

# **IDAN Survey in China**

**The Fifth Edition**

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**Researched & Prepared by:**

**Kcomber Inc.**

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## 1. Introduction

*IDAN Survey in China* is CCM's report on iminodiacetonitrile (IDAN), an important fine chemical intermediate and especially the main raw material of PMIDA & glyphosate, finished in Feb. 2021. This intelligent report attaches importance to the following parts:

- Production of IDAN (capacity, output and major manufacturers) by volume in China;
- Application (consumption and application fields) of IDAN in China;
- Price of IDAN in China and influencing factors;
- Glyphosate production by IDAN route in China;
- Influencing factor to glyphosate production by IDAN route in China.

## **2. Methodology**

### **- Desk research**

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 been done to compile and analyse the information obtained. When necessary, checks would be made with Chinese market players regarding market information such as production, demand and consumption.

### **- Telephone interview**

The interviewees cover:

- IDAN manufacturers
- Experts
- Traders
- Local governments
- Researchers
- Industrial associations

CCM carried out extensive telephone interviews with almost all IDAN manufacturers. From those active manufacturers and manufacturers that have suspended or stopped production, CCM sourced and verified the detailed production and market information as well as industry insiders' comments on IDAN.

In a bid to better understand the application of IDAN in China, CCM also made contact with domestic traders and distributors as well.

### **- Data processing and presentation**

The data collected and compiled are sourced from:

- Published articles from Chinese periodicals, magazines, journals and third-party databases
- Government statistics & customs statistics
- Telephone interviews with Chinese manufacturers, traders
- Comments from industrial experts
- CCM's innovative database
- 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 have been held in order to analyse the data and draw conclusions from it.

### **- Glossary**

IDAN: Iminodiacetonitrile

IDA: Iminodiacetic acid

DEA: Diethanolamine

EA: Ethanolamine

PMIDA: N-(Phosphonomethyl) iminodiacetic acid

HCN: Hydrocyanic acid

**- Unit**

- Tonne: equals to metric ton in this report

- /t: per tonne

- t/a: tonne/annual, tonne per year

- USD: US dollar, currency unit in the US

- RMB: currency unit in China, also named yuan

### 3. Executive summary

Iminodiacetonitrile (IDAN) is one of the important intermediates of PMIDA and glyphosate technical.

China started commercial production of IDAN in 2005. At that time, the output was only several hundred tonnes because of limited market size. Since 2006, IDAN has been gradually known by more and more domestic glyphosate technical producers. They made attempts to use it as raw material, and the experiment has made progress. Since then, the domestic IDAN industry has been growing rapidly.

With rapidly increasing demand for glyphosate, the production of IDAN has been expanding largely in recent years. In 2012–2014, the national output of IDAN has kept increasing because of the increasing output of PMIDA & glyphosate technical (made via the IDAN route) during the same period. However, the IDAN output decreased after that, because the downstream manufacturers tended to purchase PMIDA instead of IDAN to reduce waste discharge and environmental protection pressure, and a number of small and medium-sized glyphosate technical producers quitted the market. In 2020, there were XXX major producers of IDAN in China with a total capacity and output of XXX t/a and XXX tonnes, respectively. At present, the supply of IDAN is abundant for glyphosate technical production in China.

Influenced by price of glyphosate technical and cost of raw materials, the price of IDAN in China showed an increasing trend before May 2013. Afterwards, it decreased to the lowest level of USDXXX/t in Oct. 2016. 2017 and 2018 saw large price rises and it hit a record high of USDXXX/t in Feb. 2019. However, it experienced a huge decline again after that. In 2020, the ex-works price of 92% IDAN in China fluctuated around USDXXX/t.

#### 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 IDAN production in China

#### 1.1 Routes to produce IDAN

According to hydrocyanic acid (HCN) sources, routes for IDAN production can be classified into:

- **Natural gas route:** using natural gas as raw material, adopting Andrussov technology to produce HCN.
- **HCN (from acrylonitrile production) route:** using crude HCN generated in acrylonitrile production as raw material to produce HCN.
- **Light oil cracking way:** using light oil and liquid ammonia as raw materials to produce HCN.

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Figure 1.1-1 Production process of IDAN by natural gas route in China



Source: CCM

#### 1.2 Capacity and output of IDAN

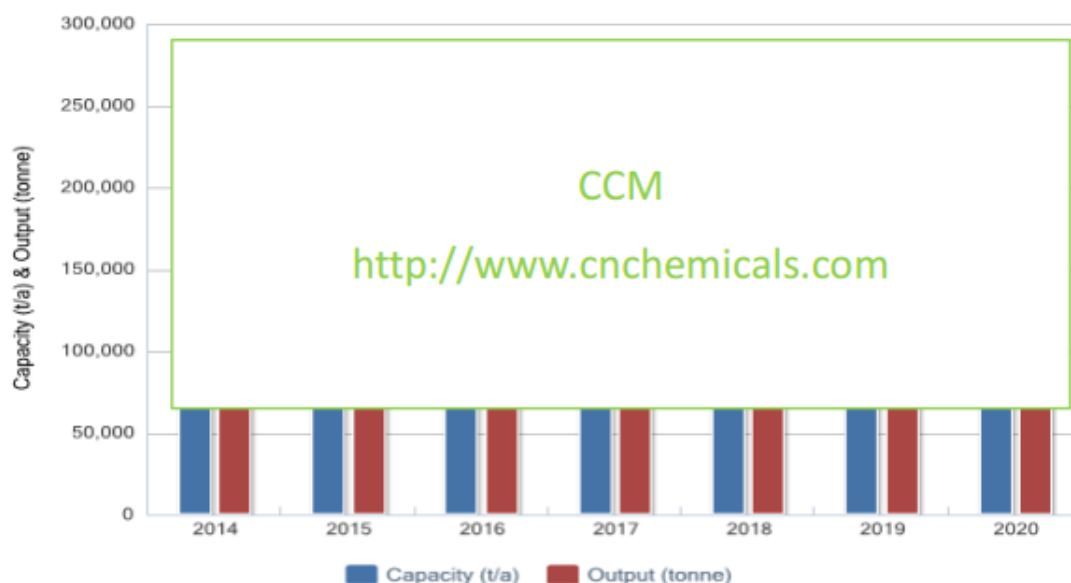
The industrial production of IDAN didn't start until 2005 when a new production route of glyphosate, the IDAN route, was developed. Driven by the growing glyphosate market, the IDAN capacity in China increased rapidly from XXX t/a in 2005 to a record high of XXX t/a in 2014. But as some small and medium-sized glyphosate technical producers quitted the market



due to increasing pressure on environmental protection, IDAN was in overcapacity in China. Up to 2020, China's capacity of IDAN has declined to XXX t/a.

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Figure 1.2-1 Capacity and output of IDAN in China, 2014–2020



Source: CCM

### 1.3 Major producers of IDAN

Producers of IDAN in China are mainly concentrated in Southwest China, where has an easy access to domestic natural gas resources.

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Table 1.3-1 Capacity and output of major producers of IDAN in China, 2014–2020

No.	Company	Abbreviation	Status, 2020	Capacity, 2020, t/a	Output, tonne						
					2014	2015	2016	2017	2018	2019	2020
1	Leshan Hebang Agricultural Science and Technology Co., Ltd.	Leshan Hebang	Active	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
2	XXXXXXXXXXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
3	XXXXXXXXXXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX

Source: CCM

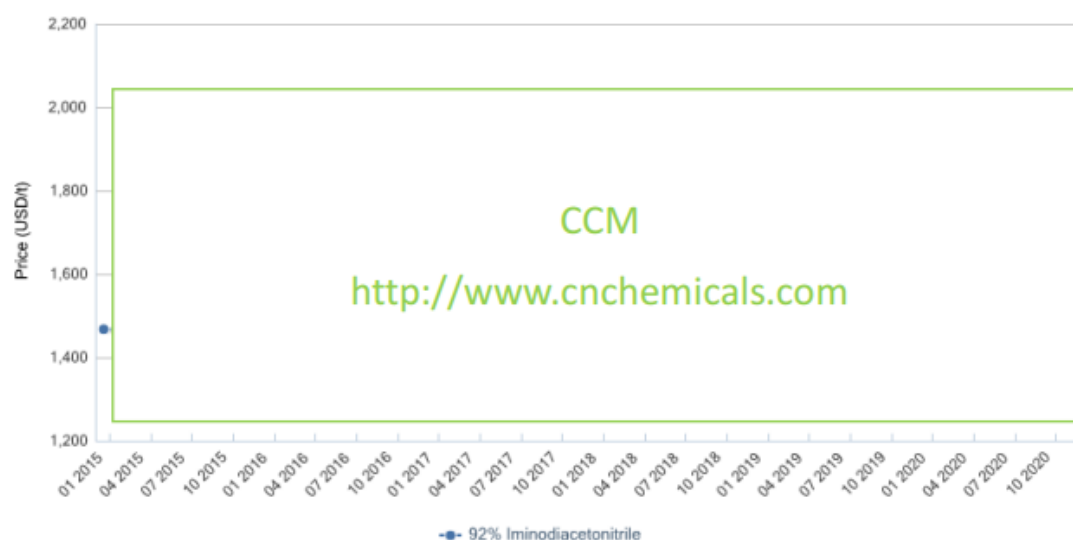
## 2 IDAN price in China

The price of IDAN in China is mainly affected by the prices of glyphosate technical and raw materials.

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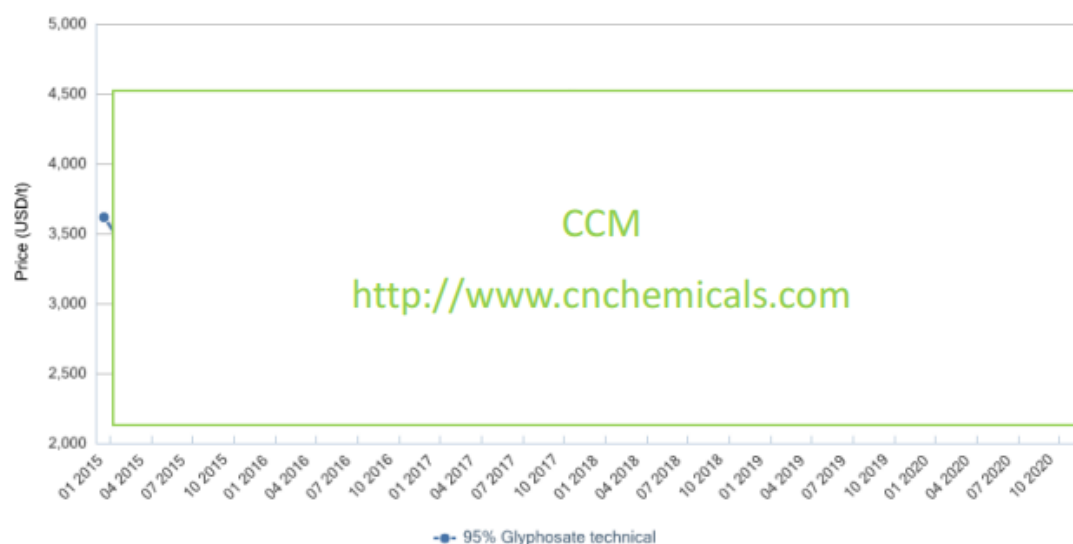


Figure 2-2 Monthly ex-works price of 92% IDAN in China, Jan. 2015–Dec. 2020



Source: CCM

Figure 2-4 Monthly ex-works price of 95% glyphosate technical in China, Jan. 2015–Dec. 2020



Source: CCM

### 3 IDAN consumption in China

#### 3.1 Glyphosate production

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Table 3.1-1 Capacity of key glyphosate technical producers by IDAN route in China, 2020

No.	Company	Capacity, t/a
1	Jiangsu Good Harvest-Weien Agrochemical Co., Ltd.	XXX
2	XXXXXXXXXXXX	XXX
3	XXXXXXXXXXXX	XXX
4	XXXXXXXXXXXX	XXX
5	XXXXXXXXXXXX	XXX
6	XXXXXXXXXXXX	XXX
7	XXXXXXXXXXXX	XXX
Total		XXX

Source: CCM

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#### 4 Forecast on IDAN market in China in 2021–2025

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Figure 4-1 Forecast on IDAN output in China, 2021–2025



Source: CCM

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## **5 Company profiles of top three IDAN producers in China**

### **5.1 Chongqing Unisplendour Chemical Co., Ltd.**

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#### **- Company background**

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