

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

**The Eleventh Edition**

**August 2022**

**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 Overview of glycine in China.....</b>  | <b>4</b>  |
| 1.1 Introduction of glycine in China.....   | 4         |
| 1.2 Classification of glycine .....   | 5         |
| <b>2 Market situation of glycine in China .....</b>                                   | <b>7</b>  |
| 2.1 Supply of glycine in China .....  | 7         |
| 2.1.1 Capacity and output of glycine in China .....                                   | 7         |
| 2.1.2 Key glycine producers in China.....   | 8         |
| 2.1.3 Potential production lines of glycine in China .....                            | 16        |
| 2.2 Price of glycine in China .....   | 17        |
| 2.2.1 Price of glycine in China, Jan. 2014–June 2022.....                             | 17        |
| 2.2.2 Factors influencing glycine price in China .....                                | 18        |
| 2.2.3 Price trend of glycine in China .....   | 19        |
| 2.3 Production technology of glycine .....  | 20        |
| 2.3.1 Brief introduction of the chloroacetic acid ammonolysis process .....           | 20        |
| 2.3.2 Brief introduction of the Strecker process.....                                 | 21        |
| 2.3.3 Brief introduction of the Hydantion process.....                                | 21        |
| 2.3.4 Development trend of glycine technology.....                                    | 22        |
| 2.4 Raw materials for glycine production in China, 2021 .....                         | 22        |
| 2.4.1 Urotropine.....   | 22        |
| 2.4.2 Chloroacetic acid .....   | 24        |
| 2.5 Export of glycine in China, 2013–2019 .....                                       | 26        |
| 2.6 Demand for glycine in China.....  | 30        |
| 2.6.1 Consumption of glycine in China.....  | 30        |
| 2.6.2 Major application segments of glycine in China.....                             | 31        |
| <b>3 Forecast on glycine in China, 2022–2026 .....</b>                                | <b>36</b> |
| 3.1 Influencing factors .....   | 36        |
| 3.2 Forecast on glycine supply in China .....   | 36        |
| 3.3 Forecast on glycine demand in China.....  | 37        |
| <b>4 Investment opportunities and suggestions .....</b>                               | <b>38</b> |
| <b>5 Profile of key glycine producers in China .....</b>                              | <b>39</b> |
| 5.1 Hebei Donghua Chemical Group.....   | 39        |
| 5.2 Hubei Trisun Chemical Co., Ltd. & Inner Mongolia Xingfa Technology Co., Ltd. .... | 40        |
| 5.3 Sichuan Leshan Fuhua Tongda Agro-chemical Technology Co., Ltd.....                | 41        |

|  |    |
|--|----|
| 5.4 Linyi Hongtai Chemical Co., Ltd. ....                | 42 |
| 5.5 Guang'an Chengxin Chemical Co., Ltd. ....            | 42 |
| 5.6 Hebei Huaheng Biological Technology Co., Ltd. ....   | 43 |
| 5.7 Henan HDF Chemical Co., Ltd. ....                    | 44 |
| 5.8 Hebei Chuncheng Biological Technology Co., Ltd. .... | 44 |
| 5.9 Shandong Zhenxing Chemical Industry Co., Ltd. ....   | 45 |
| 5.10 Hebei Huayang Biological Technology Co., Ltd. ....  | 46 |

## LIST OF TABLES

|   |
|---|
| Table 1.1-1 Supply and demand of glycine in China, 2014–2021  |
| Table 1.1-2 Supply and demand of glycine except tech-grade in China, 2014–2021                      |
| Table 1.2-1 Comparison on properties of Chinese glycine and overseas glycine                        |
| Table 2.1.1-1 Capacity and output of glycine in China, 2014–2021                                    |
| Table 2.1.2-1 Production for various grades of glycine in China by producers, H1 2022               |
| Table 2.1.2-2 Capacity of glycine by producers in China, 2017–2021, t/a                             |
| Table 2.1.2-3 Industrial concentration of tech-grade glycine in terms of output in China, 2017–2021 |
| Table 2.1.2-4 Output of glycine in China by producer, 2017–2021, tonne                              |
| Table 2.1.2-5 Capacity utilization of glycine producer in China, 2017–2021                          |
| Table 2.1.3-1 Potential projects of glycine in China, as of June 2022                               |
| Table 2.4.1-1 Main urotropine producers in China, 2021  |
| Table 2.4.1-2 Industrial concentration of urotropine in terms of capacity in China, 2021            |
| Table 2.4.2-1 Main chloroacetic acid producers in China, 2021                                       |
| Table 2.4.2-2 Industrial concentration of chloroacetic acid in terms of capacity in China, 2021     |
| Table 2.5-1 China's exports of glycine by destinations, 2019  |
| Table 2.5-2 China's exports of glycine by exporter, 2019  |
| Table 2.6.2.1-1 Consumption of glycine in glyphosate in China, 2014–2021, tonne                     |
| Table 2.6.2.1-2 Major glyphosate producers adopting glycine route in China, 2021                    |
| Table 2.6.2.1-3 Main glycine producers and consumers in glyphosate industry in China, 2021          |
| Table 2.6.2.2-1 Main end-use segments of glycine in China's food industry                           |
| Table 2.6.2.4-1 Main end-use segments of glycine in China's pharmaceutical industry                 |
| Table 3.1-1 Major factors influencing China's glycine industry                                      |
| Table 4-1 Strengths and weaknesses of Chinese glycine industry                                      |
| Table 5.1-1 Capacity and output of glycine in Hebei Donghua, 2017–2021                              |
| Table 5.2-1 Capacity and output of glycine in Hubei Trisun, 2017–2021                               |
| Table 5.3-1 Capacity and output of glycine in Fuhua Tongda, 2017–2021                               |
| Table 5.4-1 Capacity and output of glycine in Linyi Hongtai, 2017–2021                              |
| Table 5.5-1 Capacity and output of glycine in Guang'an Chengxin, 2017–2021                          |
| Table 5.6-1 Capacity and output of glycine in Hebei Huaheng, 2017–2021                              |
| Table 5.7-1 Capacity and output of glycine in Henan HDF, 2017–2021                                  |
| Table 5.8-1 Capacity and output of glycine in Hebei Chuncheng, 2017–2021                            |
| Table 5.9-1 Capacity and output of glycine in Shandong Zhenxing, 2017–2021                          |
| Table 5.10-1 Capacity and output of glycine in Hebei Huayang, 2017–2021                             |

## LIST OF FIGURES

|   |
|---|
| Figure 2.1.2-1 Distribution of major glycine producers by capacity of tech-grade glycine in China, 2021 |
| Figure 2.1.2-2 Distribution of major glycine producers by company number of tech-grade glycine in       |

China, 2021

Figure 2.2.1-1 Monthly ex-works price of tech-grade glycine in China, Jan. 2014–June 2022

Figure 2.2.1-2 Annual ex-works price of tech-grade glycine in China, 2017–2021

Figure 2.2.2-1 Monthly ex-works prices of tech-grade glycine and glyphosate technical in China, Jan. 2014–June 2022

Figure 2.3.1-1 Flowchart of chloroacetic acid ammonolysis process for glycine production

Figure 2.3.2-1 Flowchart of the Strecker process for glycine production

Figure 2.3.3-1 Flowchart of the Hydantion process for glycine production

Figure 2.5-1 China's export volume of various grades glycine, 2013–2019

Figure 2.5-2 Export prices of various grades of glycine in China, Jan. 2013–Dec. 2019

Figure 2.6.1-1 Consumption of tech-grade glycine in China, 2014–2021

Figure 2.6.1-2 Consumption of various grades glycine in China, 2014–2021

Figure 2.6.1-3 Consumption pattern of glycine in China by application field, 2021

Figure 2.6.2.1-1 Capacity and output of glyphosate technical in China, 2014–2021

Figure 2.6.2.1-2 Output structure of glyphosate technical in China by production route, 2014–2021

Figure 3.2-1 Predicted capacity and output of tech-grade glycine in China, 2022–2026

Figure 3.3-1 Predicted market demand for glycine in China by grade, 2022–2026

## 1. Introduction

Objectives of this research are to present an in-depth and comprehensive view of Chinese glycine market. CCM's goal of this research is to determine the current status of Chinese glycine industry and assess its growth potential from 2022 to 2026.

Having accumulated profound understanding on industrial chains of glyphosate, the most important downstream industry of glycine, CCM will present an insight into glycine market and future trends, together with its industry structure, including upstream products, applications, etc. A review of glycine's competitiveness is also provided in the report.

All of the four grades of glycine, including tech-grade, food-grade, pharmaceutical-grade and feed-grade, will be investigated in this research.

This report will present industry insights from the following aspects.

- Supply (capacity, output, inventory)
- Key players (active producers, potential producers)
- Technology
- Raw materials
- Export
- Demand by volume
- Trade
- Price

## 2. Approach for this report

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

### - Telephone Interviews

The interviewees include:

- Producers
- Traders
- Researchers
- Raw material suppliers
- End users

### - Data processing and presentation

The data collected and compiled were sourced from:

- Published articles from Chinese periodicals, magazines, journals, and third-party databases
- Government statistics & Customs statistics
- Telephone interviews with Chinese producers, traders, end users, etc.
- Comments from industrial experts
- CCM's database
- Professional database from other sources
- Information from the Internet

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 were held in order to analyse the data and draw conclusions from it.

### - Information sources

Sources of desk research are various, including published magazines, journals, government statistics, industry statistics, customs statistics, association seminars as well as information on the internet. A lot of work has been done to compile and analyse the information obtained. When necessary, checks were made with Chinese market players regarding market information such as production, demand, consumption, competition, etc.

### 3. Executive summary

China is one of the major production countries of glycine in the world, and four grades of glycine are produced here, namely tech-grade, food-grade, feed-grade and pharmaceutical-grade.

Currently, almost all Chinese glycine producers adopt chloroacetic acid ammonolysis process, but Guang'an Chengxin (formerly Guang'an Chengyang) adopts the Hydantion process, whose glycine production lines were built up in Nov. 2015.

Both the capacity and output of glycine in China kept increasing during 2014–2021, along with steady development of glyphosate (glycine's key end use segment) in China. Output of the tech-, feed- and food-grade glycine increased in this period in general.

National capacity of tech-grade glycine increased from XXX t/a in 2014 to XXX t/a in 2021, and its output increased from less than XXX tonnes to XXX tonnes in this period. However, China's glycine industry has often witnessed overcapacity in the past few years, and this situation will not change much in the coming few years.

China's glycine production is highly concentrated, while its upstream industries including both chloroacetic acid and urotropine are not. Hebei Donghua is the top glycine producer in China and even in Asia. In 2021, its tech-grade capacity accounted for nearly XXX% of the national total.

Some glyphosate producers have built up glycine production lines for their glyphosate technical production.

- Hubei Trisun's XXX t/a glycine: firstly supplied to itself, and the rest sold to others
- Fuhua Tongda's XXX t/a glycine: mainly consumed by itself
- Inner Mongolia Xingfa's XXX t/a glycine: consumed by itself
- Henan HDF's XXX t/a glycine: mainly consumed by itself

The price of glycine is closely linked with that of glyphosate (high positive correlation), because of glycine's limited consumption fields and simple production technology. In 2021, glycine was in short supply due to a number of factors, including COVID-19, domestic power rationing, soaring raw material cost, and reduced glyphosate supply overseas under hurricane attack. At the end of 2021, the price of glycine hit a ten-year record high at USDXXX /t. However, the price fell rapidly in H1 2022, going down to USDXXX /t by June.

China's total export volume of glycine increased on the whole in 2014–2021, rising from XXX tonnes in 2014 to an estimated XXX tonnes in 2021. Food-grade glycine is the main product in China's glycine export, with its export volume accounting for XXX%–XXX% of the total glycine export volume during 2019–2021. China started to export tech-grade glycine in 2018, with XXX tonnes, accounting for XXX% of total export volume that year. In 2021, the export volume of tech-grade glycine is expected to be XXX tonnes, XXX% to the whole.

Quite different from the overseas consumption structure, the largest end-use segment of glycine in China is glyphosate. The output of glycine route glyphosate reached XXX tonnes in 2021, consuming about XXX tonnes of glycine in total, which means around XXX% of tech-grade glycine was applied in the domestic glyphosate industry.

The consumption of food-, feed- and pharmaceutical-grade glycine all increased from 2014 to 2021, with their CAGR in this period at XXX%, XXX% and XXX% respectively.



#### 4. What is in the report?

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

...

### 1 Overview of glycine in China

#### 1.1 Introduction of glycine in China

...

Table 1.1-1 Supply and demand of glycine in China, 2014–2021

| Year | Capacity, t/a |        | Output, tonne |        | Export, tonne | Apparent consumption, tonne |        |
|------|---------------|--------|---------------|--------|---------------|-----------------------------|--------|
|      | Tech-grade    | Others | Tech-grade    | Others |               | Tech-grade                  | Others |
| 2014 | XXX           | XXX    | XXX           | XXX    | XXX           | XXX                         | XXX    |
| 2015 | XXX           | XXX    | XXX           | XXX    | XXX           | XXX                         | XXX    |
| 2016 | XXX           | XXX    | XXX           | XXX    | XXX           | XXX                         | XXX    |
| 2017 | XXX           | XXX    | XXX           | XXX    | XXX           | XXX                         | XXX    |
| 2018 | XXX           | XXX    | XXX           | XXX    | XXX           | XXX                         | XXX    |
| 2019 | XXX           | XXX    | XXX           | XXX    | XXX           | XXX                         | XXX    |
| 2020 | XXX           | XXX    | XXX           | XXX    | XXX           | XXX                         | XXX    |
| 2021 | XXX           | XXX    | XXX           | XXX    | XXX           | XXX                         | XXX    |

Note: 1. The year-end inventory of tech-grade glycine is taken into account, while that of others is not.

2. Others include feed-grade, food-grade and pharmaceutical-grade glycine.

Source: China Customs & CCM

...

## 2 Market situation of glycine in China

### 2.1 Supply of glycine in China

#### 2.1.1 Capacity and output of glycine in China

...

Table 2.1.1-1 Capacity and output of glycine in China, 2014–2021

| Year | Capacity, t/a |        | Output, tonne |            |            |                      |
|------|---------------|--------|---------------|------------|------------|----------------------|
|      | Tech-grade    | Others | Tech-grade    | Food-grade | Feed-grade | Pharmaceutical-grade |
| 2014 | XXX           | XXX    | XXX           | XXX        | XXX        | XXX                  |
| 2015 | XXX           | XXX    | XXX           | XXX        | XXX        | XXX                  |
| 2016 | XXX           | XXX    | XXX           | XXX        | XXX        | XXX                  |
| 2017 | XXX           | XXX    | XXX           | XXX        | XXX        | XXX                  |
| 2018 | XXX           | XXX    | XXX           | XXX        | XXX        | XXX                  |
| 2019 | XXX           | XXX    | XXX           | XXX        | XXX        | XXX                  |
| 2020 | XXX           | XXX    | XXX           | XXX        | XXX        | XXX                  |
| 2021 | XXX           | XXX    | XXX           | XXX        | XXX        | XXX                  |

Note: "Others" includes food-grade, feed-grade and pharmaceutical-grade glycine.

Source: CCM

#### 2.1.2 Key glycine producers in China

Table 2.1.2-1 Production for various grades of glycine in China by producers, H1 2022

| No. | Producer                     | Status, H1 2022 | Production situation |            |            |                      |
|-----|------------------------------|-----------------|----------------------|------------|------------|----------------------|
|     |                              |                 | Tech-grade           | Food-grade | Feed-grade | Pharmaceutical-grade |
| 1   | Hebei Donghua Chemical Group | Active          | √                    | √          | √          | √                    |
| 2   | XXX                          | Active          | XXX                  | XXX        | XXX        | XXX                  |
| 3   | XXX                          | Active          | XXX                  | XXX        | XXX        | XXX                  |
| 4   | XXX                          | Active          | XXX                  | XXX        | XXX        | XXX                  |
| ... | ....                         | ....            | ..                   | ...        | ...        | ...                  |

Note: √: produce, X: not produce

Source: CCM

Table 2.1.2-2 Capacity of glycine by producers in China, 2017–2021, t/a

| No. | Producer      | 2021       |        | 2020       |        | 2019       |        | 2018       |        | 2017       |        |
|-----|---------------|------------|--------|------------|--------|------------|--------|------------|--------|------------|--------|
|     |               | Tech-grade | Others | Tech-grade | Others | Tech-grade | Others | Tech-grade | Others | Tech-grade | Others |
| 1   | Hebei Donghua | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    |
| 2   | XXX           | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    |
| 3   | XXX           | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    |
| 4   | XXX           | XXX        | 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        | XXX    | XXX        | XXX    |

Note: "Others" includes food-grade, feed-grade and pharmaceutical-grade glycine.

Source: CCM

...

### - Distribution and market share of glycine producers in China

Figure 2.1.2-1 Distribution of major glycine producers by capacity of tech-grade glycine in China, 2021



Source: CCM

Table 2.1.2-3 Industrial concentration of tech-grade glycine in terms of output in China, 2017–2021

| Item                          | Value |      |      |      |      |
|-------------------------------|-------|------|------|------|------|
|                               | 2021  | 2020 | 2019 | 2018 | 2017 |
| Top one concentration ratio   | XXX   | XXX  | XXX  | XXX  | XXX  |
| Top three concentration ratio | XXX   | XXX  | XXX  | XXX  | XXX  |
| Top five concentration ratio  | XXX   | XXX  | XXX  | XXX  | XXX  |
| HHI                           | XXX   | XXX  | XXX  | XXX  | XXX  |

Source: CCM

**- Output of glycine by producer in China**

...

Table 2.1.2-4 Output of glycine in China by producer, 2017–2021, tonne

| No. | Producer      | 2021       |        | 2020       |        | 2019       |        | 2018       |        | 2017       |        |
|-----|---------------|------------|--------|------------|--------|------------|--------|------------|--------|------------|--------|
|     |               | Tech-grade | Others | Tech-grade | Others | Tech-grade | Others | Tech-grade | Others | Tech-grade | Others |
| 1   | Hebei Donghua | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    |
| 2   | XXX           | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    |
| 3   | XXX           | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    | XXX        | XXX    |
| 4   | XXX           | XXX        | 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        | XXX    | XXX        | XXX    |

Note: "Others" includes food-grade, feed-grade and pharmaceutical-grade glycine.  
Source: CCM

**2.1.3 Potential production lines of glycine in China**

...

Table 2.1.3-1 Potential projects of glycine in China, as of June 2022

| Classification | Company | Designed capacity, t/a                                | Planned commissioning date (estimated) | Details |
|----------------|---------|---|--|---------|
| Expansion      | XXX     | XXX tech-grade  | XXX                                    | XXX     |
|                | XXX     | 2 <sup>nd</sup> phase: XXX t/a glycine                | XXX                                    | XXX     |
|                | XXX     | 2 <sup>nd</sup> phase: XXX tech-grade, XXX food-grade | XXX                                    | XXX     |
|                | XXX     | XXX tech-grade  | XXX                                    | XXX     |
|                | XXX     | XXX tech-grade  | XXX                                    | XXX     |
| New            | XXX     | XXX tech-grade  | XXX                                    | XXX     |
|                | XXX     | XXX tech-grade  | XXX                                    | XXX     |
|                | XXX     | XXX tech-grade  | XXX                                    | XXX     |
|                | XXX     | XXX food-grade  | XXX                                    | XXX     |

Note: Projects with \* have not seen progress for a long time and may have been shelved.  
Source: CCM

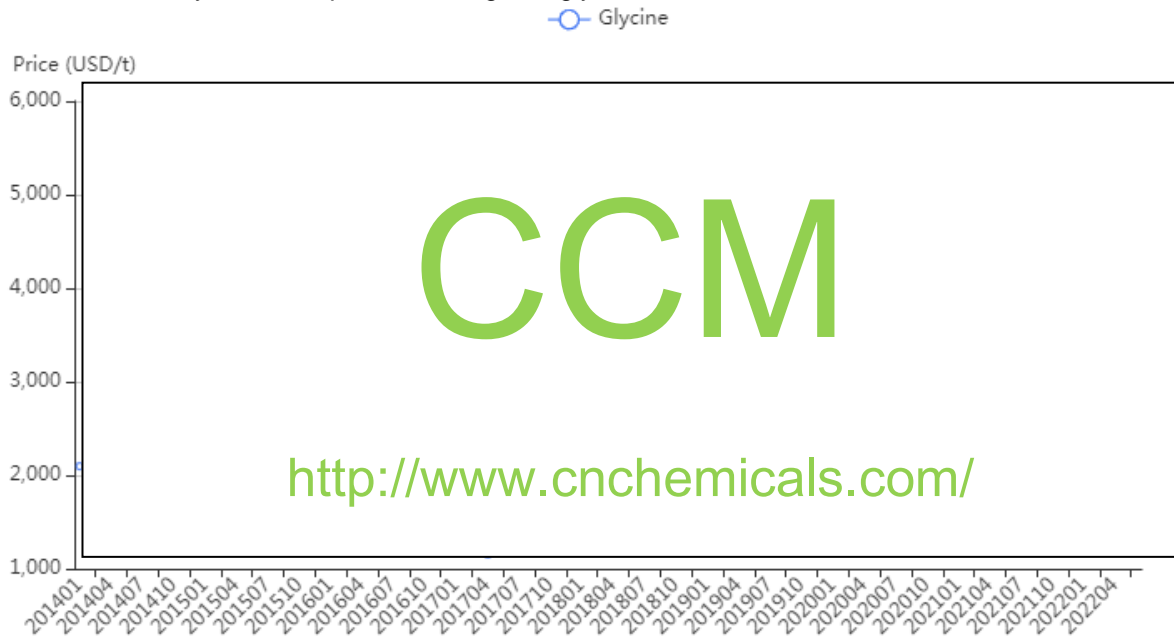
...

## 2.2 Price of glycine in China

### 2.2.1 Price of glycine in China, Jan. 2014–June 2022

...

Figure 2.2.1-1 Monthly ex-works price of tech-grade glycine in China, Jan. 2014–June 2022

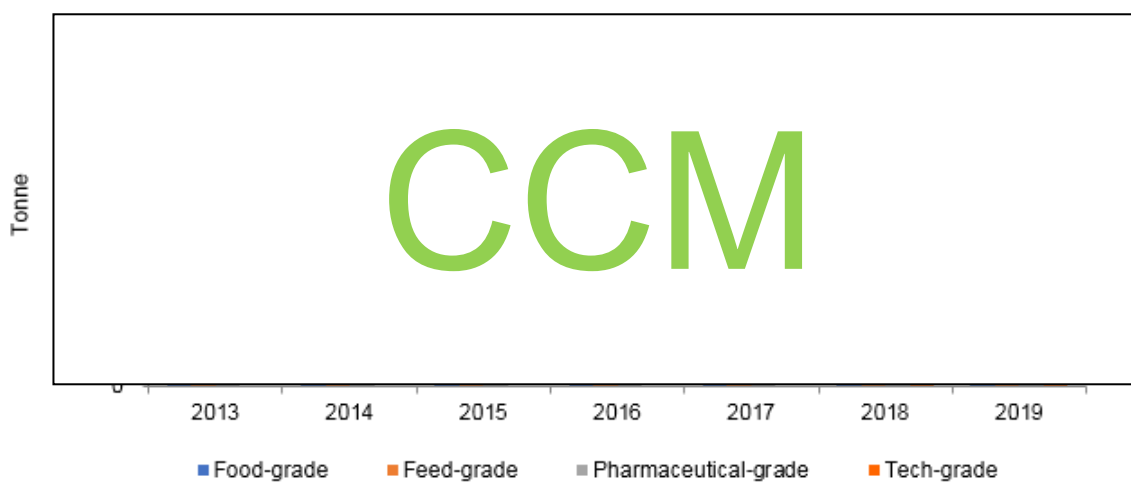


Source: CCM

## 2.5 Export of glycine in China, 2013–2019

### - Export volume of glycine in China

Figure 2.5-1 China's export volume of various grades glycine, 2013–2019



Source: China Customs & CCM

## - Export destination of glycine in China

...

Table 2.5-1 China's exports of glycine by destinations, 2019

| No.          | Country/region  | Tech-grade    |              | Food-grade    |              | Feed-grade    |              | Pharmaceutical-grade |              |
|--------------|-----------------|---------------|--------------|---------------|--------------|---------------|--------------|----------------------|--------------|
|              |                 | Volume, tonne | Price, USD/t | Volume, tonne | Price, USD/t | Volume, tonne | Price, USD/t | Volume, tonne        | Price, USD/t |
| 1            | The Netherlands | 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          |
| Others       |                 | XXX           | XXX          | XXX           | XXX          | XXX           | XXX          | XXX                  | XXX          |
| <b>Total</b> |                 | XXX           | XXX          | XXX           | XXX          | XXX           | XXX          | XXX                  | XXX          |

Note: The data has been rounded.

Source: China Customs & CCM

## - Exporter of glycine in China

...

Table 2.5-2 China's exports of glycine by exporter, 2019

| No.          | Exporter | Tech-grade    |              | Food-grade    |              | Feed-grade    |              | Pharmaceutical-grade |              |
|--------------|----------|---------------|--------------|---------------|--------------|---------------|--------------|----------------------|--------------|
|              |          | Volume, tonne | Price, USD/t | Volume, tonne | Price, USD/t | Volume, tonne | Price, USD/t | Volume, tonne        | Price, USD/t |
| 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          |
| ...          | XXX *    | XXX           | XXX          | XXX           | XXX          | XXX           | XXX          | XXX                  | XXX          |
| Others       |          | XXX           | XXX          | XXX           | XXX          | XXX           | XXX          | XXX                  | XXX          |
| <b>Total</b> |          | XXX           | XXX          | XXX           | XXX          | XXX           | XXX          | XXX                  | XXX          |

Note: 1.\* Glycine producers or their related companies

2. The data has been rounded.

Source: China Customs & CCM

## 2.6 Demand for glycine in China

### 2.6.1 Consumption of glycine in China

Figure 2.6.1-2 Consumption of various grades glycine in China, 2014–2021



Source: CCM

### 2.6.2 Major application segments of glycine in China

#### 2.6.2.1 Glyphosate

Figure 2.6.2.1-1 Capacity and output of glyphosate technical in China, 2014–2021



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)