

# **Atrazine Market and Production in China**

**The Sixth Edition**

**March 2019**

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**Kcomber Inc.**

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## 1. Introduction

Atrazine, a triazine herbicide, is widely used worldwide, due to its good herbicidal effect, safety to crops and economical price. China's atrazine is export-oriented, with annual export volume of atrazine technical and formulations (converted to 97% technical) accounting for large share of the domestic annual output every year. In China, most of the atrazine (converted to 97% technical) was exported, and the rest was used to produce atrazine formulations, mainly including 38% SC, 50% SC, 80% WP and 90% WDG for domestic applications in 2016–2019.

The ex-works price of atrazine technical in China kept increasing in early 2018 and reached the highest in February. Then it dropped quickly in June but maintained higher than previous level. The key driving factor for the increase of atrazine price was increasing price of its key raw material, cyanuric chloride, during 2018.

However, in 2019, the price of atrazine technical in China showed a downward trend, mainly due to the large inventory of atrazine in 2018. Although the high price of raw material cyanuric chloride supported atrazine price to some extent, pressures to achieve destocking played the dominant role. Therefore, the price in 2019 was lower than that in 2018.

In fact, atrazine technical manufacturers have faced high inventory pressure throughout the year 2019, which resulted in the decreasing price.

What were the driving factors behind the rolling price? Behind those factors, there may be some opportunities.

In order to help industry players find more opportunities in China's atrazine market, CCM has carried out a comprehensive analysis on atrazine industry, including registration, production, producers, export, consumption, price change, as well as its competing products in China. This report can guide investments and business movements for the players who pay close attention to atrazine industry.

This is CCM's sixth edition report on China's atrazine industry and it attaches importance to the following parts:

- ✓ Position of atrazine in Chinese herbicide industry, 2014–2018
- ✓ Registration of atrazine in China, as of 13 Jan. 2020
- ✓ Capacity and output of atrazine technical in China, 2016–2019
- ✓ Capacity and output of major atrazine technical producers in China, 2016–2019
- ✓ Export analysis of atrazine products in China, 2016–2018
- ✓ Price of atrazine in China, 2016–2019
- ✓ Apparent consumption of atrazine (converted to 97% technical) in China, 2016–2018
- ✓ Actual consumption volume and market value of major atrazine formulations in China, 2016–2018
- ✓ Comparison among atrazine and its major substitutes in China, 2019

## 2. Approach for this report

### Methodology and source

#### Desk research

Sources of desk research are various including published magazines, journals, government statistics, industrial statistics, customs statistics, associated seminars as well as information from the Internet. A lot of work has been done to compile and analyze the information obtained. When necessary, checks were made with Chinese market players regarding market information such as production, demand, and competition.

#### Telephone interviews

CCM carried out extensive telephone interviews with major participants in the industry chain of the products mentioned in this report throughout upstream to downstream. The interviewees cover:

- Manufacturers
- Traders
- Industrial associations
- Local governments
- Researchers and experts
- Farmers

#### Data processing and presentation

The data collected and compiled are sourced from:

- Published articles from Chinese periodicals, magazines, and journals
- Government statistics & customs statistics
- Telephone interviews with Chinese manufacturers, traders, government and farmers
- Comments from industrial experts
- CCM's database
- Information from the Internet
- Third-party databases

The data from various channels have been combined to make this report as precise and scientific as possible. Throughout the process, a series of internal discussions have been held in order to analyze the data and draw conclusions from them.

#### Definition and glossary

In this report, atrazine technical refers to atrazine 97% technical (TC); atrazine formulations refer to atrazine 38% SC, atrazine 48% WP, atrazine 50% SC, atrazine 80% WP and atrazine 90% WDG; when "atrazine" is mentioned, it includes both atrazine technical and atrazine formulations.

Apparent consumption equals production + import - export, which is one of the factors reflecting demand. Assuming the inventory stays the same every year, the apparent consumption also equals to the actual consumption.

#### Unit

USD: US dollar, currency unit in the US

RMB: currency unit in China, also named Renminbi

Tonne: ton equals to metric ton in this report

/t: per tonne

t/a: tonne per year, tonne/annual

**Table Main abbreviations and their full names in the report**

Abbreviation	Full name
AI	Active ingredient
ICAMA	The Institute for the Control of Agrochemicals, Ministry of Agriculture
SC	Suspension Concentrate
SE	Suspension Emulsion
WDG	Water Dispersible Granule
WP	Wettable Powder
AS	Aqueous Solution
EC	Emulsifiable Concentrate
OD	Oil Dispersion
CAGR	Compound Annual Growth Rate

**Table USD/CNY exchange rate, 2015–2019**

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Yearly average
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	<b>6.2288</b>
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	<b>6.6425</b>
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	<b>6.7662</b>
2018	6.5079	6.3045	6.3352	6.2764	6.3670	6.4078	6.6157	6.8293	6.8347	6.8957	6.9670	6.9431	<b>6.6070</b>
2019	6.8482	6.7081	6.6957	6.7193	6.7344	6.8896	6.8716	6.8938	7.0883	7.0726	7.0437	7.0262	<b>6.8826</b>

Source: The People's Bank of China

### 3. Executive summary

Atrazine, a triazine herbicide, is widely used worldwide, due to its good herbicidal effect, safety to crops and economical price. China is not only a high consumption country of atrazine at home, but also a key supplier at abroad.

#### - Production

In 20XX–20XX, the domestic capacity of atrazine technical increased from XXX t/a to XXX t/a; moreover, the output increased from XXX tonnes in 20XX to XXX tonnes in 20XX. But the output decreased sharply to XXX tonnes in 20XX.

#### - Import & export

China's atrazine is export-oriented. Export volume of atrazine technical and formulations (converted to 97% technical) usually takes large proportion to the domestic annual output. In 20XX, the export volume of atrazine (converted to 97% technical) in China was XXX tonnes, down by XXX% year on year. And the US was the largest importer of China's atrazine products in the world in 20XX.

#### - Price

The ex-works price of atrazine technical in China kept increasing in early 20XX and peaked at USDXXX/t in Feb. Then it set on a downtrend.

#### - Consumption

Atrazine is primarily applied to control annual weeds in corn and sugarcane fields. In China, most of the atrazine (converted to 97% technical) is exported, and the rest is used to produce atrazine formulations, mainly including 38% SC, 50% SC, 80% WP and 90% WDG for domestic applications. Actual domestic consumption volume of atrazine formulations decreased from XXX tonnes in 20XX to XXX tonnes in 20XX. But in 20XX, it increased to XXX tonnes valued at USDXXX million.

#### 4. What's in this report?

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

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### 1 Overview of atrazine industry in China

#### 1.1 Brief introduction to pesticide industry in China

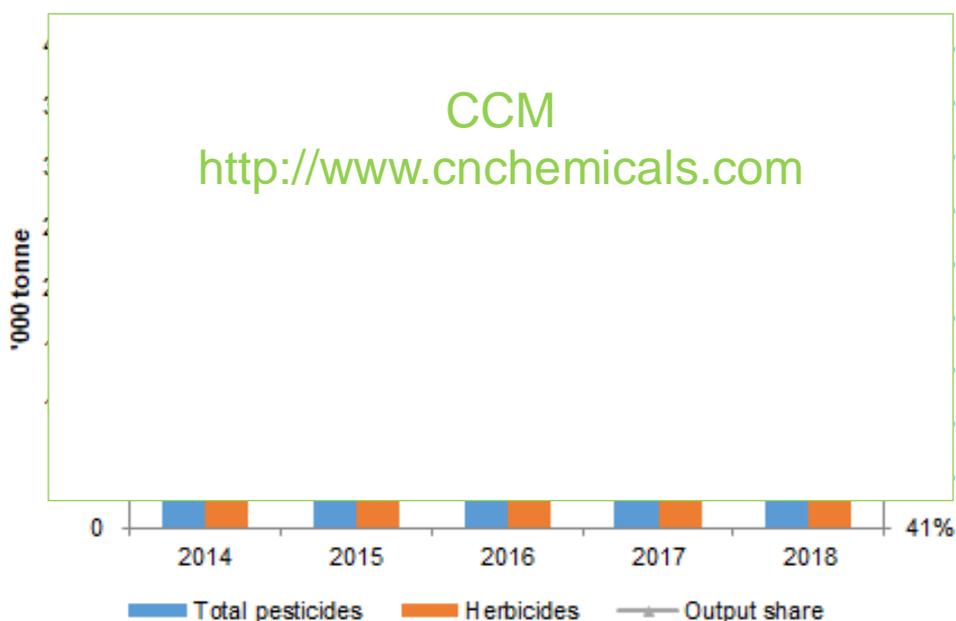
##### - Supply and demand

China's herbicide industry has developed rapidly in recent years, which is reflected by sharply increasing output and the growing number of varieties available. China is now the major global herbicide supplier; its herbicide output (calculated by 100% technical) was about XXX tonnes in 20XX.

As a category of pesticides, herbicides have been playing an increasingly important role in the prevention & control of weeds. The structure of pesticide products in China used to be so imbalanced that the output of insecticides accounted for an extremely large proportion of the whole market, while proportions of other types of pesticides were quite small.

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Figure 1.1-1 Output volume and output share of herbicides in pesticides in China, 2014-2018



Source: The National Bureau of Statistics of China (NBS) and CCM

**- Import and export**

Table 1.1-1 China's imports and exports of pesticides, 2016–2018

Year	Pesticides				Herbicides				Share			
	Import		Export		Import		Export		Import		Export	
	Volume, tonne	Value, million USD	Volume	Value	Volume	Value						
2016	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2018	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Source: China Customs

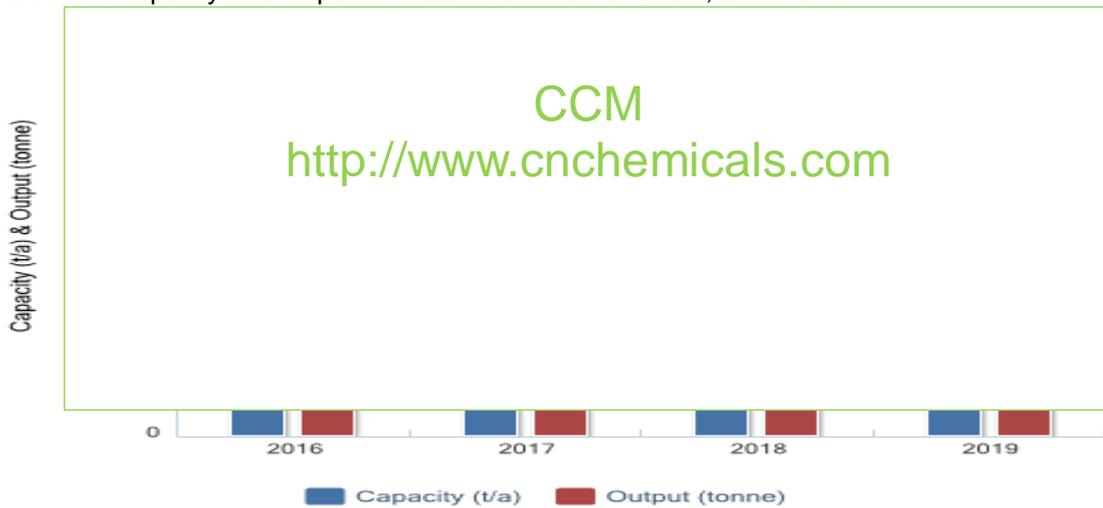
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**3 Supply of atrazine in China, 2015–2018**

**3.1 Summary of atrazine technical production**

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Figure 3.1-1 Capacity and output of atrazine technical in China, 2016–2019



Source: CCM

Figure 3.1-2 Distribution of capacity of atrazine technical in China by region, 2019



Source: CCM

### 3.2 Key atrazine technical manufacturers

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Table 3.2-1 Capacity and output of major atrazine technical producers in China, 2016–2019

No.	Producer	Abbreviation	Location	Status, as of the end of 2019	2016		2017		2018		2019	
					Capacity, t/a	Output, tonne						
1	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
4	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
5	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
7	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
8	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
9	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
10	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
11	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
<b>Total</b>					XXX							

Note: Zhejiang Zhongshan Chemical Industry Group Co., Ltd. has two atrazine technical production sites, one in Zhejiang Province (20,000 t/a) and the other in Anhui Province (10,000 t/a).

Source: CCM

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## 4 Circulation of atrazine in China

### 4.1 Import and export of atrazine, 2016–2018

#### By month

Table 4.1-1 China's exports of atrazine by month, 2018

Month	38% SC		48% WP		50% SC		80% WP		90% WDG		97% Tech.		Total volume (converted to 97% technical, t)	Total value (USD)
	Volume (t)	Price (USD/kg)												
January	XXX	XXX	XXX	XXX										
February	XXX	XXX	XXX	XXX										
March	XXX	XXX	XXX	XXX										
April	XXX	XXX	XXX	XXX										
May	XXX	XXX	XXX	XXX										
June	XXX	XXX	XXX	XXX										
July	XXX	XXX	XXX	XXX										
August	XXX	XXX	XXX	XXX										
September	XXX	XXX	XXX	XXX										
October	XXX	XXX	XXX	XXX										
November	XXX	XXX	XXX	XXX										
December	XXX	XXX	XXX	XXX										
<b>Total</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>										

Source: China Customs & CCM

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#### By destination

Table 4.1-5 China's exports of atrazine by destination, 2018

No.	Destination	38% SC (t)	48% WP (t)	50% SC (t)	80% WP (t)	90% WDG (t)	97% Tech. (t)	Total volume (converted to 97% technical, t)	Total value (USD)
1	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
4	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
5	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
...	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
13	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
14	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
...	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
<b>Total</b>		<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>

Note: Top 14 export destinations accounted for over 90% of total export volume (converted to 97% technical).

Source: China Customs & CCM

## By exporter

Table 4.1-9 China's exports of atrazine by exporter, 2018

No.	Exporter	38% SC (t)	48% WP (t)	50% SC (t)	80% WP (t)	90% WDG (t)	97% Tech. (t)	Total volume (converted to 97% technical, t)	Total value (USD)
1	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
4	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
5	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
7	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
8	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
9	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
10	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
11	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
12	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
...	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
<b>Total</b>		<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>

Note: The top 14 exporters accounted for over 90% of total export volume (converted to 97% technical).

Source: China Customs & CCM

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## By Manufacturer

Table 4.1-13 China's exports of atrazine by manufacturer, 2018

No.	Manufacturer	38% SC (t)	48% WP (t)	50% SC (t)	80% WP (t)	90% WDG (t)	97% Tech. (t)	Total volume (converted to 97% technical, t)	Total value (USD)
1	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
4	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
5	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
6	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
7	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
...	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
<b>Total</b>		<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>	<b>XXX</b>

Note: Top 7 manufacturers accounted for over 95% of total export volume (converted to 97% technical).

Source: China Customs & CCM

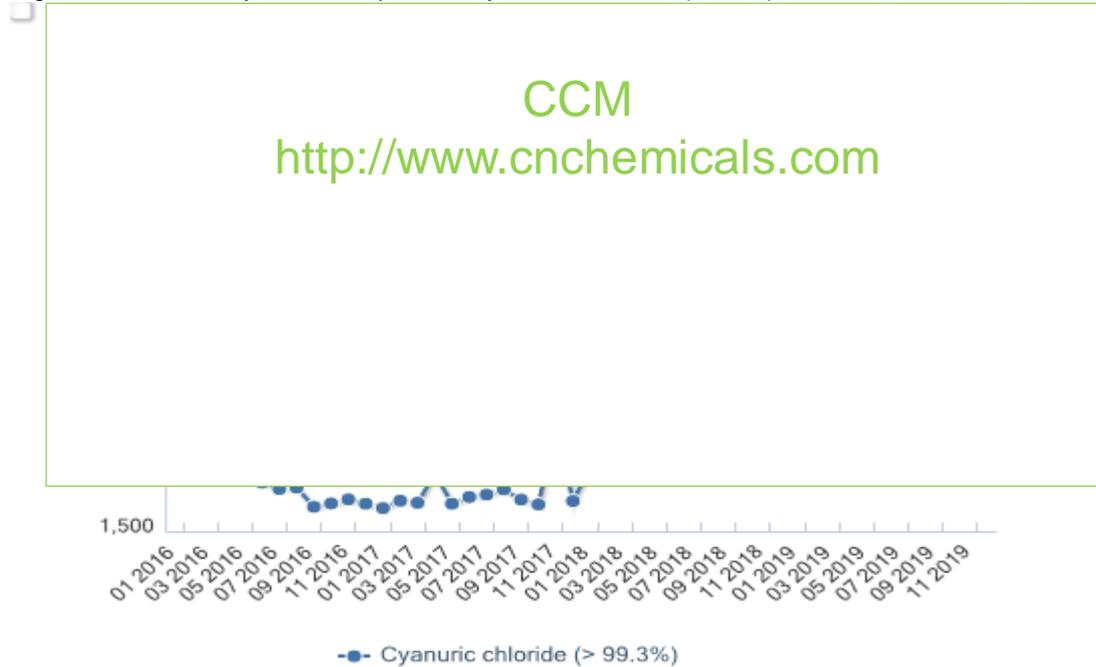
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#### 4.2 Price of atrazine in China, 2016–2019

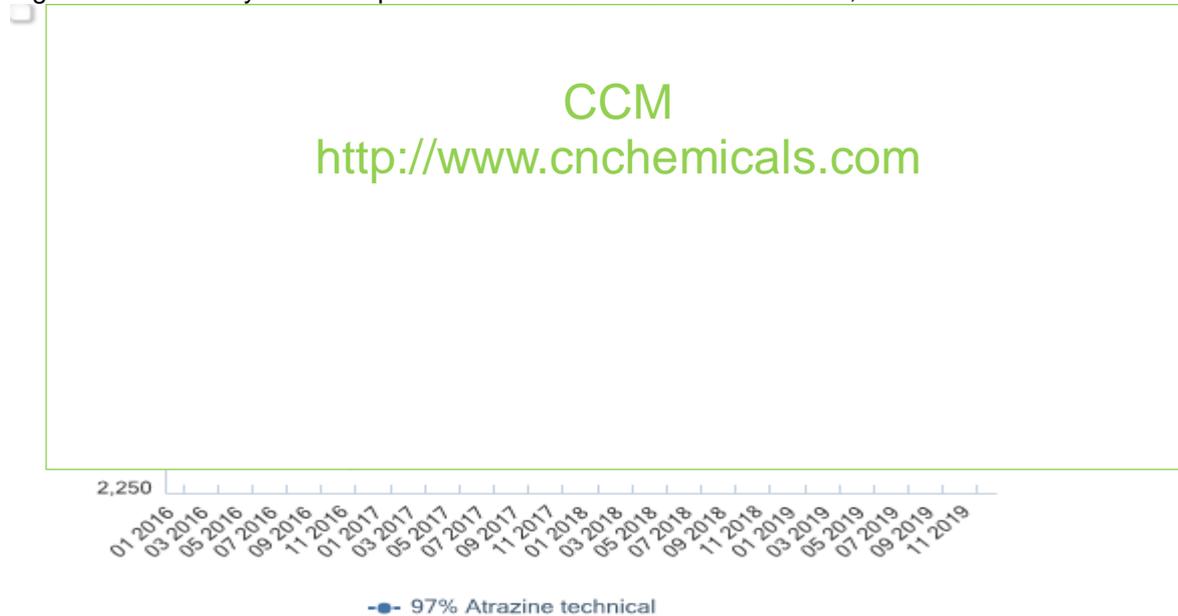
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Figure 4.2-2 Monthly ex-works price of cyanuric chloride (99.3%) in China, Jan. 2016–Dec. 2019



Source: CCM

Figure 4.2-3 Monthly ex-works price of 97% atrazine technical in China, Jan. 2016–Dec. 2019



Source: CCM

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## 5 Consumption of atrazine in China, 2016–2018

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Table 5-1 Apparent consumption of atrazine (converted to 97% technical) in China, 2016–2018, tonne

Year	Output	Export	Import	Apparent consumption
2015	XXX	XXX	XXX	XXX
2016	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX

Note: Apparent consumption volume = Output - Export + Import

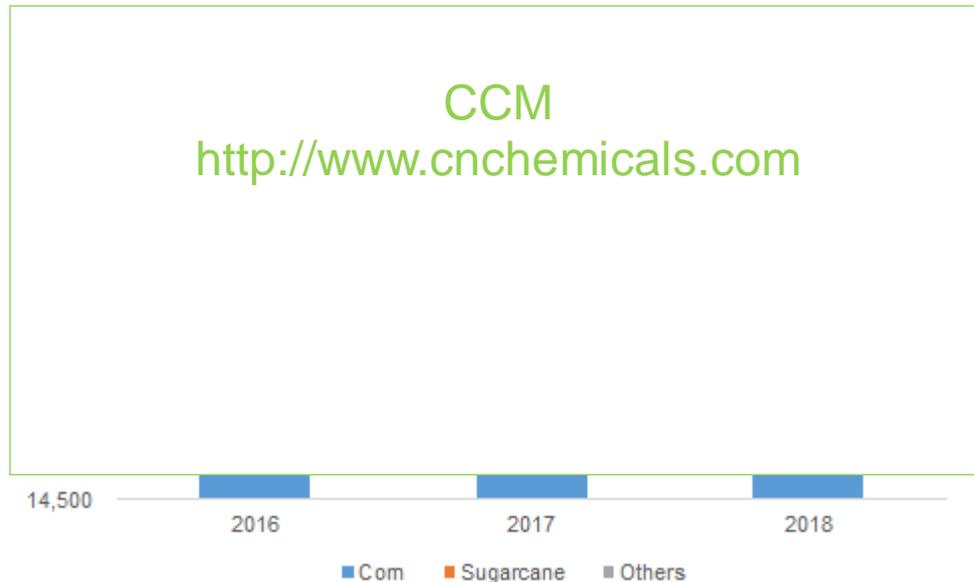
Source: CCM

Table 5-2 Actual consumption volume and market value of major atrazine formulations in China, 2016–2018

Year	Consumption volume, tonne					Market value (by ex-works price level), million USD				
	38% SC	50% SC	80% WP	90% WDG	Total	38% SC	50% SC	80% WP	90% WDG	Total
2015	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2016	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2017	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Source: CCM

Figure 5-1 Actual consumption structure of atrazine formulations (converted to 97% technical) by crop in China, 2016–2018, tonne



Source: CCM

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