CCM Data & Business Intelligence

Survey of Fluorohydrocarbon in China

The Third Edition

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1. Introduction

Survey of Fluorohydrocarbon in China, finished in July 2017, is CCM's third edition report on China's fluorohydrocarbon. This intelligent report attaches importance to the following parts:

- Production, consumption, export and price of HCFCs (HCFC-22) in China (production and consumption in 2016, price in 2013–2016).
- Situation of HFCs in China, including HFC-134a, HFC-32, HFC-125 and HFC-410a (production and consumption in 2016, price in 2013–2016).
- Development trend of fluorohydrocarbon in China.
- Forecast on demand for the main fluorine refrigerants in China.

2. Approach for this report

The report is based on data sourced by diverse methods, as follows:

-Desk research

Desk research includes access to published magazines, journals, government statistics, industry statistics, customs statistics, association seminars as well as information on the Internet. Much work goes into the compilation and analysis of the information obtained. Where necessary, information is checked with Chinese market players regarding intelligence related to market structure and performance characteristics such as key producers, key end users, production levels, end user demand and so on.

-Telephone interview

CCM conducts an extensive field survey using telephone interviews in order to survey the fluorohydrocarbon industry in China.

The interviewees include the following groups:

- Key producers
- Key end users
- Key traders
- Material suppliers
- Associations involved
- Industry experts

-Network search

CCM employs a network to contact industry participants by using B2B website and software. CCM also obtains registration information via network.

-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 producers, joint ventures, service suppliers and government agencies
- Third-party data providers
- Customs statistics
- Comments from industrial experts
- Professional databases
- Information from the Internet

The data is combined and cross-checked to ensure that this report is as accurate and methodologically sound as possible. Throughout the process, a series of discussions are held within CCM to systematically analyse the data and draw appropriate conclusions.

3. Executive summary

Fluorine chemical industry has been one of the fastest developing and most promising chemical industries in China, which has become an important part of national strategic emerging industries. Fluorite is the basic resource of fluorine chemical industry, the importance of which is self-evident.

Currently, China is one of the largest holders of proven reserves of fluorite in the world. In nearly a decade, China's fluorite recoverable reserves has accounted for only about XXX of the world's, but the output of fluorite powder has accounted for about XXX of the world's. From 2011 to 2015, the output of fluorite in China gradually declined with a CAGR of XXX.

Along with the policies of fluorite resource protection and integration, fluorite resources will be further concentrated in some state-owned enterprises, which is conducive to the elimination of smaller, less skilled mines and companies in the industry. In 2016, China has classified fluorite as one of the strategic mineral resources, and with the deepening of the industrial policy implementation, the fluorite industry is expected to further enhance its position in the industry chain. In the long term, future fluorite price is expected to show a general increase.

Fluorite is an important raw material for fluorine refrigerants. There were about XXX fluorine refrigerant manufacturers with a total capacity of more than XXX in China in 2015. At present, the main fluorine refrigerants in China are HCFC-22, HFC-134a, HFC-32, HFC-125 and HFC-410a. With the capacity and output of XXX t/a and XXX tonnes respectively in 2016, HCFC-22 is still a major refrigerant in China. However, due to the elimination of HCFCs according to the *Montreal Protocol*, the production of HCFC-22 has been restricted and its consumption as a refrigerant has been decreasing.

HFC-410a has been a substitute for HCFC-22. However, HFC-410a is not the final alternative to HCFC-22 because HFC-410a still contains fluorine atoms. Therefore, Chinese refrigerant enterprises have been actively looking for safer and more environmentally friendly refrigerants. It's estimated that more low-fluoride or even non-fluoride refrigerants will come out in the coming few years.

4. What's in the report?

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

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1.2 Production and market situation of major products

1.2.1 Situation of HCFC-22

Production

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The domestic capacity of HCFC-22 kept increasing from 2004 to 2012, with a CAGR of about XXX. However, in 2012, the output of HCFC-22 decreased compared with that in 2011, mainly because the price of HCFC-22 decreased from H2 2011.

Influenced by the global financial crisis in 2008, the output of HCFC-22 in 2008 was XXX lower than that in 2007. From 2009 to 2011, as China's economy recovered from 2009, the domestic demand for HCFC-22 has been increasing, helping China's output to increase year by year. While the capacity of HCFC-22 was stagnant from 2008 to 2010 due to restrictions on the capacity expansion of HCFC-22 as refrigerant by the Chinese government, yet, it increased rapidly in 2011, because China permitted the capacity expansion of HCFC-22 as the raw material for PTFE to meet the increasing demand from the global PTFE market. And the capacity of HCFC-22 in China remained XXX from 2011 to 2014.

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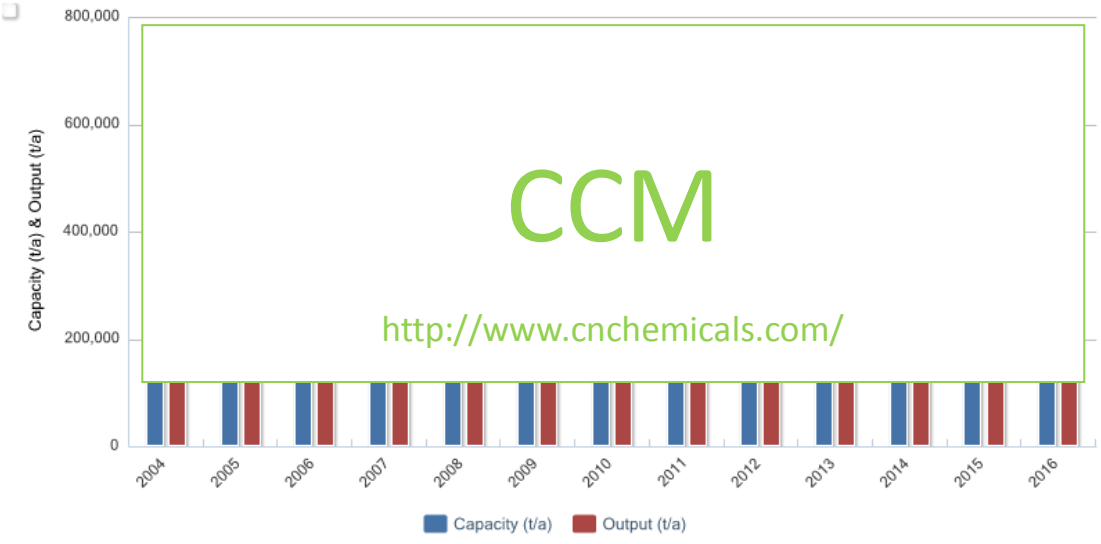
Figure 1.2.1-1 Capacity and output of HCFC-22 in China, 2004–2016



Source: CCM

There are about XXX HCFC-22 producers in China and most of them concentrate in East China. More than XXX of the HCFC-22 capacity is concentrated in Zhejiang and Shandong provinces, followed by Jiangsu Province and Shanghai City.

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Table 1.2.1-1 Major producers of HCFC-22 in China, 2016

No.	Producer	Capacity, t/a	Output, tonne
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
Other			
Total			

Source: CCM

Consumption

HCFC-22 is the most widely used low-temperature refrigerant in China, mainly used in household air conditioners, central air conditioners, refrigerators, cold storages, etc. It is also used as a raw material in producing TFE and foam beaters. Among them, TFE, an important chemical, can be used as an important raw material for HFC-125, PTFE and propylene hexafluoride. Beyond exports, China consumed about XXX tonnes of HCFC-22 in 2016, and about XXX, XXX, XXX and XXX of HCFC-22 were used for TFE, maintenance, new air conditioners and foam beaters respectively.

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Figure 1.2.1-2 Consumption pattern of HCFC-22 in China, 2016

Note: 1. New air conditioner in this chart refers to the air conditioner with HCFC-22.

2. Others include insecticides and aerosol spray.

Source: CCM

Export

Overall, from 2014 to 2016, the export volume and value of HCFC-22 declined, with CAGRs of XXX and XXX respectively.

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In 2016, the export volume of HCFC-22 was XXX tonnes, up by XXX compared with that in 2015.

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Table 1.2.1-2 China's exports of HCFC-22, 2014–2016

Year	Volume, tonne	YoY Change	Value, million USD	YoY Change
2014				
2015				
2016				

Source: China Customs

Price

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From July 2014 to the end of 2016, the price of HCFC-22 was falling on the whole, decreased to XXX in Dec. 2016, down by XXX compared to that in July 2014, due to two important reasons: firstly, the purchase quantity of refrigerants reduced due to inventory backlogs in the downstream air conditioner industry, which led to sluggish demand for HCFC-22; secondly, the marketization processes of HCFC-22's substitutes, such as R290 and HFC-32, had been accelerated.

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Figure 1.2.1-3 Monthly ex-works price of HCFC-22 in China, Jan. 2013–Dec. 2016

Source: CCM

1.2.2 Situation of HFC-134a

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2 Forecast

- Ffluorine refrigerant

With the further implementation of environmental policies in China, the number of domestic HCFC manufacturers will gradually decrease, while that of domestic HFC manufacturers will gradually increase.

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Table 2-1 Forecast on demand for the main fluorine refrigerants in China

Product	Forecast
HCFC-22	
HCFC-141b	
HFC-134a	
HFC-410a	
HFC-32 and HFC-125	

Source: CCM

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

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