

Survey of Fluorohydrocarbon in China

The Sixth Edition

October 2022

Researched & Prepared by:

Kcomber Inc.

Copyright by Kcomber Inc.

Any publication, distribution or copying of the content in this report is prohibited.

Contents

Executive summary	1
Methodology	2
1 Development of fluorohydrocarbon	4
1.1 Overview of fluorohydrocarbon industry in China	4
1.1.1 Overview of HCFCs in China	8
1.1.2 Overview of HFCs in China	10
1.2 Production and market situation of major products	10
1.2.1 R22	10
1.2.2 R134a	18
1.2.3 R32, R125 and R410a	20
1.2.4 Situation of other major products	25
2 Forecast trend	26
3 Conclusions	28

LIST OF TABLES

Table 1.1-1 Refrigerants and phase-out plan in China
Table 1.1-2 Output of downstream products of refrigerants in China, 2017–2021
Table 1.1.1-1 Production quota of HCFCs in China, 2017–2021
Table 1.1.1-2 Use quotas of HCFCs in China, 2021
Table 1.2.1.1-1 Active R22 manufacturers in China, 2020–2021
Table 1.2.1.3-1 Exports of R22 in China, 2017–2021
Table 1.2.1.4-1 Consumption of R22 in non-ODS field in China, 2017–2021
Table 1.2.1.4-2 Consumption quota of R22 in ODS field in China, 2017–2021
Table 1.2.1.4-3 R22 quota allocation for room air conditioner industry, 2021
Table 1.2.1.4-4 R22 quota allocation for refrigeration and air conditioning in industrial and commercial application, 2021
Table 1.2.2.1-1 Active R134a manufacturers in China, 2020–2021
Table 1.2.3.1-1 Main active R32 manufacturers in China, 2020–2021
Table 1.2.3.1-2 Main active R125 manufacturers in China, 2020–2021
Table 1.2.3.1-3 Main active R410a manufacturers in China, 2020–2021
Table 2-1 Situation of the production of R1234yf in China, 2021

LIST OF FIGURES

Figure 1.1-1 Main refrigerant substitutes in China
Figure 1.2.1.1-1 Capacity and output of R22 in China, 2017–2021
Figure 1.2.1.1-2 Production quota of R22 in China, 2017–2021
Figure 1.2.1.2-1 Ex-works price of R22 in China, Jan. 2017–June 2022
Figure 1.2.1.3-1 Export volume of R22 in China, 2017–2021
Figure 1.2.1.3-2 Top ten export destinations of R22 from China by volume, 2021
Figure 1.2.1.4-1 Apparent consumption of R22 in China, 2017–2021
Figure 1.2.2.1-1 Capacity and output of R134a in China, 2017–2021
Figure 1.2.2.2-1 Ex-works price of R134a in China, Jan. 2017–June 2022
Figure 1.2.3.1-1 Capacity and output of R32 in China, 2017–2021

Figure 1.2.3.1-2 Capacity and output of R125 in China, 2017–2021

Figure 1.2.3.1-3 Capacity and output of R410a in China, 2017–2021

Figure 1.2.3.2-1 Ex-works price of R32, R125 and R410a in China, Jan. 2017–June 2022

1. Introduction

Survey of Fluorohydrocarbon in China, finished in October 2022, is CCM's sixth edition report on China's fluorohydrocarbon. This intelligent report attaches importance to the following parts:

- ✓ Production, consumption, export and price of HCFCs (R22) in China
- ✓ Production situation , price of HFCs in China, including R134a, R32, R125 and R410a
- ✓ Development trend of fluorohydrocarbon in China
- ✓ Forecast on demand for the main fluorine refrigerants in China

2. Approach in 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 fluorohydrocarbon industry in China.

Interviewees cover:

- Major manufacturers of fluorite
- Major manufacturers of fluorohydrocarbon
- Major consumer enterprises
- 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

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. As an important part of fluorine chemical industry, fluorohydrocarbon is used in various industries such as refrigerant, foaming agent, extinguishant, insecticide, medical and chemical. Among them, the refrigerant industry shares the largest consumption of fluorohydrocarbon.

China agreed to take steps to phase out HCFCs. In order to achieve targets set in the phase-out plan of HCFCs, China implements quota management system for production and use of HCFCs Since 2013. In recent years, the total production quota of HCFCs has seen a general decrease and has been concentrating in large enterprises.

At present, the main fluorine refrigerants in China are R22, R134a, R32, R125 and R410a. With the capacity and output of XXX t/a and XXX tonnes respectively in 2021, R22 is still a major refrigerant in China. Its production quota and consumption volume as a refrigerant has been decreasing, but its use as a raw material to produce tetrafluoroethylene has been on the rise. As HFCs have been substituting HCFCs, both the production and consumption of HFCs such as R134a, R32, R125 and R410a have increased.

However, HFCs are not the final alternative to HCFCs because HFCs still have global warming potential (GWP). Therefore, Chinese refrigerant enterprises have been actively looking for safer and more environmentally friendly refrigerants such as CFOs, close-to-natural refrigerants and natural refrigerants.

4. What's in this report?

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

...

1.1.1 Overview of HCFCs in China

...

Table 1.1.1-1 Production quota of HCFCs in China, 2017–2021

Year	Product	Production quota, tonne	internal production quota, tonne
2017	R22	XXX	XXX
	R141b	XXX	XXX
	R142b	XXX	XXX
	R123	XXX	XXX
	R124	XXX	XXX
2018	R22	XXX	XXX
	R141b	XXX	XXX
	R142b	XXX	XXX
	R123	XXX	XXX
	R124	XXX	XXX
2019	R22	XXX	XXX
	R141b	XXX	XXX
	R142b	XXX	XXX
	R123	XXX	XXX
	R124	XXX	XXX
2020	R22	XXX	XXX
	R141b	XXX	XXX
	R142b	XXX	XXX
	R123	XXX	XXX
	R124	XXX	XXX
2021	R22	XXX	XXX

	R141b	XXX	XXX
	R142b	XXX	XXX
	R123	XXX	XXX
	R124	XXX	XXX

Note: The internal production quota is part of production quota, which defines the maximum sales volume to other domestic enterprises.
Source: MEE

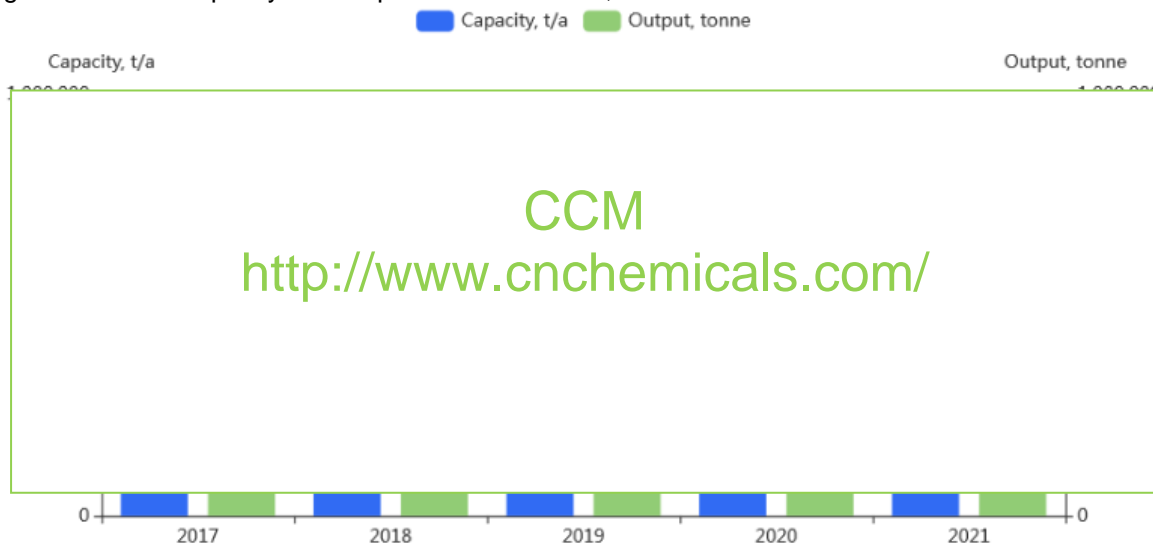
...

1.2.1 R22

1.2.1.1 Production situation

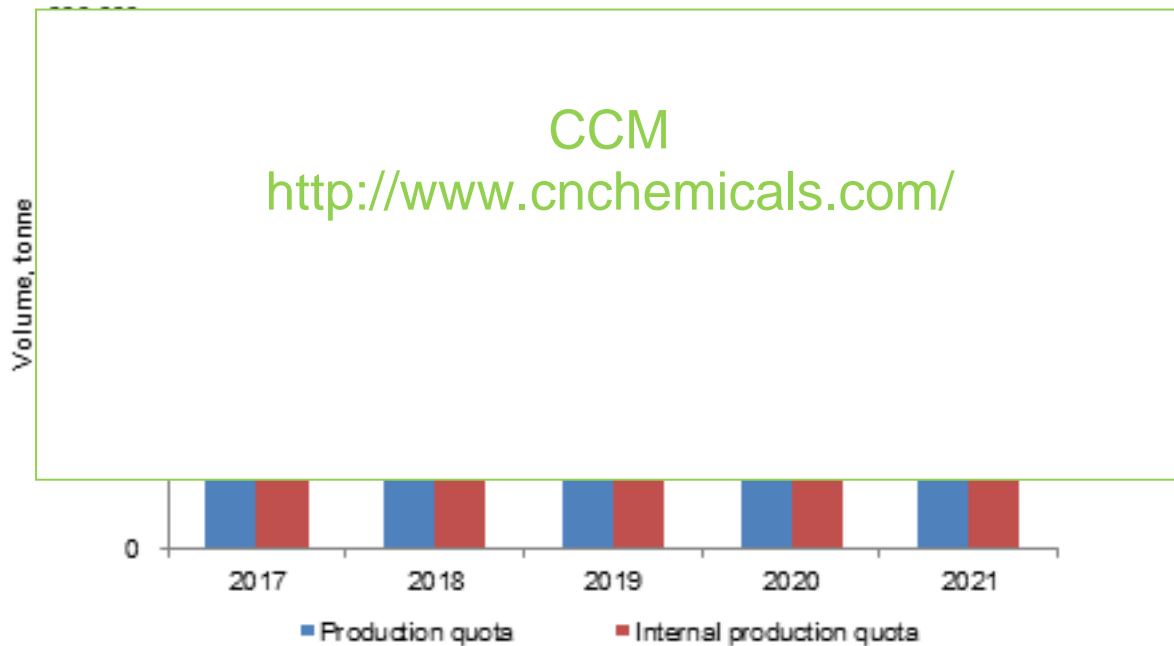
...

Figure 1.2.1.1-1 Capacity and output of R22 in China, 2017–2021



Note: 1. The data of capacity and output in 2017–2019 has been revised.
2. The capacity and output include those R22 used in non-ODS field.
Source: MEE & CCM

Figure 1.2.1.1-2 Production quota of R22 in China, 2017–2021



Note: The internal production quota is part of production quota, which defines the maximum sales volume to other domestic enterprises.

Source: MEE

Table 1.2.1.1-1 Active R22 manufacturers in China, 2020–2021

No.	Producer	Location	2020				2021			
			Capacity, t/a	Output, tonne	Production quota, tonne	Internal production quota, tonne	Capacity, t/a	Output, tonne	Production quota, tonne	Internal production quota, tonne
1	Dongyue Group Ltd.	Shandong	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
...	...	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
...	...	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Note: 1. The data of Zhejiang Juhua Co., Ltd., Zhejiang Sanmei Chemical Co., Ltd. and Zhejiang Yonghe Refrigerant Co., Ltd. include its subsidiaries.

2. Including those R22 used in non-ODS field.

Source: MEE & CCM

1.2.1.2 Price

...

Figure 1.2.1.2-1 Ex-works price of R22 in China, Jan. 2017–June 2022

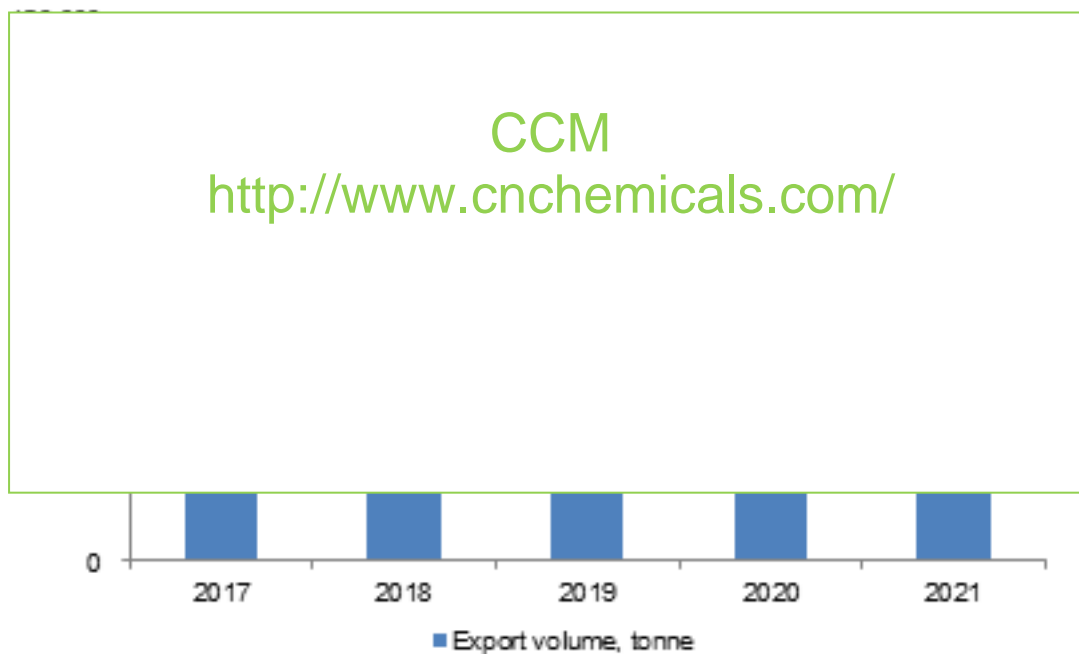


Source: CCM

1.2.1.3 Export

...

Figure 1.2.1.3-1 Export volume of R22 in China, 2017–2021



Note: The data of 2018 has been revised.
Source: China Customs & CCM

Table 1.2.1.3-1 Exports of R22 in China, 2017–2021

Year	Export volume, tonne	Export value, USD	Export price, USD/t
2017	XXX	XXX	XXX
2018	XXX	XXX	XXX
2019	XXX	XXX	XXX
2020	XXX	XXX	XXX
2021	XXX	XXX	XXX

Source: China Customs & CCM

Figure 1.2.1.3-2 Top ten export destinations of R22 from China by volume, 2021

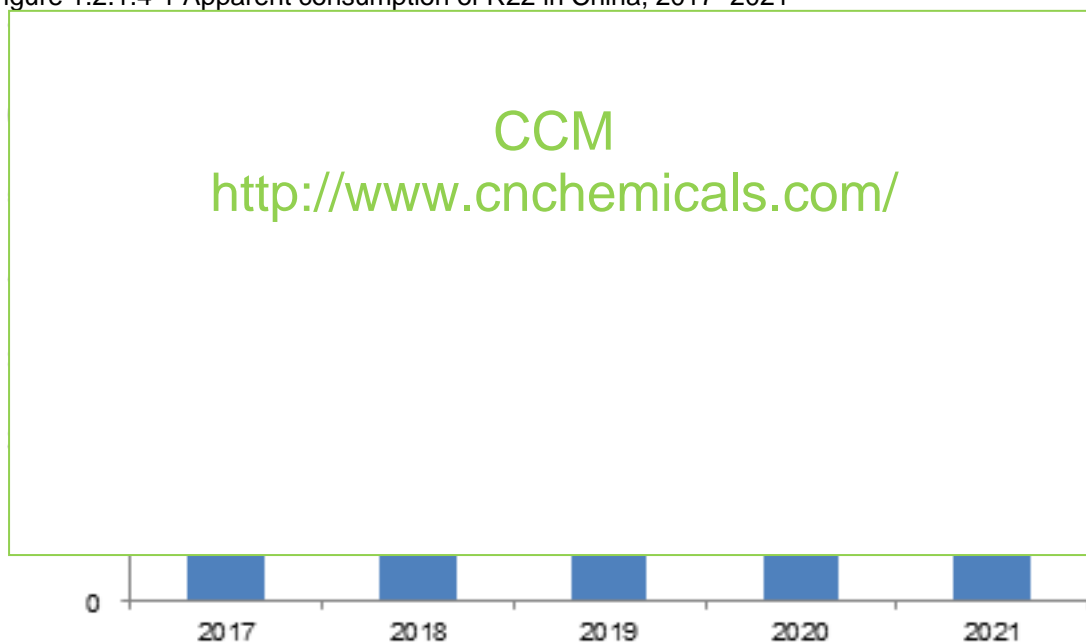


Source: China Customs & CCM

1.2.1.4 Consumption

...

Figure 1.2.1.4-1 Apparent consumption of R22 in China, 2017–2021



Source: CCM

2 Forecast trend

...

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

Tel: +86-20-37616606 Fax: +86-20-37616968

Email: econtact@cnchemicals.com