

# **IDAN Survey in China**

**The Fourth Edition**

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**Researched & Prepared by:**

**Kcomber Inc.**

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## Contents

<b>Executive summary</b> .....	1
<b>Introduction and methodology</b> .....	2
<b>1 IDAN production in China</b> .....	4
1.1 Routes to produce IDAN .....	4
1.2 Capacity and output of IDAN.....	4
1.3 Major producers of IDAN.....	5
<b>2 IDAN price in China</b> .....	6
<b>3 IDAN consumption in China</b> .....	8
3.1 Glyphosate production.....	8
3.2 Influencing factor analysis .....	11
<b>4 Forecast on IDAN market in China in 2019-2023</b> .....	14
<b>5 Company profiles of top three IDAN producers in China</b> .....	16
5.1 Chongqing Unisplendour Chemical Co., Ltd.....	16
5.2 Leshan Hebang Agricultural Technology Co., Ltd. ....	17
5.3 Guang'an Chengxin Chemical Co., Ltd.....	18

### LIST OF TABLES

Table 1.3-1 Capacity and output of major producers of IDAN in China, 2012–2018

Table 3.1-1 Capacity of key glyphosate technical producers by IDAN route in China, H1 2018

### LIST OF FIGURES

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

Figure 1.2-1 Capacity and output of IDAN in China, 2012–2018

Figure 2-1 Monthly ex-works price of 92% IDAN in China, Jan. 2013–Dec. 2018

Figure 2-2 Monthly ex-works price of 95% glyphosate technical in China, Jan. 2013–Dec. 2018

Figure 3.1-1 Brief pathway of IDAN route for glyphosate technical production in China

Figure 3.1-2 Flowchart of IDAN route for glyphosate technical production in China

Figure 3.2-1 Monthly ex-works price of 98% glycine in China, Jan. 2014–Dec. 2018

Figure 3.2-2 Monthly market price of DEA in China, Jan. 2014–Dec. 2018

Figure 3.2-3 Output and apparent consumption volume of natural gas in China, 2012–2017

Figure 3.2-4 Quarterly ex-works price of natural gas in China, Q1 2014–Q4 2018

Figure 4-1 Forecast on IDAN output in China, 2019–2023

## 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 Jan. 2019. 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, 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 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 analyze the data and draw conclusions from it.

#### **- Glossary**

IDAN: Iminodiacetonitrile

IDA: Iminodiacetic acid

DEA: Diethanolamine

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 in 2015–2018, because the downstream manufacturers tended to purchase PMIDA instead of IDAN to reduce waste discharge and environmental protection pressure. In 2018, there were three major producers of IDAN in China with a total capacity and output of \*\*\* t/a and \*\*\* 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 when it peaked at USD\*\*\* /t. Afterwards, it decreased to USD\*\*\* /t in Oct. 2016. After Oct. 2016, the price began to show an upward trend as a whole and kept at a relatively \*\*\* level in 2018.

#### 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



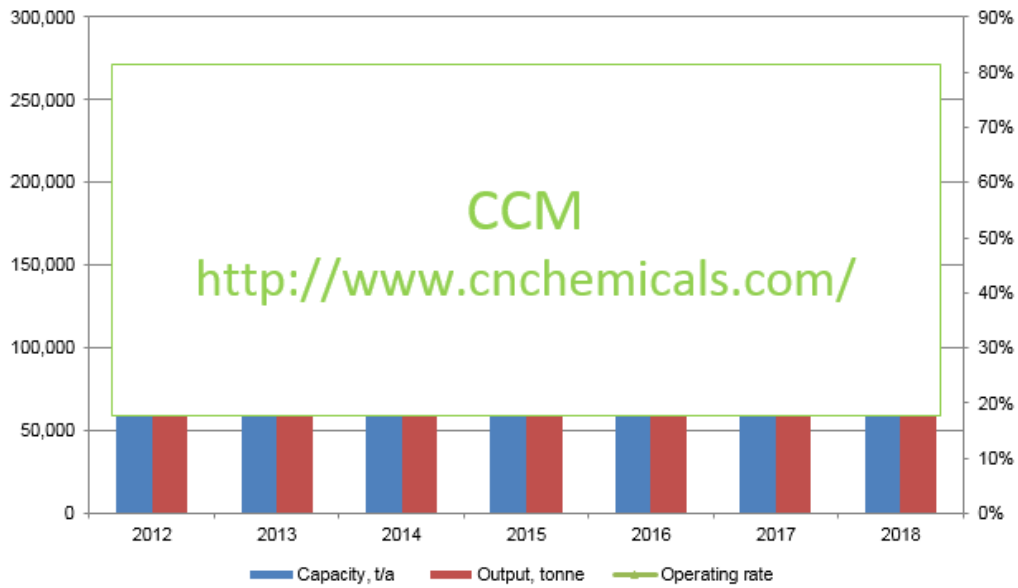
Source: CCM

#### 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 \*\*\* t/a in 2005 to \*\*\* t/a in 2018. China has an \*\*\* supply of IDAN.

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Figure 1.2-1 Capacity and output of IDAN in China, 2012–2018



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, 2012–2018

No.	Company	Abbreviation	Status, 2018	Capacity, 2018, t/a	Output, tonne							
					2012	2013	2014	2015	2016	2017	2018	
1	Chongqing Unisplendour Chemical Co., Ltd.	Chongqing Unisplendour	Active	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
2	XXXXXXXXXXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
3	XXXXXXXXXXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX

Source: CCM

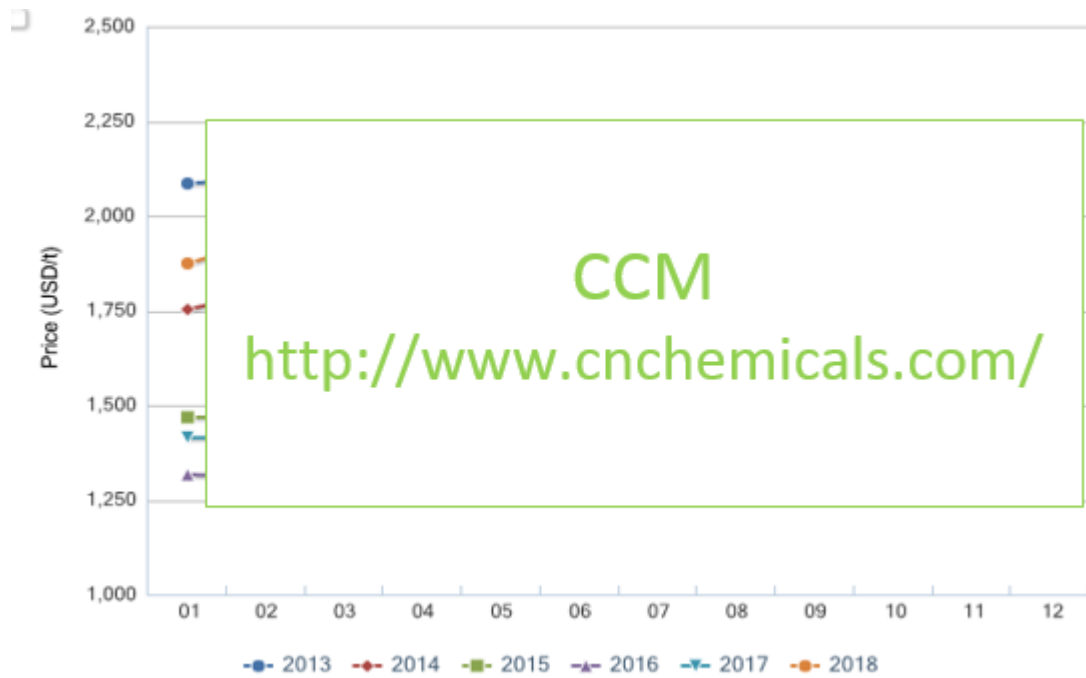
### 2 IDAN price in China

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

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Figure 2-1 Monthly ex-works price of 92% IDAN in China, Jan. 2013–Dec. 2018



Source: CCM

Figure 2-2 Monthly ex-works price of 95% glyphosate technical in China, Jan. 2013–Dec. 2018



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, H1 2018

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
8	XXXXXXXXXXXX	XXX
9	XXXXXXXXXXXX	XXX
10	XXXXXXXXXXXX	XXX
<b>Total</b>		XXX

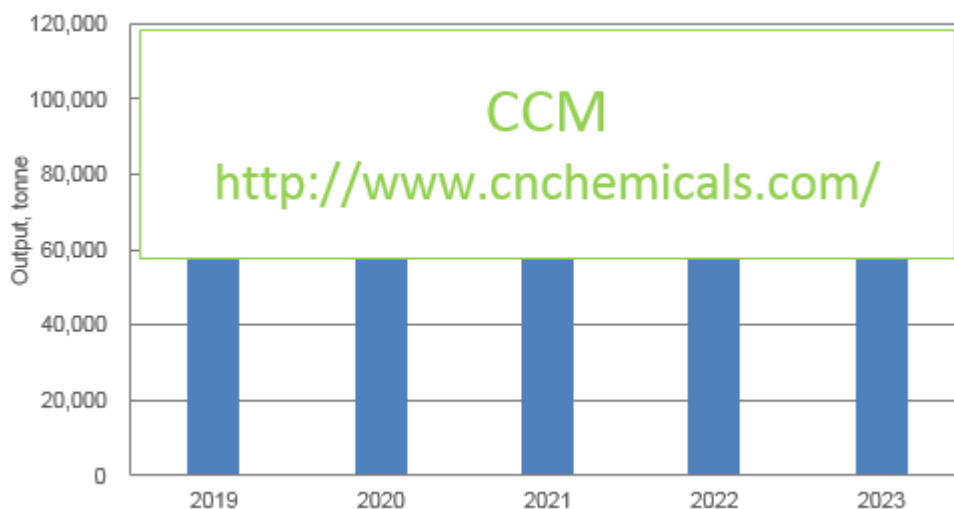
Source: CCM

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#### 4 Forecast on IDAN market in China in 2019–2023

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Figure 4-1 Forecast on IDAN output in China, 2019–2023



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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