

# China Pentaerythritol Market Research

**The Nineteenth Edition**

**June 2023**

**Researched & Prepared by:**

**Kcomber Inc.**

**Copyright by Kcomber Inc.**

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

## Contents

<b>Executive summary</b> .....	<b>1</b>
<b>Methodology</b> .....	<b>2</b>
<b>1 Market situation of pentaerythritol</b> .....	<b>4</b>
1.1 Pentaerythritol development in the world.....	4
1.2 Pentaerythritol development in China.....	5
1.3 Product types of pentaerythritol.....	5
<b>2 Production of pentaerythritol in China (2022–H1 2023)</b> .....	<b>7</b>
2.1 Supply of major raw materials of pentaerythritol.....	7
2.2 Price of pentaerythritol.....	10
2.3 Geographical distribution of producers.....	12
2.4 Production of pentaerythritol.....	13
2.5 Summary of Chinese manufacturers and five major producers of pentaerythritol.....	18
2.6 Energy prices in 2022.....	19
<b>3 Production technology of pentaerythritol in China</b> .....	<b>21</b>
3.1 Brief introduction and comparison of different production pathways/methods.....	21
3.2 Technology problems of pentaerythritol.....	23
3.3 Technology achievements of pentaerythritol research.....	24
<b>4 Industry analysis in China</b> .....	<b>26</b>
4.1 SWOT analysis.....	26
4.2 Competitiveness analysis of Chinese pentaerythritol industry.....	27
<b>5 Import and export analysis</b> .....	<b>29</b>
5.1 Anti-dumping duty on pentaerythritol.....	29
5.2 Import and export of pentaerythritol, 2022.....	29
<b>6 Consumption of pentaerythritol in China</b> .....	<b>34</b>
6.1 Consumption pattern.....	34
6.2 Consumption in major end-use segments.....	34
6.3 Brief introduction to each major end use segment.....	35
6.3.1 Alkyd resin.....	35
6.3.2 Polyurethane.....	37
6.3.3 Lubricant (high-grade).....	38
6.3.4 Rosin pentaerythritol ester.....	39
6.3.5 Others.....	40
6.4 Consumption of dipentaerythritol in China and main users.....	40
6.5 Consumption of tripentaerythritol in China.....	41
<b>7 Future forecast</b> .....	<b>42</b>
7.1 Key factors and driving forces for development.....	42
7.2 Outlook for pentaerythritol industry, 2023–2027.....	42
<b>8 Conclusions</b> .....	<b>44</b>
<b>9 Profile of active pentaerythritol manufacturers</b> .....	<b>45</b>
9.1 Chifeng Ruiyang Chemical Co., Ltd.....	45
9.2 Hubei Yihua Chemical Industry Co., Ltd.....	47
9.3 Puyang Pengxin Chemical Co., Ltd.....	49

9.4 Anhui Jinhe Industrial Co., Ltd. ....	50
9.5 Bazhou Shengfang United Chemical Co., Ltd.....	52
9.6 Yunnan Yuntianhua Co., Ltd. ....	53
9.7 Shijiazhuang Shuangyan Chemical Co., Ltd.....	55
9.8 Puyang Yongan Chemical Co., Ltd. ....	56
9.9 Shandong Xinzhiyuan Chemical Co., Ltd. ....	58
9.10 Ningxia Ningshun New Material Technology Co., Ltd.....	59
<b>10 Overview of pentaerythritol market in China, 2020–2024 .....</b>	<b>60</b>

## LIST OF TABLES

Table 1.2-1 Pentaerythritol development in China
Table 2.1-1 Unit consumption of major raw materials for pentaerythritol production in China
Table 2.1-2 Production, import, export and apparent consumption of methanol in China, 2018–2022
Table 2.1-3 Production, import, export and apparent consumption of formaldehyde in China, 2018–2022
Table 2.1-4 Production, import, export and apparent consumption of sodium hydroxide in China, 2018–2022
Table 2.1-5 Production, import, export and apparent consumption of sulfuric acid in China, 2018–2022
Table 2.3-1 Capacity and output of pentaerythritol producers in China, 2022
Table 2.4-1 Output of monopentaerythritol, dipentaerythritol and tripentaerythritol in China, 2018–H1 2023, tonne
Table 2.4-2 Basic information of pentaerythritol producers in China
Table 2.4-3 Capacity of monopentaerythritol producers in China, 2020–H1 2023, t/a
Table 2.4-4 Capacity and output of dipentaerythritol producers in China, 2020–H1 2023
Table 2.5-1 Capacity and share of main pentaerythritol manufacturers in China, 2020–2022
Table 2.5-2 Output and share of main pentaerythritol manufacturers in China, 2020–2022
Table 2.5-3 Methanol and acetaldehyde situation of top five manufacturers
Table 2.5-4 Average market price of ethanol at the locations of top two producers, 2022
Table 2.6-1 Energy market prices at locations of these Chinese pentaerythritol producers, 2022
Table 3.1-1 Monopentaerythritol technology source of Chinese producers, 2022
Table 3.3-1 Patents related to pentaerythritol production applied in China, Jan. 2018–May 2023
Table 4.1-1 SWOT analysis of Hubei Yihua's development in 2022
Table 4.1-2 SWOT analysis of Chifeng Ruiyang's development in 2022
Table 4.1-3 SWOT analysis of Yunnan Yuntianhua's development in 2022
Table 4.1-4 SWOT analysis of Shandong Xinzhiyuan's development in 2022
Table 5.2-1 China's imports and exports of pentaerythritol, 2018–2022
Table 5.2-2 China's import and export volume of monopentaerythritol, dipentaerythritol and tripentaerythritol, 2022, tonne
Table 5.2-3 China's exports of pentaerythritol by destination, 2022
Table 5.2-4 China's imports of pentaerythritol by origin, 2022
Table 7.2-1 Forecast on pentaerythritol development in China by output share, 2023–2027
Table 9.1-1 Capacity and output of pentaerythritol in Chifeng Ruiyang, 2018–H1 2023
Table 9.1-2 Quotation of pentaerythritol in Chifeng Ruiyang, 2018–2023, USD/t
Table 9.1-3 Chifeng Ruiyang's export volume of pentaerythritol, 2018–2022

Table 9.2-1 Capacity and output of pentaerythritol in Hubei Yihua, 2018–H1 2023  
Table 9.2-2 Quotation of pentaerythritol in Hubei Yihua, 2018–2023, USD/t  
Table 9.2-3 Hubei Yihua's export volume of pentaerythritol, 2018–2022  
Table 9.3-1 Capacity and output of pentaerythritol in Puyang Pengxin, 2018–H1 2023  
Table 9.3-2 Quotation of pentaerythritol in Puyang Pengxin, 2018–2023, USD/t  
Table 9.4-1 Capacity and output of pentaerythritol in Anhui Jinhe, 2018–H1 2023  
Table 9.4-2 Quotation of pentaerythritol in Anhui Jinhe, 2018–2023, USD/t  
Table 9.5-1 Capacity and output of pentaerythritol in Bazhou Shengfang, 2018–H1 2023  
Table 9.5-2 Quotation of pentaerythritol in Bazhou Shengfang, 2018–2023, USD/t  
Table 9.6-1 Capacity and output of pentaerythritol in Yunnan Yuntianhua, 2018–H1 2023  
Table 9.6-2 Quotation of pentaerythritol in Yunnan Yuntianhua, 2018–2023, USD/t  
Table 9.7-1 Capacity and output of pentaerythritol in Shijiazhuang Shuangyan, 2018–H1 2023  
Table 9.7-2 Quotation of pentaerythritol in Shijiazhuang Shuangyan, 2018–2023, USD/t  
Table 9.8-1 Capacity and output of pentaerythritol in Puyang Yongan, 2018–H1 2023  
Table 9.8-2 Quotation of pentaerythritol in Puyang Yongan, 2018–2023, USD/t  
Table 9.10-1 Quotation of pentaerythritol in Ningxia Ningshun, 2022–2023, USD/t  
Table 10-1 Overview of pentaerythritol market in China, 2020–2024, tonne  
Table 10-2 Overview of monopentaerythritol market in China, 2020–2024, tonne  
Table 10-3 Overview of dipentaerythritol market in China, 2020–2024, tonne

## LIST OF FIGURES

Figure 1.3-1 Product structure of pentaerythritol in China by capacity, 2022  
Figure 2.1-1 Ex-works price of 99.9% purified methanol in China, Jan. 2018–Dec. 2022  
Figure 2.1-2 Ex-works price of 37% formaldehyde in China, Jan. 2018–Dec. 2022  
Figure 2.2-1 Ex-works price of monopentaerythritol in China, 2018–2023  
Figure 2.2-2 Ex-works price of dipentaerythritol in China, 2018–2023  
Figure 2.3-1 Geographical distribution of pentaerythritol producers in China, 2022  
Figure 2.4-1 Capacity and output of pentaerythritol in China, 2018–H1 2023  
Figure 5.2-1 China's imports and exports of pentaerythritol, 2018–2022  
Figure 5.2-2 China's imports and exports of pentaerythritol by month, Jan. 2019–Dec. 2022  
Figure 5.2-3 Top ten export destinations of pentaerythritol from China by volume, 2022  
Figure 5.2-4 Top import origins of pentaerythritol to China by volume, 2022  
Figure 5.2-5 Classification of pentaerythritol exporters in China, 2018–2022  
Figure 6.1-1 Apparent consumption of pentaerythritol in China by end use segment, 2022  
Figure 6.2-1 Apparent consumption of pentaerythritol in China by end-use segment, 2018–2022  
Figure 6.3.1-1 Pentaerythritol consumption volume in alkyd resin in China, 2018–2022  
Figure 6.3.1-2 Output of coatings in China, 2018–2022  
Figure 6.3.1-3 Output and sales volume of automobile in China, 2018–2022  
Figure 6.3.1-4 China's import & export of alkyd resin (HS Code: 39075000), 2018–2022  
Figure 6.3.2-1 Pentaerythritol consumption volume in polyurethane in China, 2018–2022  
Figure 6.3.3-1 Pentaerythritol consumption volume in high-grade lubricant in China, 2018–2022  
Figure 6.3.4-1 Pentaerythritol consumption volume in rosin pentaerythritol ester in China, 2018–2022  
Figure 6.3.5-1 Pentaerythritol consumption volume in other fields in China, 2018–2022  
Figure 7.2-1 Forecast on pentaerythritol output in China, 2023–2027

## 1. Introduction

The report provides you with detailed information of the pentaerythritol industry in China from the raw materials, import and export, consumption in major end-use segments and profiles of nine major pentaerythritol manufacturers in China.

The key points of this report are listed as below:

- ✓ Pentaerythritol development in China
- ✓ Production of pentaerythritol in China
- ✓ Import and export analysis
- ✓ Consumption of pentaerythritol in China
- ✓ Future forecast
- ✓ Profiles of pentaerythritol manufacturers

## 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 compilation and analysis of the obtained information. When necessary, checks will be made with Chinese pentaerythritol suppliers regarding market information such as key producers, key end-users, production and export and so on.

### 2) Telephone interview

CCM has carried out extensive telephone interviews in order to grasp the actual market situation of pentaerythritol in China.

Interviewees cover:

- ✓ Producers
- ✓ End-users
- ✓ Traders
- ✓ Associations

### 3) Internet

CCM contacted with players in this industry through B2B websites.

Data processing and presentation

The data collected and compiled were sourced from:

- ✓ CCM's own database
- ✓ Published articles from periodicals, magazines and journals
- ✓ Statistics from governments and international institutes
- ✓ Telephone interviews with domestic suppliers, end-users, government, industrial experts
- ✓ Third-party data providers
- ✓ Information from the Internet

The data from various sources have been combined and cross-checked to make this report as precise and scientific as possible. Throughout the process, a series of internal discussions were made in order to analyze the data and have conclusions drawn.

### 3. Executive summary

Facing with increasingly stringent environmental standards, high production costs, fierce competition and other factors, China's pentaerythritol industry structure has been continuously optimized and upgraded.

#### - Production

As the world's largest producer of pentaerythritol, China had XXX t/a production capacity as of 2022. In 2022, China's pentaerythritol output was XXX tonnes, down XXX year on year, but the output of dipentaerythritol increased by XXX year on year.

In 2022, there were ten active pentaerythritol producers in China, among which, Hubei Yihua Chemical Industry Co., Ltd. (Hubei Yihua) and Chifeng Ruiyang Chemical Co., Ltd. (Chifeng Ruiyang) were two leading pentaerythritol producers in domestic market.

#### - Consumption

In China, pentaerythritol is mainly consumed in the production of alkyd resin, polyurethane, synthetic lubricant, rosin pentaerythritol ester. In 2022, pentaerythritol consumption in the key downstream sector alkyd resin was XXX tonnes. It is estimated that the demand from alkyd resin will shrink slowly in the future.

#### - Import and export

In 2022, China's import volume of pentaerythritol was XXX tonnes, up XXX year on year, while the export volume was XXX tonnes, down XXX year on year. Specifically, China exported XXX tonnes of dipentaerythritol, which is a XXX year-on-year decrease.

South Korea, Brazil and Taiwan Province were the three largest export destinations of China's pentaerythritol by volume, together accounting for XXX of the national total export volume in 2022. Sweden was the top import origin of pentaerythritol to China by volume, followed by Taiwan Province and Germany. China's import volume from Sweden accounted for XXX of the national total in 2022.

#### 4. What is in the report

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

...

### 2 Production of pentaerythritol in China

#### 2.1 Supply of major raw materials of pentaerythritol

Major raw materials for pentaerythritol production in China include methanol, formaldehyde, acetaldehyde, sodium hydroxide and sulfuric acid. These raw materials are fairly abundant in China, so the production of pentaerythritol is much more affected by its demand and price than by the supply of its raw materials.

Table 2.1-1 Unit consumption of major raw materials for pentaerythritol production in China

Raw material	Specification	Unit consumption, kg/t
Methanol	XXX	XXX
Formaldehyde	XXX	XXX
Acetaldehyde	XXX	XXX
Sodium hydroxide	XXX	XXX
Sulfuric acid	XXX	XXX

Source: CCM

...

#### 2.2 Price of pentaerythritol

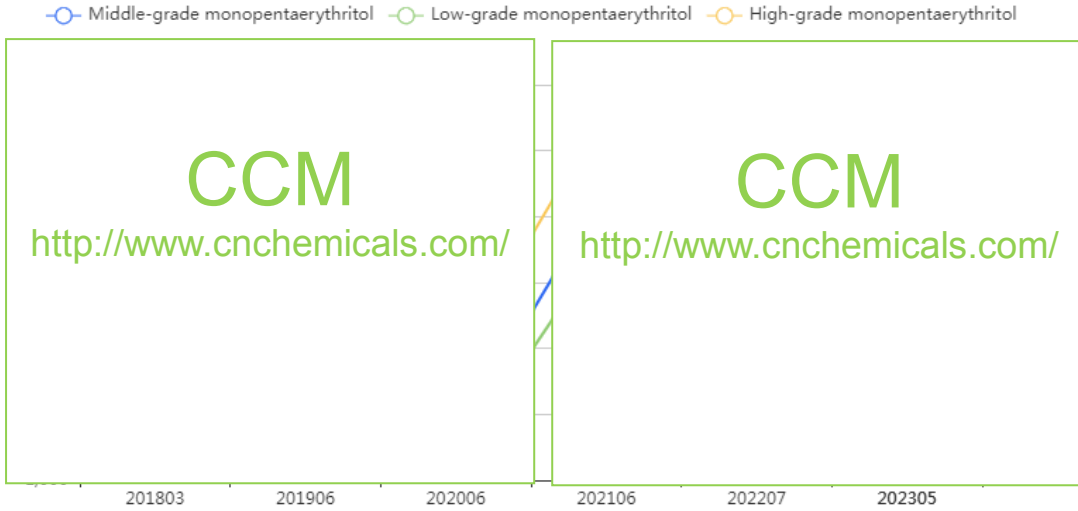
##### - Price of monopentaerythritol

In recent five years, China's ex-works prices of monopentaerythritol substantially fluctuated but basically remained under XXX.

...



Figure 2.2-1 Ex-works price of monopentaerythritol in China, 2018–2023

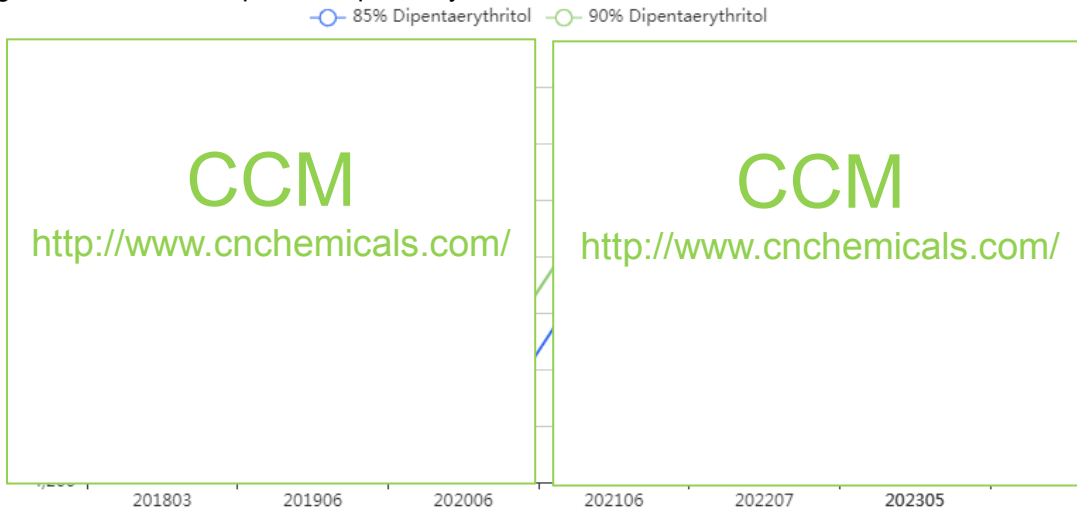


Source: CCM

### - Price of dipentaerythritol

...

Figure 2.2-2 Ex-works price of dipentaerythritol in China, 2018–2023



Source: CCM

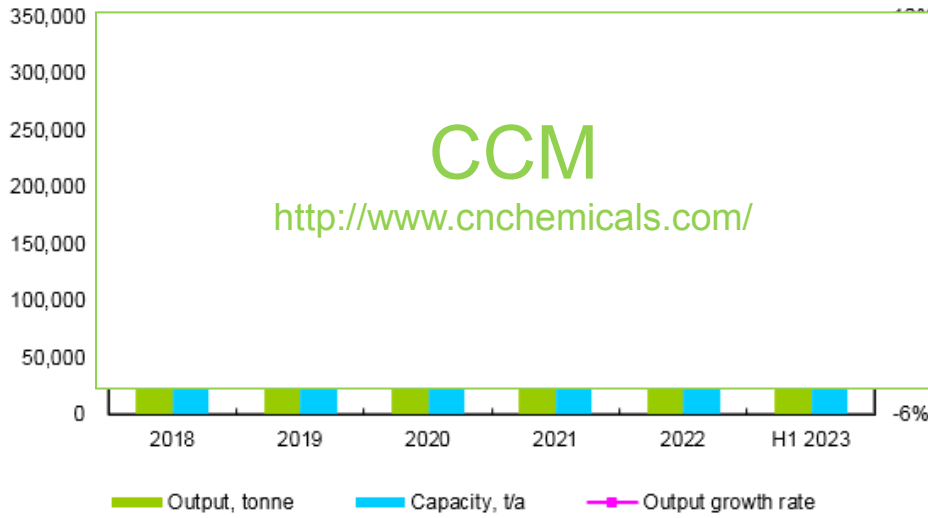
### 2.3 Geographical distribution of producers

...

## 2.4 Production of pentaerythritol

...

Figure 2.4-1 Capacity and output of pentaerythritol in China, 2018–H1 2023



Source: CCM

Table 2.4-1 Output of monopentaerythritol, dipentaerythritol and tripentaerythritol in China, 2018–H1 2023, tonne

Year	Monopentaerythritol	Dipentaerythritol	Tripentaerythritol
2018	XXX	XXX	XXX
2019	XXX	XXX	XXX
2020	XXX	XXX	XXX
2021	XXX	XXX	XXX
2022	XXX	XXX	XXX
H1 2023	XXX	XXX	XXX

Source: CCM

...

So far in H1 2023, there are XXX active dipentaerythritol producers in China, with total capacity of XXX t/a. Dipentaerythritol used to be merely a byproduct of monopentaerythritol, but has become a critical part of manufacturers' product portfolio now.

...

**Table 2.4-4 Capacity and output of dipentaerythritol producers in China, 2020–H1 2023**

No.	Producer	Capacity H1 2023, t/a	Output, tonne			
			2020	2021	2022	H1 2023
1	Chifeng Ruiyang	XXX	XXX	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX	XXX	XXX
...	XXX	XXX	XXX	XXX	XXX	XXX
<b>Total</b>		XXX	XXX	XXX	XXX	XXX

Source: CCM

...

### 3 Production technology of pentaerythritol in China

#### 3.1 Brief introduction and comparison of different production pathways/methods

##### Technology pathway of pentaerythritol

Based on different condensing agents, the preparation for pentaerythritol can be classified into XXX and XXX.

...

**Table 3.1-1 Monopentaerythritol technology source of Chinese producers, 2022**

No.	Producer	Capacity '22, t/a	Pathway	Technology source
1	Hubei Yihua	XXX	XXX	XXX
2	XXX	XXX	XXX	XXX
...	XXX	XXX	XXX	XXX

Source: CCM

...

## 4 Industry analysis in China

### 4.1 SWOT analysis

Table 4.1-1 SWOT analysis of Hubei Yihua's development in 2022

Hubei Yihua	Strength	Weakness
XXX		XXX
Opportunity	SO	WO
XXX	XXX	XXX
Threat	ST	WT
XXX	XXX	XXX

Source: CCM

...

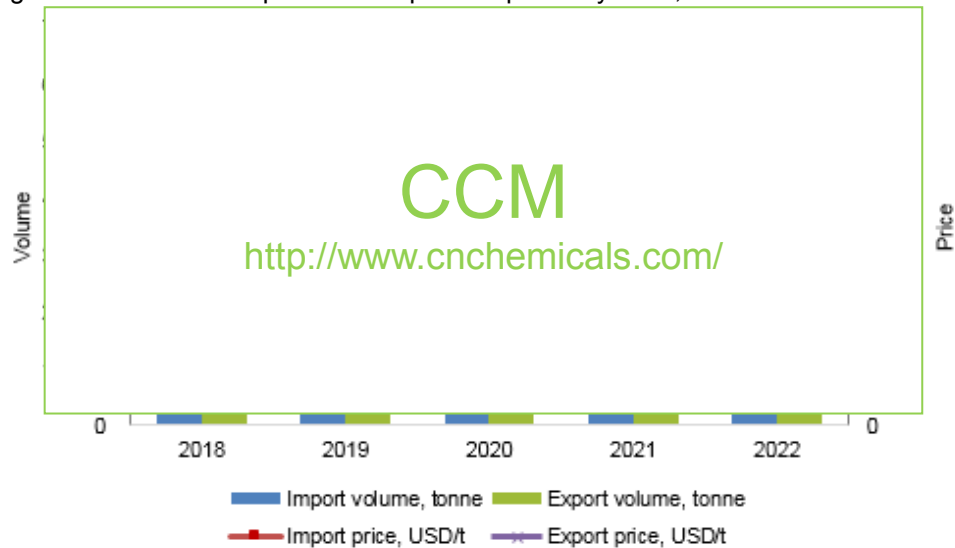
## 5 Import and export analysis

### 5.2 Import and export of pentaerythritol, 2022

China is a net exporter of pentaerythritol. In 2018–2019, annual export of pentaerythritol remained above XXX tonnes. But the export volume dropped by some XXX year on year in 2020, due to sluggish overseas demand influenced by COVID-19. However, it surged to XXX tonnes in 2021 with recovered overseas demand. In 2022, the export volume dropped to nearly XXX tonnes because of decreased overseas demand.

...

Figure 5.2-1 China's imports and exports of pentaerythritol, 2018–2022



Source: China Customs & CCM

...

Figure 5.2-3 Top ten export destinations of pentaerythritol from China by volume, 2022



Source: China Customs & CCM

## 6 Consumption of pentaerythritol in China

### 6.1 Consumption pattern

...

Figure 6.1-1 Apparent consumption of pentaerythritol in China by end use segment, 2022

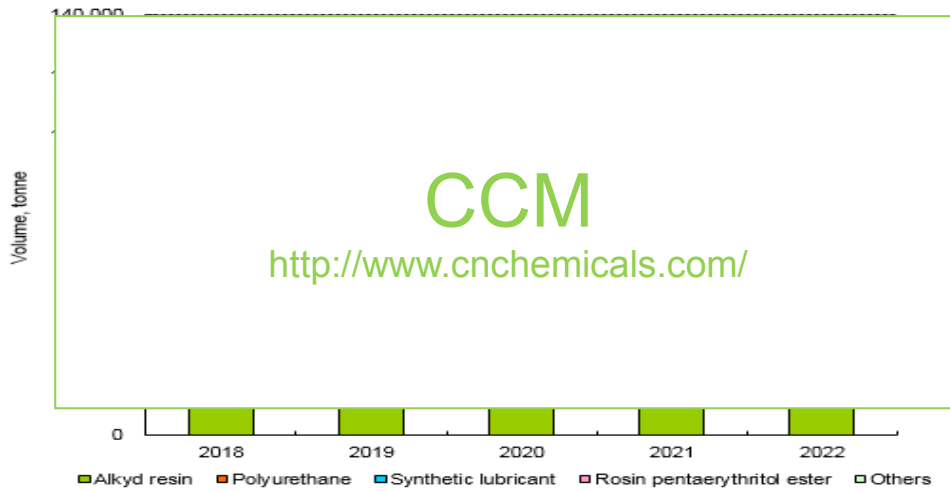


Source: CCM

## 6.2 Consumption in major end-use segments

...

Figure 6.2-1 Apparent consumption of pentaerythritol in China by end-use segment, 2018–2022



Source: CCM

...

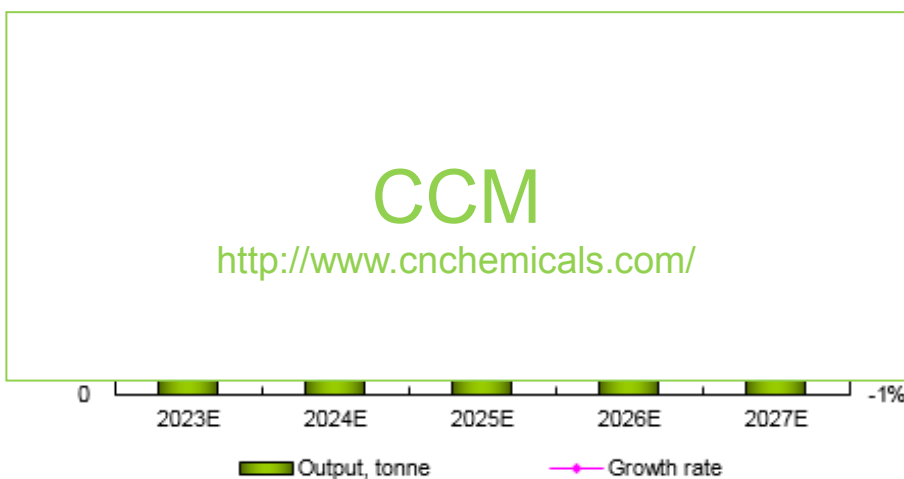
## 7 Future forecast

...

### 7.2 Outlook for pentaerythritol industry, 2023–2027

...

Figure 7.2-1 Forecast on pentaerythritol output in China, 2023–2027



Source: CCM

...

## 9 Profile of active pentaerythritol manufacturers

### 9.1 Chifeng Ruiyang Chemical Co., Ltd.

Table 9.1-1 Capacity and output of pentaerythritol in Chifeng Ruiyang, 2018–H1 2023

Year	2018	2019	2020	2021	2022	H1 2023
Capacity, t/a	XXX	XXX	XXX	XXX	XXX	XXX
Output, tonne	XXX	XXX	XXX	XXX	XXX	XXX

Source: CCM

...

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

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

Email: [econtact@cnchemicals.com](mailto:econtact@cnchemicals.com)