reached the highest (in the past six years) in or around April 2018. In 2019, the prices fell in general, but still at high level. In H1 2020, fluorite and its downstream products were operating at lower rates than in the same period last year due to the COVID-19.

The output of aluminium fluoride was XXX tonnes in 2019, and in H1 2020 it was XXX tonnes. In 2017–2019, cryolite was adversely affected by the supply-side reform policies of the electrolytic aluminum industry, the output decreased to XXX tonnes in 2019. In H1 2020, the output was XXX tonnes.

Fluoride refrigerant production consumes a large part of fluorite supply in China. Although HCFC-22 will be phased out soon, it was still the largest fluoride refrigerant in H1 2020, with an output of XXX tonnes.

Domestic fluoride refrigerant giants have already started to prepare for future competition since 2016. For example, Dongyue Group Ltd. enlarged the capacity of HFC-32 to XXX t/a in 2019. Zhejiang Sanmei Chemical Co., Ltd. enlarged the capacity of HFC-32 and HFC-410a to XXX t/a and XXX t/a respectively in 2019.

PTFE, PVDF and HFP are the main fluoride polymers in China, with the construction of 5G base stations and the acceleration of the process of localization of photovoltaic packages, the development prospects of PTFE and PVDF are very broad. As of H1 2020, the capacity of PTFE and PVDF were XXX t/a and XXX t/a respectively.

It is estimated that supply shortage will continue to drive fluorite price up in 2021. Although in the long term the industry keeps prosperous, more fluctuations in price will be witnessed, like in the recent two years. It is predicted that China will gradually become a net importer of fluorite.

The use of HFC-410a and others HFCs in domestic air conditioners are expected to show an upward trend in 2020 and 2021. Of course, the growth is also closely related to the progress of HCFC-22 phased-out in the next three years.

Although the output of PTFE has shown a downward trend in 2017–2018, the trend has seen reverse, which is facilitated by the ban on imported waste plastics. And thanks to demand for PTFE in the 5G market, the output of PTFE will show an upward trend over the next two to three years.

CCM also needs to point out that domestic manufacturers have been enlarging their product category, improving product performance and grade, and advancing into production of other copolymers.

4. What is in the report?

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

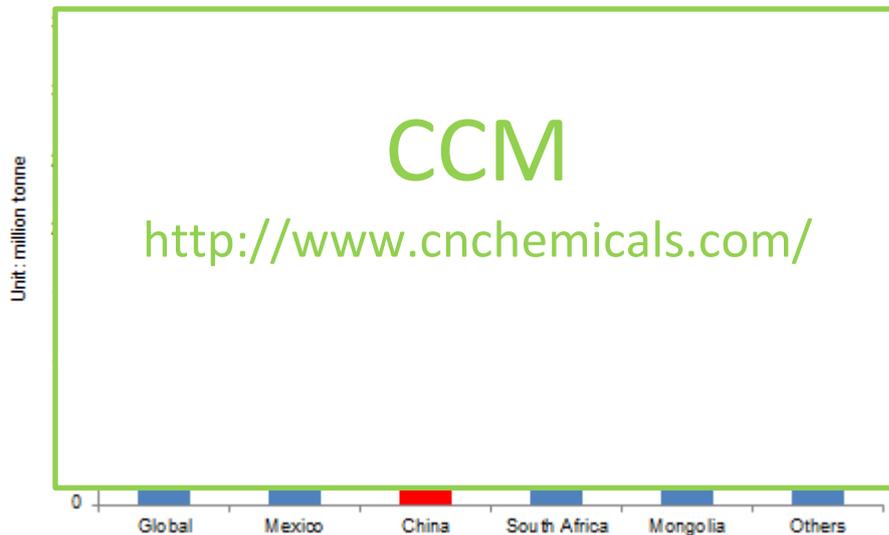
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2 Fluorite supply in China

2.1 Overview of fluorite reserves in China

According to statistics from the United States Geological Survey (USGS), till the end of 2019, there had been about XXX million tonnes of fluorite reserves worldwide. Mexico, China, and South Africa are the three countries with largest fluorite reserves, with XXX million tonnes, XXX million tonnes and XXX million tonnes respectively.

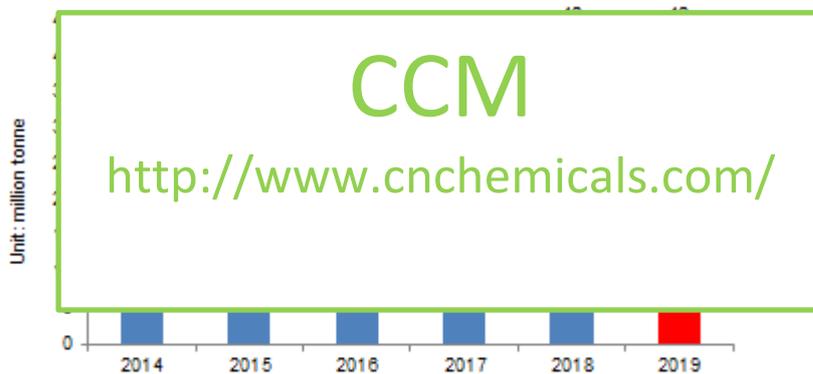
Picture 2.1-1 Global fluorite reserves, 2019



Source: USGS

According to USGS, fluorite reserves in China increased from XXX million tonnes in 2014 to XXX million tonnes in 2019, with a CAGR of XXX%.

Figure 2.1-1 Fluorite reserves in China, 2014–2019

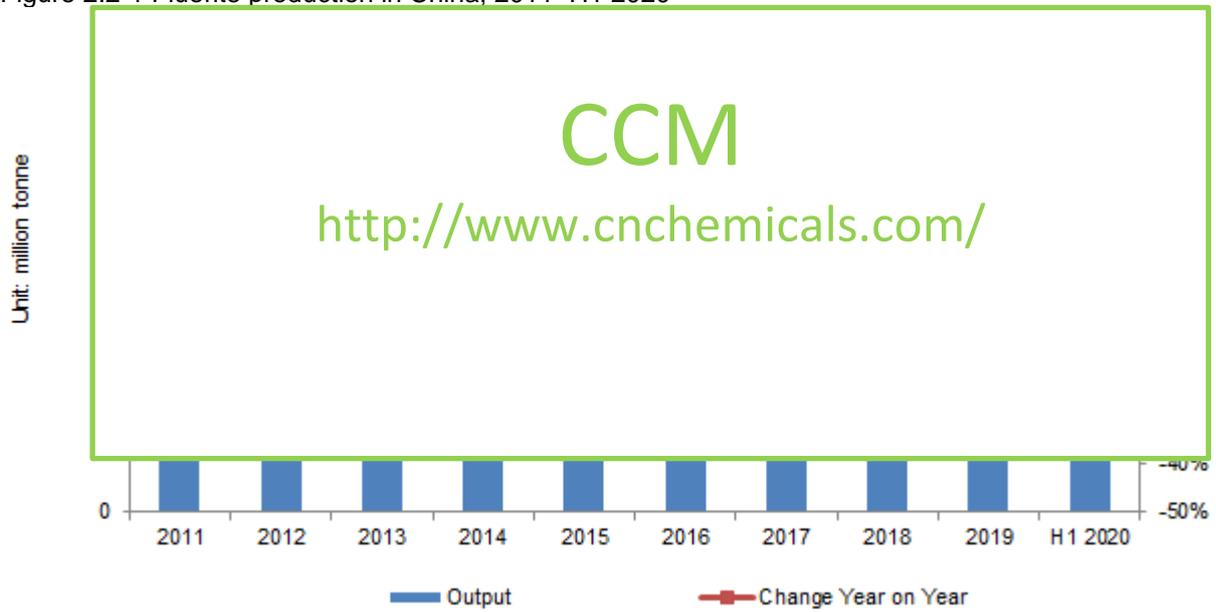


Source: USGS

2.2 Production situation of fluorite

...

Figure 2.2-1 Fluorite production in China, 2011–H1 2020



Source: CCM

...

Table 2.2-1 Main fluorite manufacturers in China, H1 2020

No.	Manufacturer	Capacity, t/a	Output, tonne
1	China Kings Resources Group Co., Ltd.	XXX	XXX
2	Centralfluor Industries Group, Inc	XXX	XXX
...	...	XXX	XXX
...	...	XXX	XXX

Source: CCM

2.3 Price

...

Figure 2.3-1 Monthly ex-works price of fluorite ($\text{CaF}_2 > 97\%$) in China, Jan. 2016–June 2020



Source: CCM

2.4 Export and import

Table 2.4-1 Imports and exports of fluorite ($\text{CaF}_2 > 97\%$) in China, 2016–H1 2020

Year	Import		Export	
	Volume, tonne	Value, USD	Volume, tonne	Value, USD
2016	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX
2018	XXX	XXX	XXX	XXX
2019	XXX	XXX	XXX	XXX
H1 2020	XXX	XXX	XXX	XXX

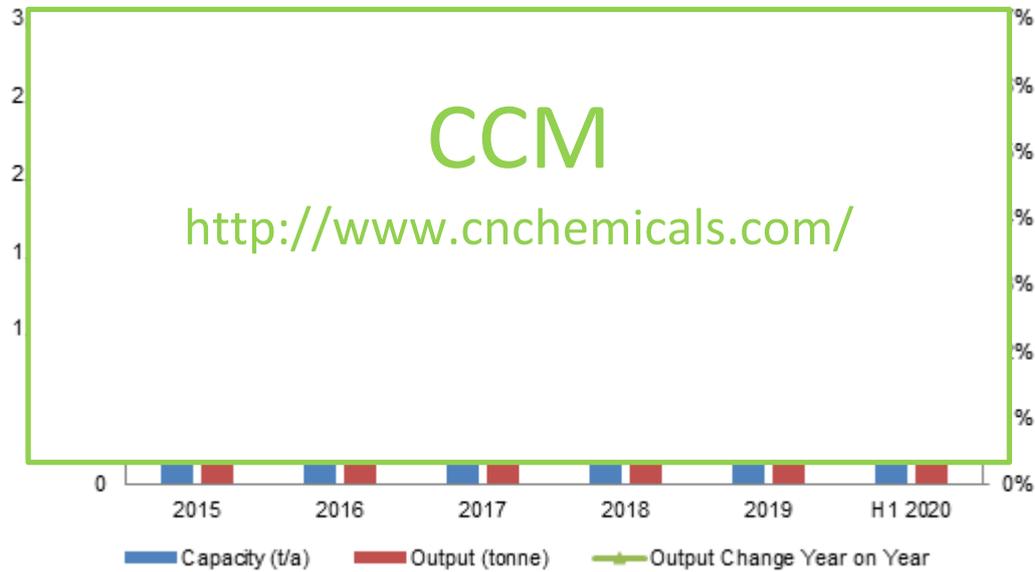
Note: $\text{CaF}_2 > 97\%$: containing more than 97% calcium fluoride by weight

Source: China Customs & CCM

3 Inorganic fluorides in China

...

Figure 3.2.1-1 Capacity and output of AHF in China, 2015–H1 2020



Source: CCM

In H1 2020, the overall capacity utilization of the top ten producers was about XXX%, and it is expected to increase in H2 as operating rates in enterprises have increased and downstream demand has picked up.

Table 3.2.1-1 Main AHF manufacturers in China, H1 2020

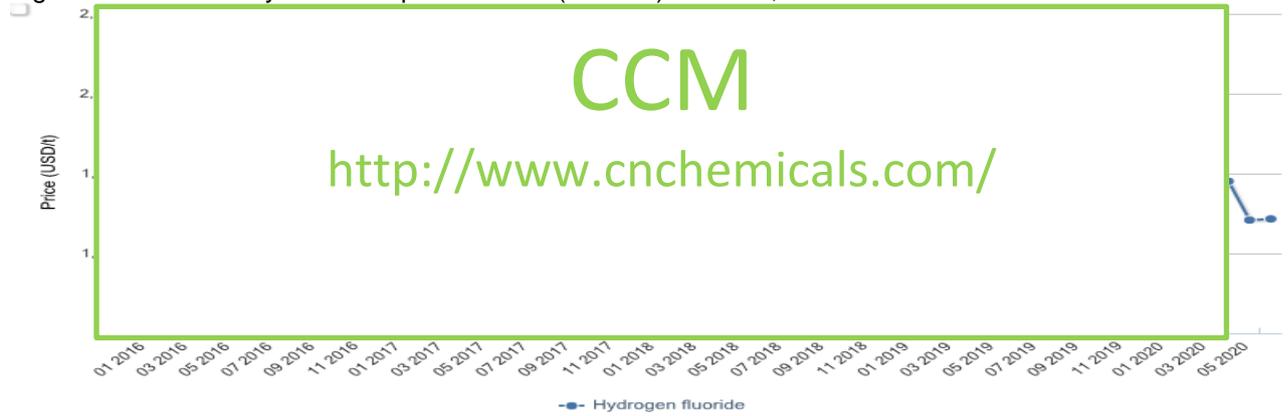
No.	Manufacturer	Capacity, t/a	Output, tonne	Operating rate
1	Dongyue Group Ltd.	XXX	XXX	XXX
2	Zhejiang Sanmei Chemical Co., Ltd.	XXX	XXX	XXX
...	...	XXX	XXX	XXX
...	...	XXX	XXX	XXX

Source: CCM

...

3.2.2 Price

Figure 3.2.2-1 Monthly ex-works price of AHF (99.95%) in China, Jan. 2016–June 2020

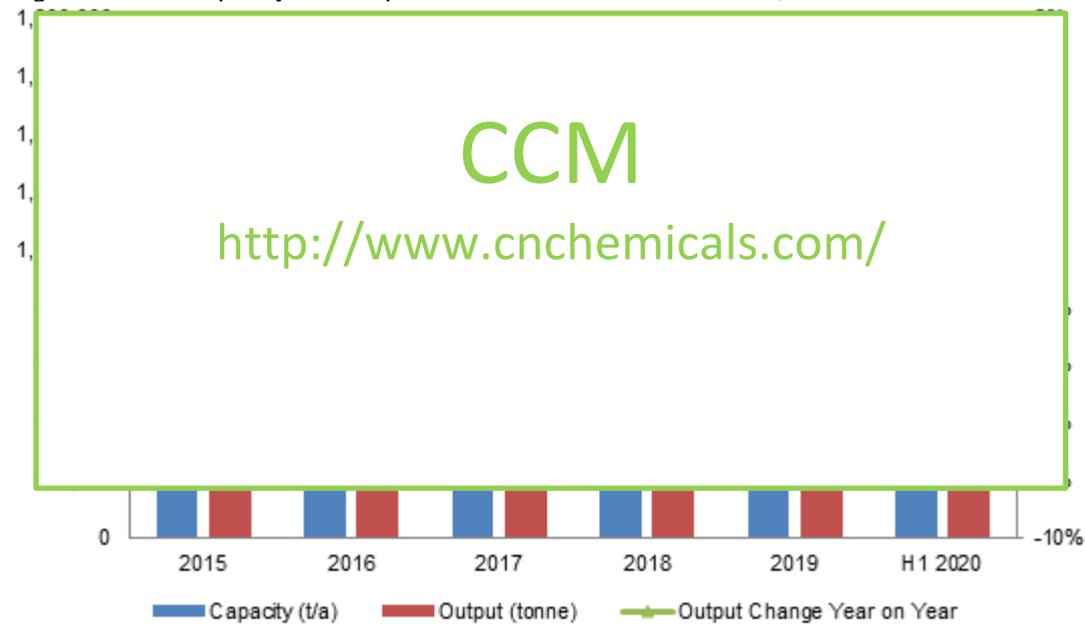


Source: CCM

3.3 Aluminum fluoride

3.3.1 Production situation

Figure 3.3.1-1 Capacity and output of aluminum fluoride in China, 2015–H1 2020

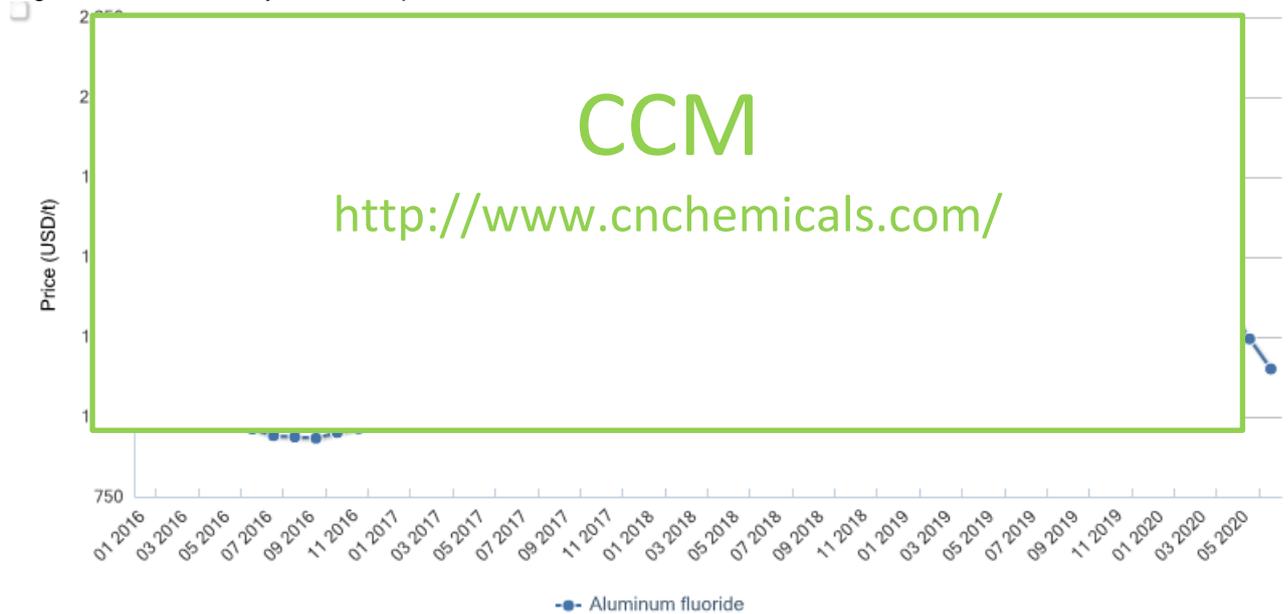


Source: CCM

...

3.3.2 Price

Figure 3.3.2-1 Monthly ex-works price of aluminum fluoride in China, Jan. 2016–June 2020



Source: CCM

3.3.3 Export and import

Table 3.3.3-1 China's imports and exports of aluminum fluoride (anhydrous), 2016–H1 2020

Year	Import			Export		
	Volume, tonne	Value, USD	Price, USD/kg	Volume, tonne	Value, USD	Price, USD/kg
2016	XXX	XXX	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX	XXX	XXX
2018	XXX	XXX	XXX	XXX	XXX	XXX
2019	XXX	XXX	XXX	XXX	XXX	XXX
H1 2020	XXX	XXX	XXX	XXX	XXX	XXX

Source: China Customs & CCM

Table 3.3.3-2 China's imports and exports of other aluminum fluoride, 2016–H1 2020

Year	Import			Export		
	Volume, tonne	Value, USD	Price, USD/kg	Volume, tonne	Value, USD	Price, USD/kg
2016	XXX	XXX	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX	XXX	XXX
2018	XXX	XXX	XXX	XXX	XXX	XXX
2019	XXX	XXX	XXX	XXX	XXX	XXX

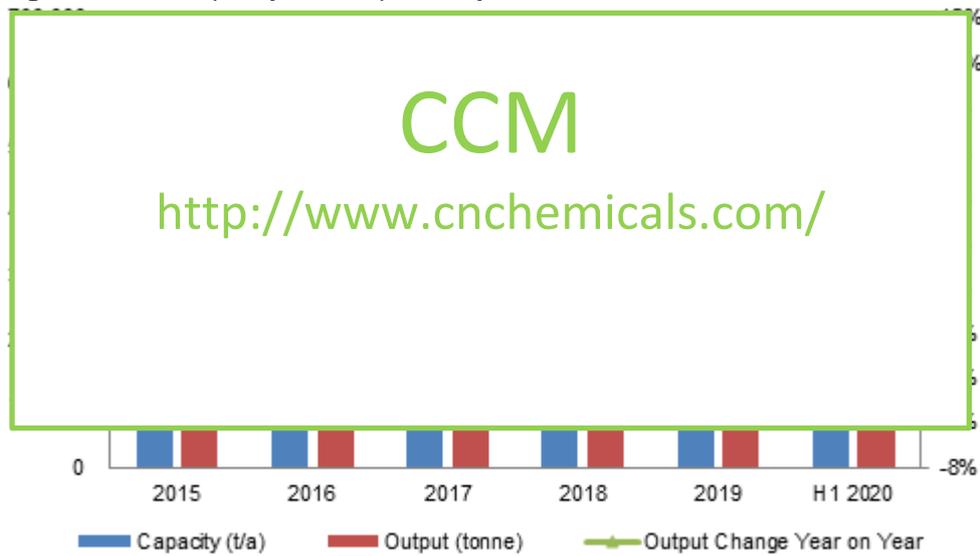
H1 2020	XXX	XXX	XXX	XXX	XXX	XXX
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Source: China Customs & CCM

3.4 Cryolite

3.4.1 Production situation

Figure 3.4.1-1 Capacity and output of cryolite in China, 2015–H1 2020



Source: CCM

3.4.2 Price

Figure 3.4.2-1 Monthly ex-works price of cryolite in China, Jan. 2016–June 2020



Source: CCM

3.4.3 Export and import

Table 3.4.3-1 China's imports and exports of cryolite, 2016–H1 2020

Year	Import			Export		
	Volume, tonne	Value, USD	Price, USD/kg	Volume, tonne	Value, USD	Price, USD/kg
2016	XXX	XXX	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX	XXX	XXX
2018	XXX	XXX	XXX	XXX	XXX	XXX
2019	XXX	XXX	XXX	XXX	XXX	XXX
H1 2020	XXX	XXX	XXX	XXX	XXX	XXX

Source: China Customs & CCM

4 Organic fluorides in China

4.1 Fluoride refrigerants

Table 4.1-1 Capacity and output of main fluoride refrigerants, H1 2020

Product	Capacity, t/a	Output, tonne	Operating rate
HCFC-22	XXX	XXX	XXX
HFC-134a	XXX	XXX	XXX
HFC-32	XXX	XXX	XXX
HFC-125	XXX	XXX	XXX
HFC-410a	XXX	XXX	XXX

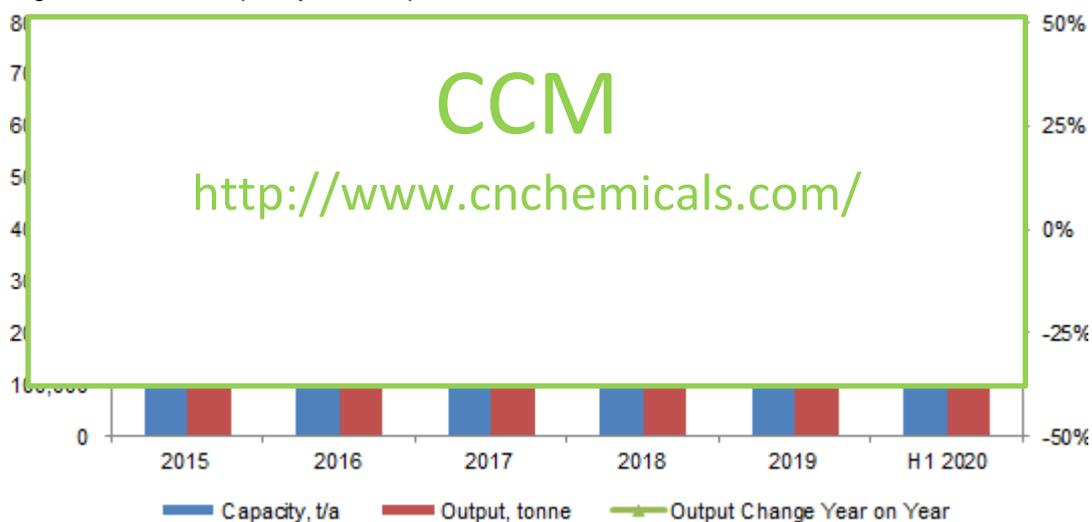
Source: CCM

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4.1.1 HCFC-22

4.1.1.1 Production situation

Figure 4.1.1.1-1 Capacity and output of HCFC-22 in China, 2016–H1 2020



Source: CCM

4.1.1.2 Price

Figure 4.1.1.2-1 Monthly ex-works price of HCFC-22 in China, Jan. 2016–June 2020



Source: CCM

4.1.1.3 Export

In H1 2020 , China exported XXX tonnes of HCFC-22, worth XXX million.

Table 4.1.1.3-1 Exports of HCFC-22 in China, 2015–H1 2020

Year	Volume, tonne	Value, USD
2015	XXX	XXX
2016	XXX	XXX
2017	XXX	XXX
2018	XXX	XXX
2019	XXX	XXX
H1 2020	XXX	XXX

Source: China Customs & CCM

4.1.1.4 Consumption

Table 4.1.1.4-1 HCFC-22 quota allocation for manufacturers internal use (TFE/foam beaters), 2020

No.	Manufacturer	Quota for internal use, tonne	Output quota, tonne	Percentage of internal use/output
1	Dongyue Group Ltd.	XXX	XXX	XXX
2	Zhejiang Juhua Co., Ltd.	XXX	XXX	XXX

...	...	XXX	XXX	XXX
...	...	XXX	XXX	XXX
Others		XXX	XXX	XXX
Total		XXX	XXX	XXX

Source: MEE & CCM

Table 4.1.1.4-2 HCFC-22 quota allocation for room air conditioner industry, 2020

Company	Use quota, tonne	Percentage
Gree Group	XXX	XXX
...	XXX	XXX
...	XXX	XXX
Others	XXX	XXX
Total	XXX	XXX

Source: MEE & CCM

Table 4.1.1.4-3 HCFC-22 quota allocation for refrigeration and air conditioning in industrial and commercial application, 2020

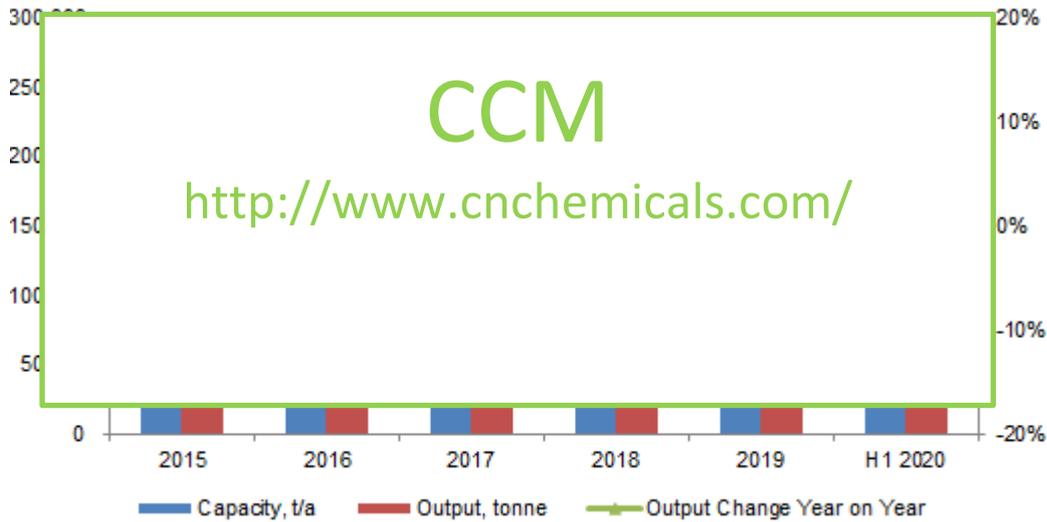
Company	Use quota	Percentage
Gree Group	2,334	39.59%
...	XXX	XXX
...	XXX	XXX
Others	XXX	XXX
Total	XXX	XXX

Source: MEE & CCM

4.1.2 HFC-134a

4.1.2.1 Production situation

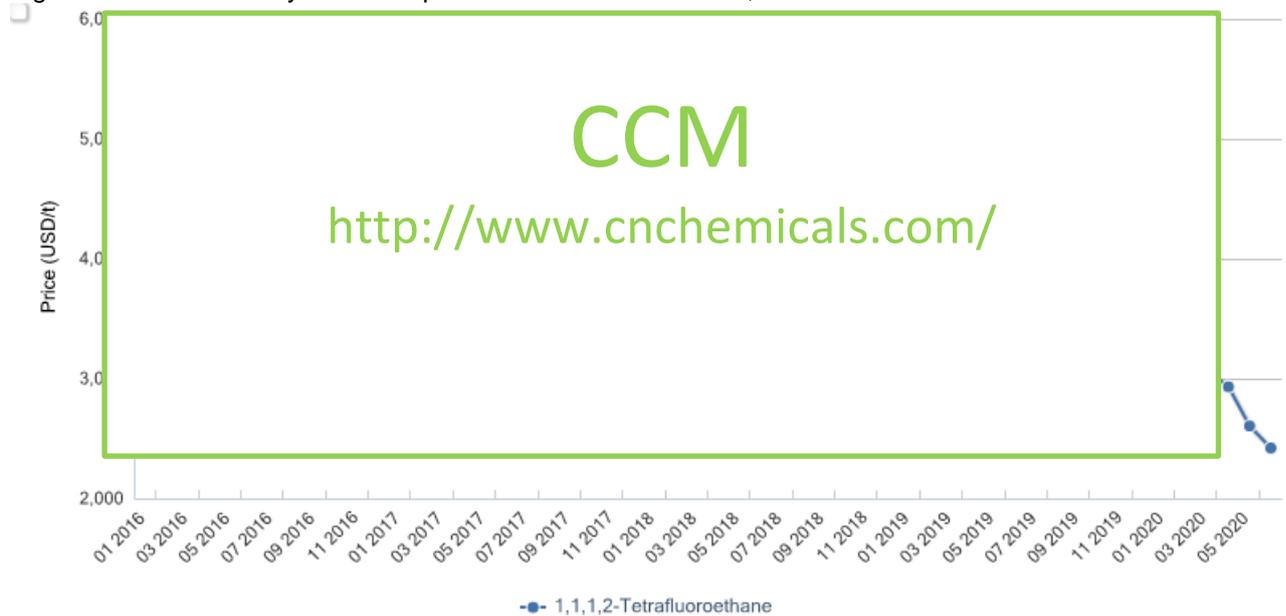
Figure 4.1.2.1-1 Capacity and output of HFC-134a in China, 2015–H1 2020



Source: CCM

4.1.2.2 Price

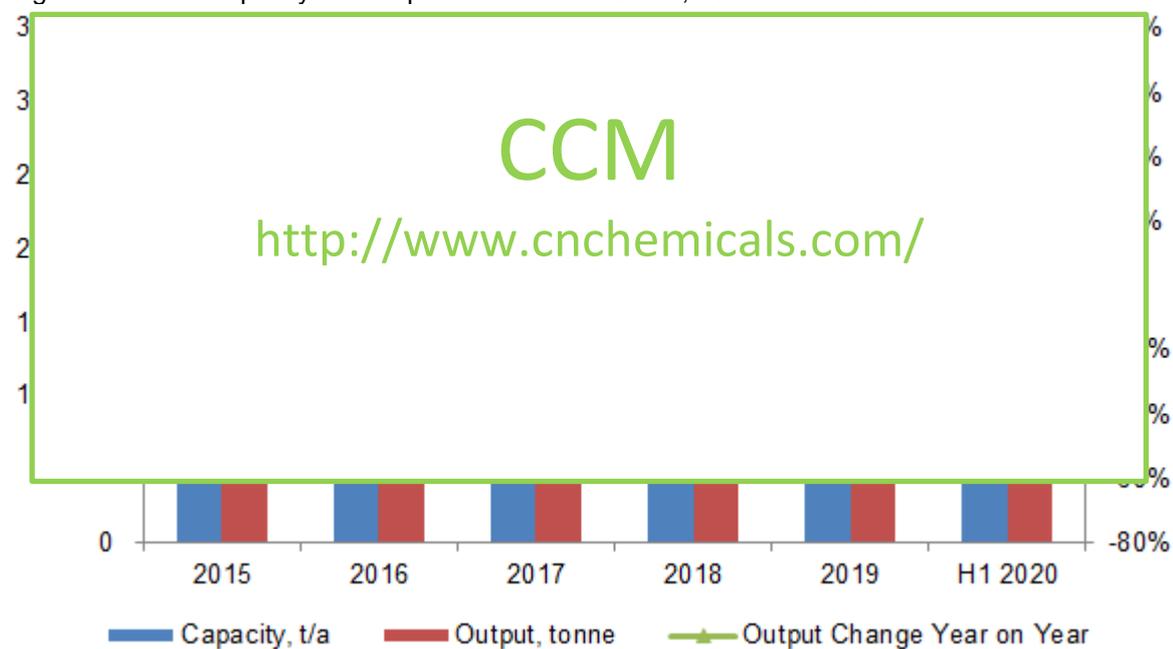
Figure 4.1.2.2-1 Monthly ex-works price of HFC-134a in China, Jan. 2016–June. 2020



Source: CCM

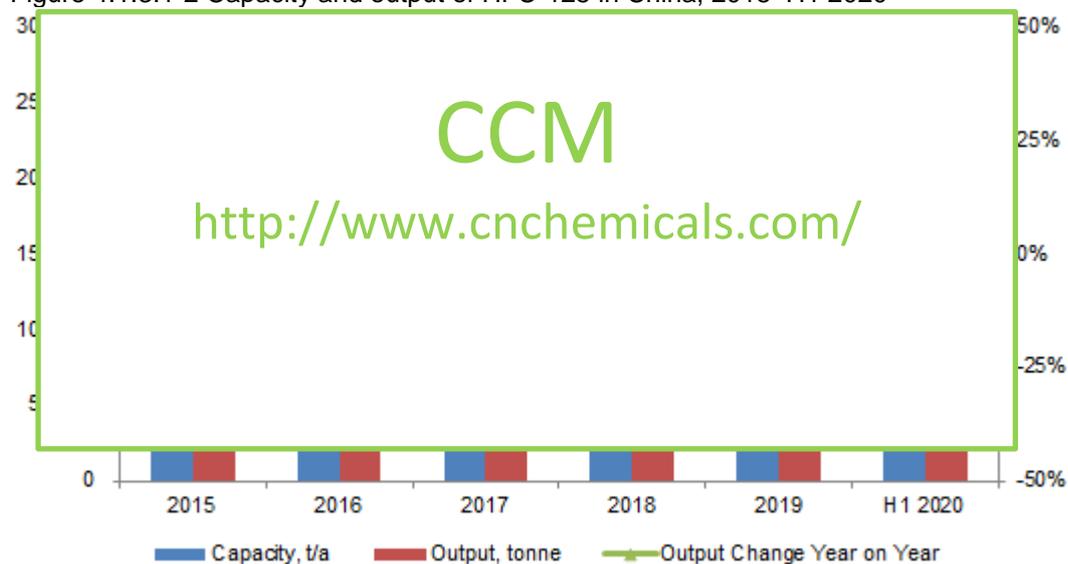
4.1.3.1 Production situation

Figure 4.1.3.1-1 Capacity and output of HFC-32 in China, 2015–H1 2020



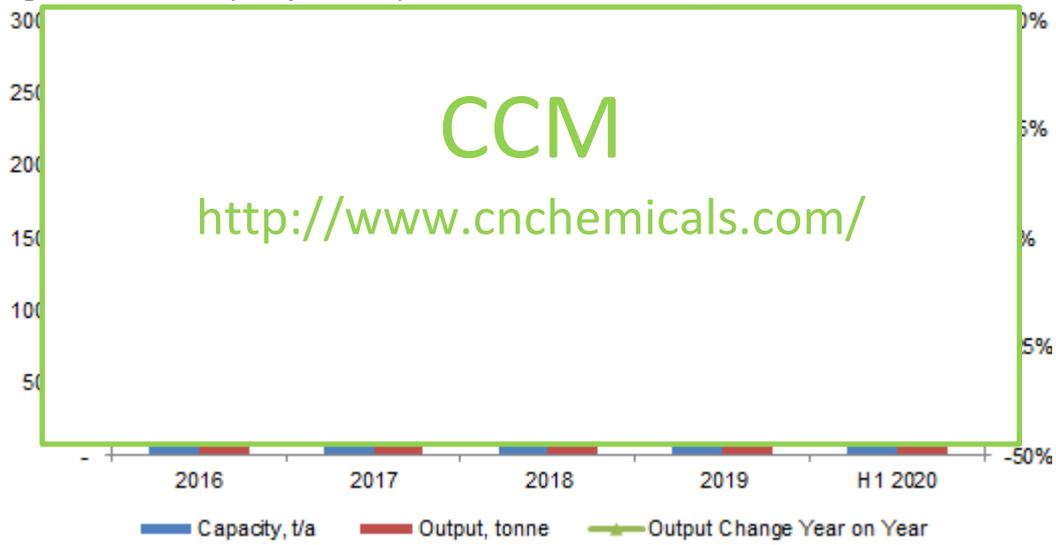
Source: CCM

Figure 4.1.3.1-2 Capacity and output of HFC-125 in China, 2015–H1 2020



Source: CCM

Figure 4.1.3.1-3 Capacity and output of HFC-410a in China, 2016–H1 2020

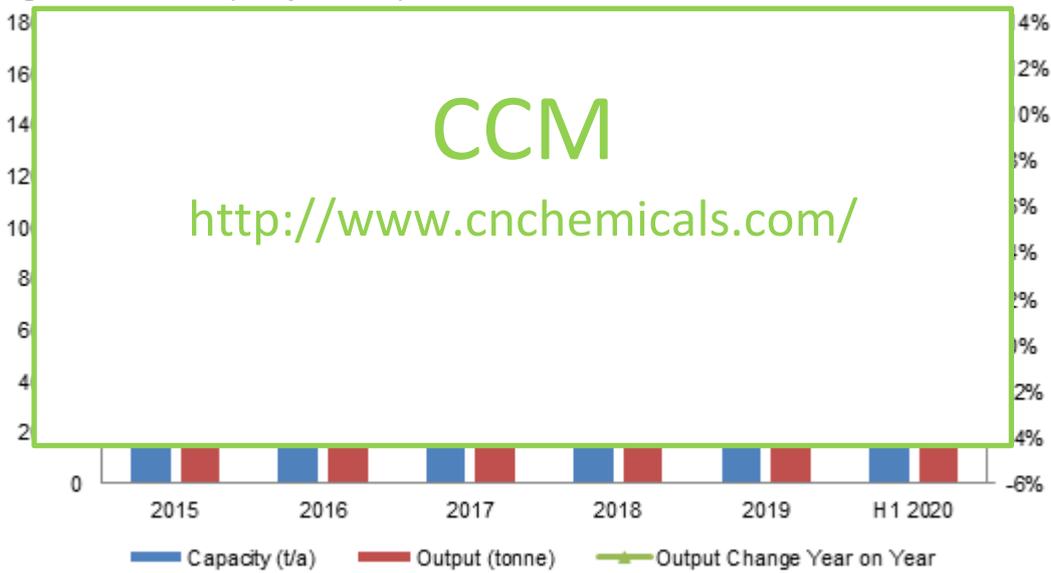


Source: CCM

4.2.1 PTFE

4.2.1.1 Production situation

Figure 4.2.1.1-1 Capacity and output of PTFE in China, 2015–H1 2020



Source: CCM

4.2.1.2 Price

Figure 4.2.1.2-1 Monthly ex-works price of PTFE in China, Jan. 2016–June 2020



Source: CCM

4.2.1.3 Export and import

Table 4.2.1.3-1 Imports and exports of PTFE in China, 2016–H1 2020

Year	Import			Export		
	Volume, tonne	Value, USD	Price, USD/Kg	Volume, tonne	Value, USD	Price, USD/Kg
2016	XXX	XXX	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX	XXX	XXX
2018	XXX	XXX	XXX	XXX	XXX	XXX
2019	XXX	XXX	XXX	XXX	XXX	XXX
H1 2020	XXX	XXX	XXX	XXX	XXX	XXX

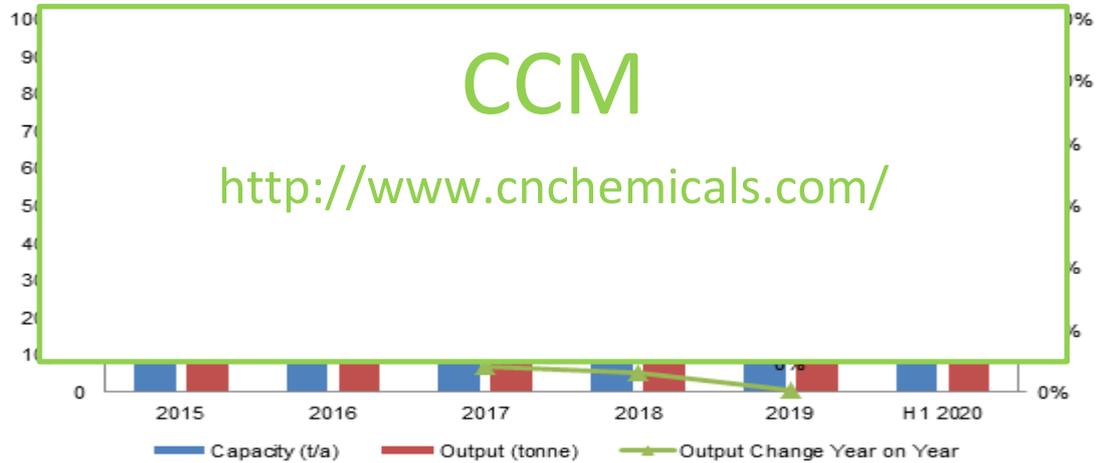
Source: China Customs & CCM

4.2.2 PVDF

4.2.2.1 Production situation

...

Figure 4.2.2.1-1 Capacity and output of PVDF in China, 2015–H1 2020



Source: CCM

4.2.2.2 Price

Figure 4.2.2.2-1 Monthly ex-works price of PVDF in China, Jan. 2017–June 2020



Source: CCM

4.2.2.3 Export and import

Table 4.2.2.3-1 Imports and exports of other kinds of fluoride polymers in China, 2016–H1 2020

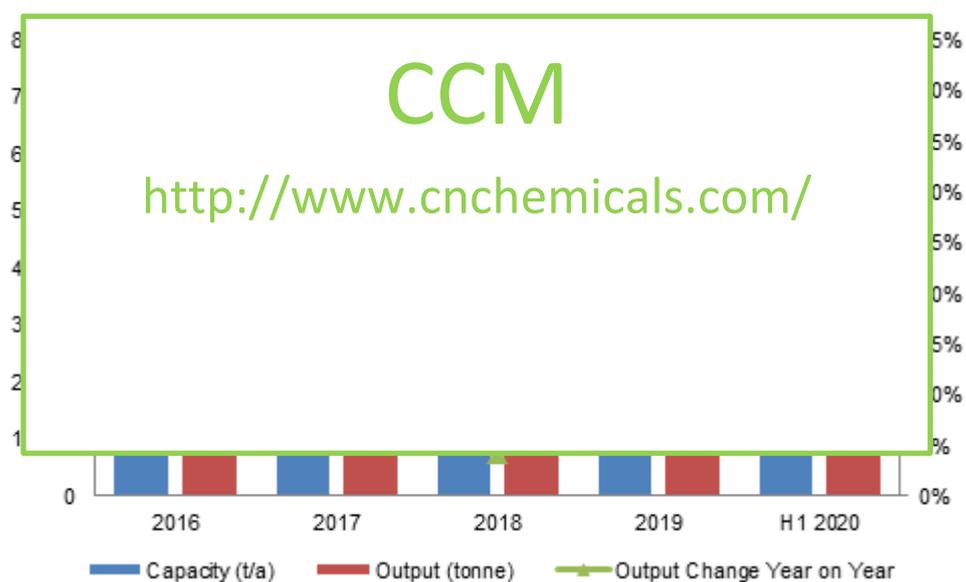
Year	Import			Export		
	Volume, tonne	Value, USD	Price, USD/Kg	Volume, tonne	Value, USD	Price, USD/Kg
2016	XXX	XXX	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX	XXX	XXX
2018	XXX	XXX	XXX	XXX	XXX	XXX
2019	XXX	XXX	XXX	XXX	XXX	XXX
H1 2020	XXX	XXX	XXX	XXX	XXX	XXX

Note: The fluoride polymers here mainly include PVDF, ETFE, TFE, etc.

Source: China Customs & CCM

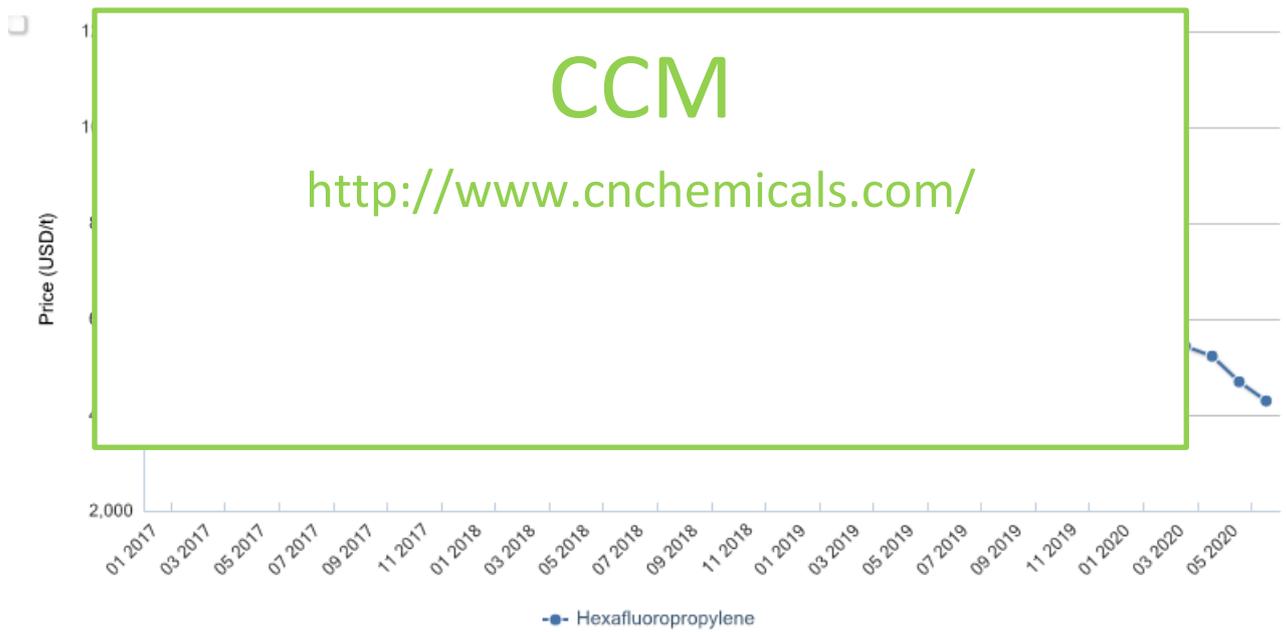
4.3 Other organic fluorides

Figure 4.3-1 Capacity and output of HFP in China, 2015–H1 2020



Source: CCM

Figure 4.3-2 Monthly ex-works price of HFP in China, Jan. 2017–June 2020



Source: CCM

- CTFE in China

Table 4.3-2 Capacity and output of CTFE manufacturers in China, H1 2020

No.	Manufacturer	Capacity, t/a	Output, tonne	Operating rate
1	Changshu 3F Fluorochemical Industry Co., Ltd.	XXX	XXX	XXX
...	...	XXX	XXX	XXX
...	...	XXX	XXX	XXX
Total		XXX	XXX	XXX

Source: CCM

...

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

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Email: econtact@cnchemicals.com