

# **Production and Market of Chlorpyrifos in China**

**The Sixth Edition**

**October 2018**

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## 1. Introduction

This is the sixth edition report on China's chlorpyrifos industry finished by CCM in October 2018. It attaches great importance to the following parts:

- Update the information of chlorpyrifos technical and formulations in China in the past years, including registration, supply, export, price and demand;
- Identify key producers and potential producers of chlorpyrifos in China;
- Emphasize on market demand breakdown by volume of chlorpyrifos during 2013–2017, as well as its consumption structure by crop;
- Figure out the development status and influencing factors of the chlorpyrifos industry in China including drivers and barriers;
- Forecast on chlorpyrifos in terms of supply, demand and export during 2018–2022;
- Get a clear understanding of the future development trend and identify China's position of chlorpyrifos industry from a global perspective;
- Analyse substitutes of chlorpyrifos products in the domestic market.

## 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 has gone into the compilation and analysis of the information obtained. Where necessary, information has been checked with Chinese insecticides participants regarding intelligence related to market structure and performance characteristics as key producers, key end users, production levels, end user demand and so on.

### - Field Survey

CCM has conducted an extensive field survey using telephone interviews in order to survey the market for chlorpyrifos in China.

The interviewees included 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 websites and software. CCM also obtains registration information via the network.

-Data processing and presentation

The data collected and compiled was 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 has been combined and cross-checked to ensure that this report is as accurate and methodologically sound as possible. Throughout the process, a series of discussions were held within CCM to systematically analyze the data and draw appropriate conclusions.

## Glossary

In this report, there are many abbreviations for specifications of chlorpyrifos formulations and intermediate products. They are listed as follows:

STCP	3,5,6-Trichloropyridin-2-ol sodium
DETC	O,O-diethyl thiophosphoryl chloride
AI(s)	Active ingredient(s)
GR	Granule
EW	Emulsion oil in water
ME	Micro-emulsion
RG	Bait
CS	Aqueous capsule suspension
WP	Wettable powder
CAGR	Compound annual growth rate
GDP	Gross domestic product
MNC(s)	Multinational corporation(s)
MIIT	The Ministry of Industry and Information Technology of China
CCPIA	The China Crop Protection Industry Association
ICAMA	The Institute for the Control of Agrochemicals, Ministry of Agriculture

Chlorpyrifos is defined as chlorpyrifos technical in the report, if not specified.

## Units

t: metric tonne, equals to tonne in this report

t/a: tonne per year, also metric tonne per year, also tonne/year

RMB: currency unit in China, also called Yuan

USD: currency unit in the US

Table USD/CNY exchange rate, Jan. 2013–Aug. 2018

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
2013	6.2787	6.2842	6.2743	6.2471	6.1970	6.1718	6.1725	6.1708	6.1588	6.1393	6.1372	6.1160	6.1920
2014	6.1043	6.1128	6.1358	6.1553	6.1636	6.1557	6.1569	6.1606	6.1528	6.1441	6.1432	6.1238	6.1428
2015	6.1272	6.1339	6.1507	6.1302	6.1143	6.1161	6.1167	6.3056	6.3691	6.3486	6.3666	6.4476	6.2288
2016	6.5527	6.5311	6.5064	6.4762	6.5315	6.5874	6.6774	6.6474	6.6715	6.7442	6.8375	6.9182	6.6425
2017	6.8918	6.8713	6.8932	6.8845	6.8827	6.8019	6.7772	6.7148	6.5909	6.6493	6.6300	6.6067	6.7662
2018	6.5079	6.3045	6.3352	6.2764	6.3670	6.4078	6.6157	6.8293	-	-	-	-	-

Source: The People's Bank of China

## 3. Executive summary

With fast development in recent years, China's pesticide industry becomes more and more important in the global pesticide industry chain. Chlorpyrifos, as one of the major insecticides in China, also takes an important role in the global market. China is not only a chlorpyrifos producer that can satisfy its own agricultural demand, but also an important chlorpyrifos exporter in the world.

### Production & producers

Nowadays, China is a major chlorpyrifos supplier in the world. China's total capacity of chlorpyrifos technical has reached XXX t/a as of the end of 2017. And China produced about XXX tonnes of chlorpyrifos technical in 2017.

The production of chlorpyrifos will be gradually concentrated in producers who have advanced production technology and wide distribution channels, such as Nanjing Red Sun Co., Ltd. (Nanjing Red Sun) and Hubei Benxing Chemical Industry Co., Ltd. (Hubei Benxing). There were XXX active players with a capacity of XXX t/a as of Aug. 2018.

### Export

Generally, the total export volume of chlorpyrifos in China has seen a continuous growth, hitting XXX tonnes in 2017 (calculated as 100% AI), with a CAGR of XXX % during 2015–2017. Nanjing Red Sun is the largest exporter of chlorpyrifos technical and formulations in China. In 2017, its total export volume of chlorpyrifos (including technical and formulation products, calculated as 100% AI) was about XXX tonnes, accounting for XXX % of the total in China. Chinese chlorpyrifos now is mainly exported to XXX, XXX and XXX with an export

volume of XXX tonnes (calculated as 100% AI) in 2017, accounting for XXX % of the total.

## Price

The ex-works price of chlorpyrifos technical decreased during Nov. 2014–Aug. 2016, but it showed an upward trend from Aug. 2016 to Dec. 2017. The supply of the product remained tight on the market in 2017, so the price kept at a high level.

## Domestic demand

Domestic actual consumption of chlorpyrifos has shown an uptrend from 2013 to 2014, but it decreased from XXX tonnes in 2014 to XXX tonnes in 2017, because of the decline in cotton planting area and a ban on chlorpyrifos use on vegetables in China from 31 Dec., 2016.

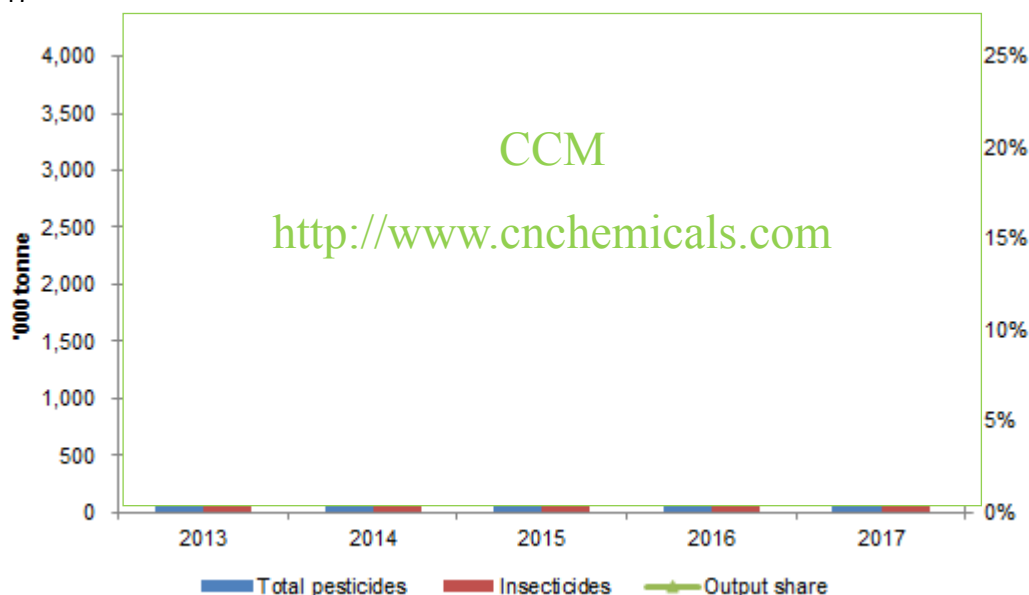
## 4. What's in this report?

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

### 1 Introduction to chlorpyrifos industry in China

#### 1.1 Overview of insecticide industry

Figure 1.1-1 Output volume and output share of insecticides in pesticides in China, 2013–2017

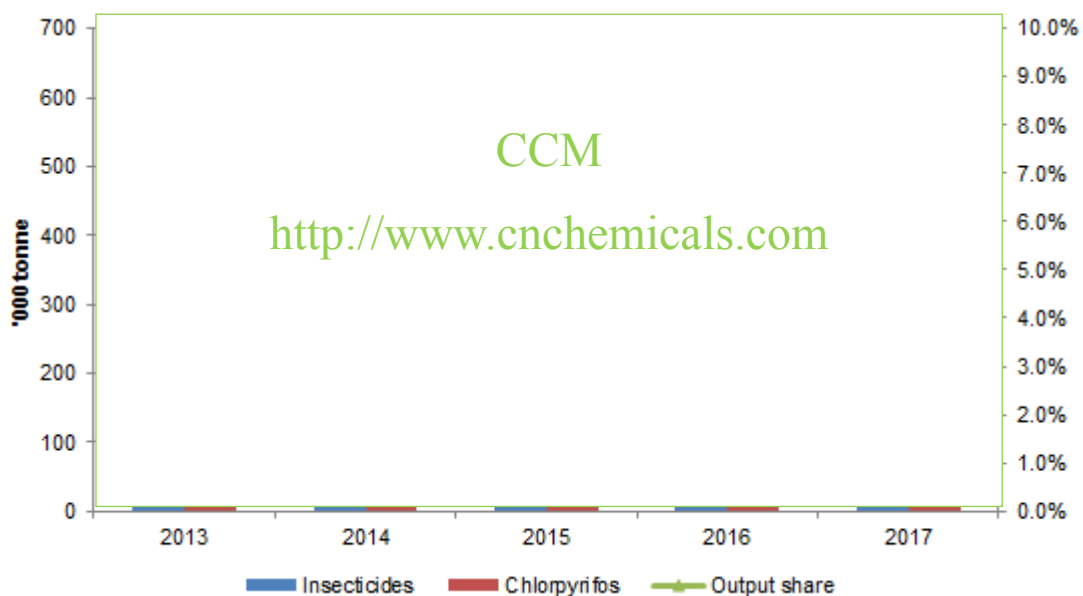


Note: The output was converted to 100% technical.

Source: National Bureau of Statistics of China

## 1.2 Position of chlorpyrifos in insecticide industry

Figure 1.2-1 Output share of chlorpyrifos technical in insecticide industry in China, 2013–2017



Source: National Bureau of Statistics of China & CCM

## 2 Supply & demand of chlorpyrifos in China

Table 2.2.1-2 Valid registrations of chlorpyrifos single formulations in China, as of 13 Sept. 2018

Type	Common AI concentration	Registration number	Proportion
EC	XXX	XXX	XXX
.....	XXX	XXX	XXX
RG	XXX	XXX	XXX
Total		XXX	XXX

Note: Due to rounding, shares added may not equal 100%.

Source: ICAMA & CCM

Table 2.2.1-3 Valid registrations of chlorpyrifos mixed formulations in China, as of 13 Sept. 2018

Active ingredients	Common AI concentration (including two AIs)	Registration number	Proportion
Cypermethrin:chlorpyrifos	XXX	XXX	XXX
.....	XXX	XXX	XXX
XXX	XXX	XXX	XXX
Others		XXX	XXX
<b>Total</b>		XXX	XXX

Source: ICAMA & CCM

## 2.2.2 Summary of technical production, 2013–2017

Table 2.2.2-1 Capacity of the 19 producers of chlorpyrifos technical in China, 2017

No.	Capacity distribution	Number of producer	Capacity, 2017	
			Volume, t/a	Share
1	≥10,000	XXX	XXX	XXX
2	≥5,000 and < 10,000	XXX	XXX	XXX
3	≥3,000 and < 5,000	XXX	XXX	XXX
4	< 3,000	XXX	XXX	XXX
<b>Total</b>		XXX	XXX	XXX

Source: CCM

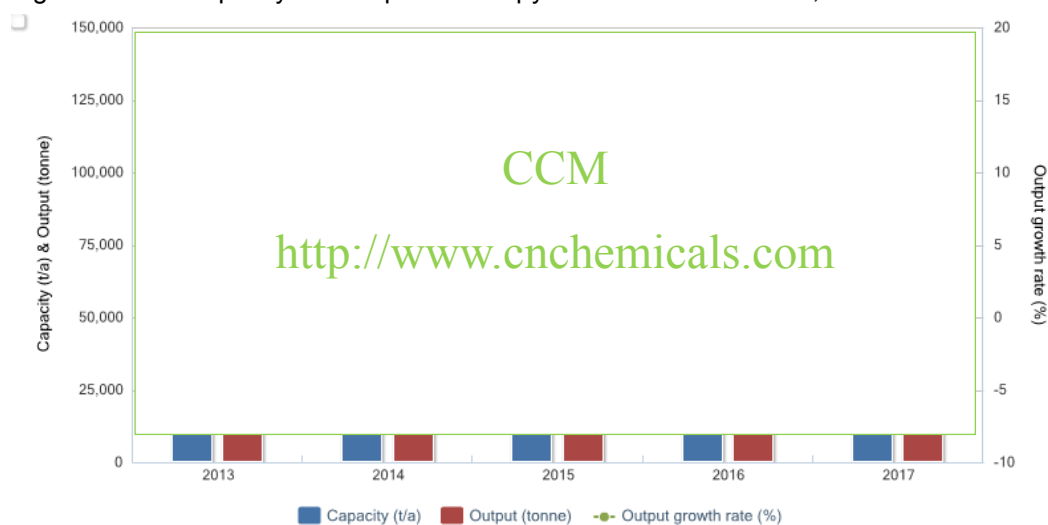
Table 2.2.2-2 Capacity and output of main chlorpyrifos technical producers in China, 2015–2017

No.	Producer	Abbreviation	Location	Status, as of Aug. 2018	Launch time	2017		2016		2015	
						Capacity, t/a	Output, tonne	Capacity, t/a	Output, tonne	Capacity, t/a	Output, tonne
1	Hubei Benxing Chemical Industry Co., Ltd.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	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	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Note: Manufacturers are ranked by capacity 2017.

Source: CCM

Figure 2.2.2-1 Capacity and output of chlorpyrifos technical in China, 2013–2017



Source: CCM

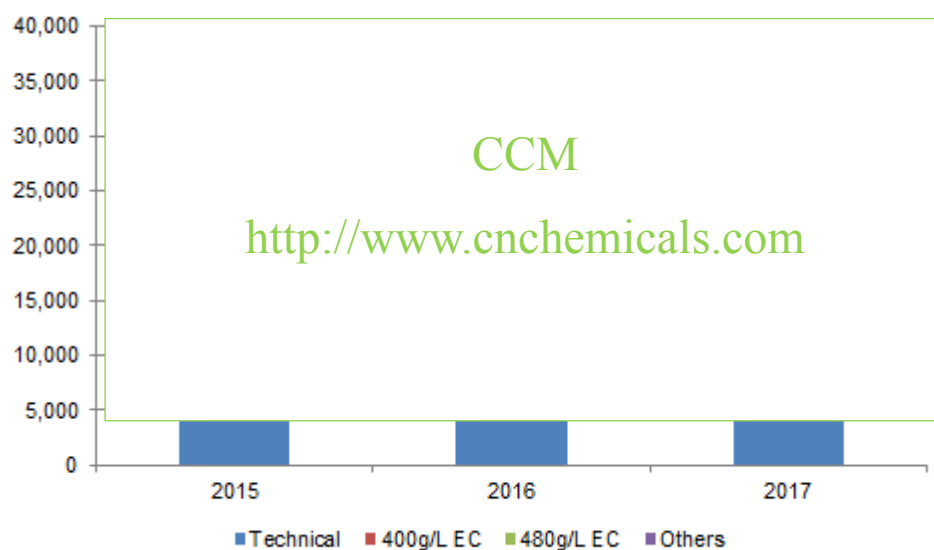
Table 2.2.2-3 Capacity and output distribution of chlorpyrifos technical in China, 2017

No.	Province	Number of active producer, 2017	Capacity, 2017		Output, 2017	
			Volume, t/a	Share	Volume, tonne	Share
1	Jiangsu	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX
.....	XXX	XXX	XXX	XXX	XXX	XXX
8	XXX	XXX	XXX	XXX	XXX	XXX
Total		XXX	XXX	XXX	XXX	XXX

Source: CCM

## 2.3 Circulation

Figure 2.3.1.1-1 Export volume of chlorpyrifos in China, 2015–2017, tonne



Source: China Customs & CCM

Table 2.3.1.1-1 Export of chlorpyrifos in China by month, 2017

Month	Technical		40% EC		480g/L EC		Other formulations	
	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg	Volume, tonne	Price, USD/kg
1	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
12	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Source: China Customs & CCM

Table 2.3.1.1-4 Export of chlorpyrifos in China by exporter, 2017, tonne

No.	Exporter	400g/L EC	480g/L EC	Technical	Others	100% AI volume
1	Nanjing Red Sun Co., Ltd.	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX
.....	XXX	XXX	XXX	XXX	XXX	XXX
20	XXX	XXX	XXX	XXX	XXX	XXX
	Others	XXX	XXX	XXX	XXX	XXX
	Total	XXX	XXX	XXX	XXX	XXX

Source: China Customs & CCM

Table 2.3.1.1-7 Export of chlorpyrifos in China by destination, 2017, tonne

No.	Destination	400g/L EC	480g/L EC	Technical	Others	100% AI volume
1	XXX	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX
.....	XXX	XXX	XXX	XXX	XXX	XXX
20	XXX	XXX	XXX	XXX	XXX	XXX
Others		XXX	XXX	XXX	XXX	XXX
<b>Total</b>		<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>

Source: China Customs & CCM

## 2.4 Chlorpyrifos consumption in China

Table 2.4-1 Domestic consumption of chlorpyrifos in China, 2013–2017, tonne

Year	Output	Export	Import	Apparent consumption	Actual consumption
2013	XXX	XXX	XXX	XXX	XXX
2014	XXX	XXX	XXX	XXX	XXX
2015	XXX	XXX	XXX	XXX	XXX
2016	XXX	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX	XXX

Note: 1. Domestic apparent consumption=Technical output + Import - Total export

2. Data above is calculated by 97% chlorpyrifos technical.

Source: CCM

Table 2.4-2 Actual consumption of chlorpyrifos by crop in China, 2013–2017, tonne

Year	Rice		Fruit		Cotton		Vegetable		Others		Total
	Consumption	Share	Consumption	Share	Consumption	Share	Consumption	Share	Consumption	Share	
2013	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2014	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2015	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2016	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Note: Consumption volume on crops is calculated by 97% chlorpyrifos technical.

Source: CCM

### 3 Supply of key raw materials & intermediates of chlorpyrifos

Table 3.1-1 Capacity and output of active trichloroacetyl chloride producers in China, 2017

No.	Producer	Abbreviation	Location	Capacity, t/a	Output, tonne
1	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX
.....	XXX	XXX	XXX	XXX	XXX
4	XXX	XXX	XXX	XXX	XXX
14	XXX	XXX	XXX	XXX	XXX

Source: CCM

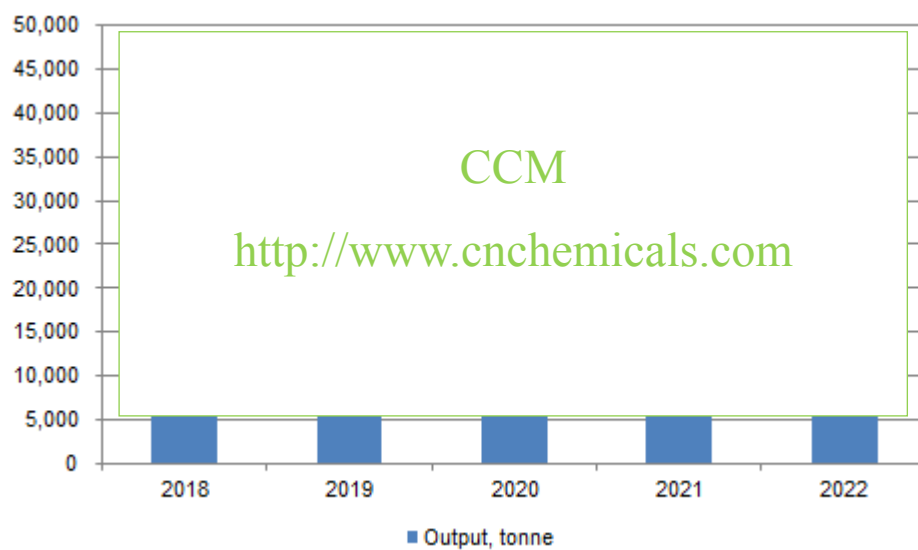
Figure 3.1-1 Ex-works price of trichloroacetyl chloride (99%) in China, May 2012–Aug. 2018



Source: CCM

## 4.2 Supply and demand, 2018–2022

Figure 4.2-1 Forecast on output of chlorpyrifos technical in China, 2018–2022



Source: CCM

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

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