

# **New Registrations of Pesticide Technical in China in 2022**

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## **Executive summary**

According to ICAMA, China recorded 879 registrations of pesticide technical in 2022, of which 77 were new registrations and 802 were renewal ones.

There were five kinds of newly registered pesticide technical in 2022, with herbicide ones accounting for over 40% of the total new registrations. Among three levels of toxicity of the newly registered pesticide TC/TKs, the low-toxic ones took up a share of 81%. All new registrations had been applied by 52 Chinese registrants located in seven regions in China. In addition, 42 kinds of active ingredients were involved in the 77 new registrations of pesticide technical, with 8 registered for the first time.

Since 2020, MARA has issued a number of policies and stipulated that approvals would be given to pesticide registrations for export only. In 2022, 29 new export-only TC&TK products were approved in China, including 3 changed from full registration.

## **Methodology**

The report is drafted by diverse methods as follows:

### **- Desk research**

The sources of desk research are various, including published magazines, journals, government websites and statistics, industrial statistics, association seminars as well as information from the Internet. A lot of work has gone into the compilation and analysis of the obtained information.

### **- Internet**

CCM visited government websites and contacted with players in the domestic agrochemical industry through B2B websites and software.

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

The data collected and compiled are sourced from:

- √ CCM's database
- √ Published articles in periodicals, magazines, journals and third-party databases
- √ Statistics from governments and international institutes
- √ Telephone interviews with domestic producers, joint ventures, service suppliers and governments
- √ Third-party data providers
- √ Comments from industrial experts
- √ Professional databases from other sources
- √ 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 held in order to analyse the data and draw the conclusions.

## 1 Registration overview of China's pesticide technical in 2022

### 1.1 New registration status of pesticide technical

According to the Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs of the People's Republic of China (ICAMA), China recorded 77 new registrations of pesticide technical—68 new technical material (TC) and 9 new technical concentrate (TK), accounting for 8% and 33% of the total under the same type, respectively—and 802 renewals in 2022. Among the renewed registrations, three paraquat TK products were changed as new export-only ones due to China's ban on domestic selling of paraquat since 8 June, 2020.

Since March 2017, China has abolished the temporary registration system, and legalised that the pesticide products manufactured in China or exported to China should be subject to China's national registration system. This practice has posed significant drops in the number of temporary registrations within their terms of validity. In 2022 alone, 51 new full registrations of pesticide technical were approved in China, up 50% and 155% compared with the respective number in 2021 and 2020.

Table 1.1-1 China's new & renewal registrations of pesticide technical, 2022

Registration	TC	TK	Total
New	68	9	77
Renewal	784	18	802
<b>Total</b>	<b>852</b>	<b>27</b>	<b>879</b>

Note: Two renewed TK certificates (EX20220243 and EX20220244) were added.

Source: Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs (ICAMA) & CCM

Table 1.1-2 Registration (full, temporary or export-only) of pesticide technical in China, 2017–2022

Year	Full registration	Temporary registration	Export-only	Total
2017	422	12	0	434
2018	376	1	0	377
2019	26	0	0	26
2020	20	0	1	21
2021	34	0	20	54
2022	51	0	29	80

Note: The export-only registrations of TC/TK in 2022 include three paraquat TKs (i.e., EX20220145, EX20220243 and EX20220244) changed from full registrations.

Source: ICAMA & CCM

### 1.2 New registrations by category

In 2022, there were five kinds of newly registered pesticide technical, namely herbicide, insecticide, fungicide, plant growth regulator and acaricide. Among these, the number of new herbicide entries was 31, accounting for over 40% of the total 77 new registrations in 2022.

Table 1.2-1 New registrations of pesticide technical in China by category, 2022

No.	Category	TC	TK	Number of registration
1	Herbicide	22	9	31
2	Fungicide	22	0	22
3	Plant growth regulator	12	0	12
4	Insecticide	11	0	11
5	Acaricide	1	0	1
<b>Total</b>		<b>68</b>	<b>9</b>	<b>77</b>

Source: ICAMA & CCM

### 1.3 New registrations by toxicity

The newly registered pesticides in 2022 came at three toxic levels, namely low, mild and moderate. Among the 77 new registrations, 62 were low-toxic, accounting for 81% of the total.

Table 1.3-1 Number of new registrations of pesticide technical in China by toxicity level, 2022

Toxicity	TC	TK	Number of registration
Low	53	9	62
Mild	9	0	9
Moderate	6	0	6
<b>Total</b>	<b>68</b>	<b>9</b>	<b>77</b>

Source: ICAMA & CCM

### 1.4 New registrations by geographic region

In 2022, 77 new pesticide technical registrations had been applied by registrants located in seven regions in China. Thereinto, herbicide was the most popular category amid Chinese producers. The top 3 regions accounting for the majority of the new registrations (=87%) were East China (51), Southwest China (9) and Northwest China (7).

Table 1.4-1 Geographic regions of registrants holding new registrations of pesticide technical in China, 2022

No.	Region	Export-only	Full registration	Total
1	East China	19	32	51
2	Southwest	2	7	9
3	Northwest	1	6	7
4	Central China	2	2	4
5	North China	1	2	3
6	Northeast	0	2	2
7	South China	1	0	1
<b>Total</b>		<b>26</b>	<b>51</b>	<b>77</b>

Source: ICAMA & CCM

Table 1.4-2 New pesticide technical registrations in China by category, 2022

No.	Region	Herbicide	Insecticide	Fungicide	Acaricide	Plant growth regulator	Total
1	East China	24	8	14	1	4	51
2	Southwest	6	1	0	0	2	9
3	Northwest	1	1	3	0	2	7
4	Central China	0	1	1	0	2	4
5	North China	0	0	1	0	2	3
6	Northeast	0	0	2	0	0	2
7	South China	0	0	1	0	0	1
<b>Total</b>		<b>31</b>	<b>11</b>	<b>22</b>	<b>1</b>	<b>12</b>	<b>77</b>

Source: ICAMA & CCM

### 1.5 Registrants of new registrations

In 2022, there were 52 Chinese registrants obtaining new permits of pesticide technical. These pesticide enterprises are distributed in 16 provinces/autonomous regions/municipalities around Chinese mainland. Among them, 15 enterprises were located in Jiangsu Province (East), 9 in Shandong Province (East), 5 in Jiangxi Province (East), 4 in Sichuan Province (Southwest) and 3 in Hebei Province (North).

In China, no new TC/TK registration was held by foreign registrants.

It is worth mentioning that Lier Chemical Co., Ltd. (Lier Chemical) held four new TC/TK registrations, and its subsidiary Guang'an Lier Chemical Co., Ltd. got three new ones, which means Lier Chemical holds total seven new registrations in 2022, accounting for 9% of the total. Shandong Weifang Rainbow Chemical Co., Ltd. took five new TC/TK permits, followed by CAC Nantong Chemical Co., Ltd., Jiangsu Agrochem Laboratory Co., Ltd. and Shandong United Pesticide Industry Co., Ltd., each of which owned 3 new ones.



Table 1.5-1 Chinese registrants of new pesticide technical registrations by province, 2022

No.	Region	Number of registration	Number of active ingredient	Number of registrant
1	Jiangsu Province	23	13	15
2	Shandong Province	18	14	9
3	Sichuan Province	9	8	4
4	Jiangxi Province	6	6	5
5	Hebei Province	3	3	3
6	Inner Mongolia Autonomous Region	3	3	2
7	Shaanxi Province	3	3	2
8	Hunan Province	2	2	2
9	Shanghai City	2	2	2
10	Zhejiang Province	2	2	2
11	Guangdong Province	1	1	1
12	Henan Province	1	1	1
13	Hubei Province	1	1	1
14	Jilin Province	1	1	1
15	Liaoning Province	1	1	1
16	Ningxia Hui Autonomous Region	1	1	1
<b>Total</b>		<b>77</b>	<b>62</b>	<b>52</b>

Note: Since certain active ingredients could be applied by Chinese registrants in different provinces, the sum of counts in this chart might not equal the total.

Source: ICAMA & CCM

Table 1.5-2 Registrants of newly registered pesticide technical in China, 2022

No.	Registrant (EN)	Registrant (CN)	Number of registration
1	Shandong Weifang Rainbow Chemical Co., Ltd.	山东潍坊润丰化工股份有限公司	5
2	Lier Chemical Co., Ltd.	利尔化学股份有限公司	4
3	CAC Nantong Chemical Co., Ltd.	南通泰禾化工股份有限公司	3
4	Guang'an Lier Chemical Co., Ltd.	广安利尔化学有限公司	3
5	Jiangsu Agrochem Laboratory Co., Ltd.	江苏省农用激素工程技术研究中心有限公司	3
6	Shandong United Pesticide Industry Co., Ltd.	山东省联合农药工业有限公司	3
7	Inner Mongolia Miraculous Crop Science Co., Ltd.	内蒙古灵圣作物科技有限公司	2

No.	Registrant (EN)	Registrant (CN)	Number of registration
8	Jiangsu Flag Chemical Industry Co., Ltd.	江苏中旗科技股份有限公司	2
9	Jiangsu Youjia Plant Protection Co., Ltd.	江苏优嘉植物保护有限公司	2
10	Jiangsu Yunfan Chemical Co., Ltd.	江苏云帆化工有限公司	2
11	Jiangxi New Reyphon Biochemical Co., Ltd.	江西新瑞丰生化股份有限公司	2
12	Shaanxi Meibang Pharmaceutical Group Co., Ltd.	陕西美邦药业集团股份有限公司	2
13	Shandong Aokun Crop Science Co., Ltd.	山东奥坤作物科学股份有限公司	2
14	Shandong Luba Chemical Co., Ltd.	山东绿霸化工股份有限公司	2
15	Weifang Xinlu Chemical Co., Ltd.	潍坊新绿化工有限公司	2
16	Xiangshui Zhongshan Bioscience Co., Ltd.	响水中山生物科技有限公司	2
17	ABA Chemicals (Nantong) Limited	南通雅本化学有限公司	1
18	Yingde Greatchem Chemical Co., Ltd.	广东广康生化科技股份有限公司	1
19	Sinochem Hebei Fusheng Co., Ltd.	河北中化滏恒股份有限公司	1
20	Hebei Xingbai Agricultural Technology Co., Ltd.	河北兴柏农业科技股份有限公司	1
21	Hebei Zhongtian Bangzheng Biological Technology Co., Ltd.	河北中天邦正生物科技股份有限公司	1
22	Huai'an Glory Chemical Co., Ltd.	淮安国瑞化工有限公司	1
23	Hubei Wojia Biological Agriculture Co., Ltd.	湖北沃佳生物农业有限公司	1
24	Hunan Bide Biochemical Technology Co., Ltd.	湖南比德生化科技股份有限公司	1
25	Hunan Haili Chemical Industry Co., Ltd.	湖南海利化工股份有限公司	1
26	Jiangsu Baozong & Baoda Pharmachem Co., Ltd.	江苏宝众宝达药业股份有限公司	1
27	Jiangsu Changqing Agrochemical Co., Ltd.	江苏长青农化股份有限公司	1
28	Jiangsu Good Harvest-Weien Agrochemical Co., Ltd.	江苏好收成韦恩农化股份有限公司	1
29	Jiangsu Institute of Ecomones Co., Ltd.	江苏省激素研究所股份有限公司	1
30	Jiangsu Kuaida Agrochemical Co., Ltd.	江苏快达农化股份有限公司	1
31	Wuxi Jiabao Pesticide & Pharmaceutical Co., Ltd.	江苏省无锡市稼宝药业有限公司	1
32	Jiangxi Heyi Chemical Co., Ltd.	江西禾益化工股份有限公司	1
33	Jiangxi Tianyu Chemical Co., Ltd.	江西天宇化工有限公司	1
34	Jiangxi Xinbang Biochemical Co., Ltd.	江西鑫邦生化有限公司	1

No.	Registrant (EN)	Registrant (CN)	Number of registration
35	Jilin Lesi Pharmaceutical Co., Ltd.	吉林乐斯药业有限公司	1
36	Liaoning Zhonghui Biotechnology Co., Ltd.	辽宁众辉生物科技有限公司	1
37	Nanjing Red Sun Co., Ltd.	南京红太阳股份有限公司	1
38	Ningxia Yifan Biotechnology Co., Ltd.	宁夏一帆生物科技有限公司	1
39	Pingyuan Best Chemical Co., Ltd.	平原倍斯特化工有限公司	1
40	Qilu Pharmaceutical (Inner Mongolia) Co., Ltd.	齐鲁制药（内蒙古）有限公司	1
41	Shaanxi Hengrun Chemical Industry Co., Ltd.	陕西恒润化学工业有限公司	1
42	Shandong Eshung Industrial Co., Ltd.	山东亿盛实业股份有限公司	1
43	Shandong Jingbo Agrochemicals Technology Co., Ltd.	山东京博农化科技股份有限公司	1
44	Youdao Chemistry (Shandong) Co., Ltd.	山东友道化学有限公司	1
45	Shanghai High Victory Fine Chemical Co., Ltd.	上海赫腾精细化工有限公司	1
46	Shanghai Lvze Biotechnology Co., Ltd.	上海绿泽生物科技有限责任公司	1
47	Shangyu Nutrichem Co., Ltd.	上虞颖泰精细化工有限公司	1
48	Sichuan Lanyue Science and Technology Co., Ltd.	四川省兰月科技有限公司	1
49	Sichuan Run'er Technology Co., Ltd.	四川润尔科技有限公司	1
50	Synwill Yichang Chemical Co., Ltd.	顺毅宜昌化工有限公司	1
51	Zhejiang Wynca Chemical Industrial Group Co., Ltd.	浙江新安化工集团股份有限公司	1
52	Zhengzhou Xianlida Chemical Co., Ltd.	郑州先利达化工有限公司	1
<b>Total</b>			<b>77</b>

Source: ICAMA & CCM

## -Details of major Chinese registrants of new registrations

Table 1.5-3 New registrations of pesticide technical held by Lier Chemical Co., Ltd., 2022

No.	Name of registrant	Registration code	Active ingredient	Content	Toxicity	Category
1	Lier Chemical Co., Ltd.	PD20220089	L-glufosinate	90% TC	Moderate	Herbicide
2		PD20220234	Chlorantraniliprole	96.50% TC	Low	Insecticide
3		PD20220420	L-glufosinate	45.70% TK	Low	Herbicide
4		EX20220009	Triclopyr-butotyl	95% TC	Low	Herbicide
5	Guang'an Lier Chemical Co., Ltd.	PD20220294	Aminopyralid	95% TC	Mild	Herbicide
6		PD20220074	Glufosinate-ammonium	50% TK	Low	Herbicide
7		EX20220074	Flumioxazin	98% TC	Low	Herbicide

Source: ICAMA & CCM

Table 1.5-4 New registrations of pesticide technical held by Shandong Weifang Rainbow Chemical Co., Ltd., 2022

No.	Name of registrant	Registration Code	Active ingredient	Content	Toxicity	Category
1	Shandong Weifang Rainbow Chemical Co., Ltd.	EX20220068	Bicyclopyrone	96% TC	Mild	Herbicide
2		EX20220032	Fosamine	54% TK	Low	Herbicide
3		EX20220033	Spiromesifen	98% TC	Low	Insecticide/Acaricide
4		EX20220047	Spiroxamine	96.50% TC	Moderate	Fungicide
5		EX20220028	Tembotrione	96% TC	Low	Herbicide

Source: ICAMA & CCM

## 1.6 Active ingredients of new registrations

In the period of 1 Jan. to 31 Dec., 2022, there were 42 active ingredients in the 77 new registrations of pesticide technical applied for approval in China, with the number of prothioconazole (13), chlorantraniliprole (7), L-glufosinate (5) and glufosinate-ammonium (4) topping the list. Among them, certain active ingredients were registered for export only, including those in herbicides such as 97% asulam TC, 97.4% asulam TC, 98% flumioxazin TC, and in fungicides like 94% difenoconazole TC and 95% difenoconazole TC.

Table 1.6-1 Active ingredients of the new pesticide technical registrations in China, 2022

No.	Active ingredient	Number of registration
1	Prothioconazole	13
2	Chlorantraniliprole	7
3	L-glufosinate	5
4	Glufosinate-ammonium	4

No.	Active ingredient	Number of registration
5	28-Epihomobrassinolide	2
6	28-Homobrassinolide	2
7	4-Indol-3-ylbutyric acid	2
8	Asulam	2
9	Clethodim	2
10	Difenoconazole	2
11	Flumioxazin	2
12	Spiroxamine	2
13	Tembotrione	2
14	Topramezone	2
15	1,4-Dimethylnaphthalene	1
16	14-Hydroxylated brassinosteroid	1
17	24-Epibrassinolide	1
18	24-Epibrassinolide & 22,23,24-Epibrassinolide	1
19	Aminopyralid	1
20	Bentazone	1
21	Bicyclopyrone	1
22	Butafenacil	1
23	Carbetamide	1
24	Carbosulfan	1
25	Clomazone	1
26	Cyclanilide	1
27	Cyflumetofen	1
28	Diafenthiuron	1
29	Etridiazole	1
30	Fosamine	1
31	Gibberellic acid	1
32	Imidacloprid	1

No.	Active ingredient	Number of registration
33	Metconazole	1
34	Metominostrobin	1
35	Prosulfuron	1
36	Spiromesifen	1
37	Sulfentrazone	1
38	Tebuconazole	1
39	Tebuthiuron	1
40	Triasulfuron	1
41	Triclopyr-butotyl	1
42	Trifloxystrobin	1
<b>Total</b>		<b>77</b>

Source: ICAMA & CCM

#### - Firstly registered active ingredient by category

In 2022, among 42 active ingredients approved in China, 8 were registered for the first time.

Specifically, they are 96% bicyclopyrone TC, 97% butafenacil TC and 54% fosamine TK in herbicide; 97% metominostrobin TC, 95% spiroxamine TC and 96.5% spiroxamine TC in fungicide; 98% spiromesifen TC in insecticide; and 99% cyclanilide TC and 1,4-Dimethylnaphthalene in plant growth regulator.

Table 1.6-2 First registration of active ingredient by category, 2022

No.	Active ingredient (EN)	Active ingredient (CN)	Content	Type	Toxicity	Category	Number of registration
1	Bicyclopyrone	氟吡草酮	96%	TC	Mild	Herbicide	1
2	Butafenacil	氟丙嘧草酯	97%	TC	Low	Herbicide	1
3	Fosamine	杀木磷铵盐	54%	TK	Low	Herbicide	1
4	Spiromesifen	螺甲螨酯	98%	TC	Low	Insecticide	1
5	Metominostrobin	苯氧菌胺	97%	TC	Low	Fungicide	1
6	Spiroxamine	螺环菌胺	95% & 96.5%	TC	Moderate	Fungicide	2
7	Cyclanilide	氯氨环丙酸	99%	TC	Moderate	Plant growth regulator	1
8	1,4-Dimethylnaphthalene	甲萘灵	98.50%	TC	Low	Plant growth regulator	1
<b>Total</b>							<b>9</b>

Source: ICAMA & CCM

## 2 China's new registrations of herbicide technical in 2022

### 2.1 Herbicide registration, registrant and active ingredient in China, 2019–2022

Under herbicide category, there were 34 herbicides (including 3 newly changed export-only ones) approved as new full or export-only registrations in 2022, up 89% and 467% compared with the respective number in 2021 and 2020.

Involving 20 active ingredients, these herbicide technicals were held by 23 Chinese registrants. Among them, 18 were export-only TC/TK products, accounting for 53% of the total herbicide approvals.

Table 2.1-1 Number of registration, registrant and active ingredient of herbicide technical in China, 2019–2022

Item	2019	2020	2021	2022
Registration	4	6	18	34
Registrant	3	5	13	23
Active ingredient	4	6	11	20

*Note: As for the total registrations in 2022, 3 were newly changed to export-only herbicide (paraquat TK) products.*

*Source: ICAMA & CCM*

## 2.2 Details of full registrations of herbicide technical in China

In 2022, among China's 51 new full registrations, 16 (=31.37% of total) were under herbicide technical category. By type, 10 were TC products and 6 were TK products. These new registrations of herbicide technical belonged to 12 registrants, containing 8 herbicide active ingredients.

Table 2.2-1 Details of new full registrations of herbicide technical in China, 2022

No.	Registration code	Active ingredient	Content	Type	Toxicity	Expiry date	Registrant
1	PD20220074	Glufosinate-ammonium	50%	TK	Low	2027/4/23	Guang'an Lier Chemical Co., Ltd.
2	PD20220294	Aminopyralid	95%	TC	Mild	2027/12/29	
3	PD20220168	Glufosinate-ammonium	50%	TK	Low	2027/8/30	Inner Mongolia Miraculous Crop Science Co., Ltd.
4	PD20220152	Topramezone	97%	TC	Low	2027/7/28	Jiangsu Flag Chemical Industry Co., Ltd.
5	PD20220236	Tebuthiuron	97%	TC	Low	2027/10/8	Jiangsu Kuaida Agrochemical Co., Ltd.
6	PD20220428	Clethodim	70%	TK	Low	2027/12/29	Jiangsu Yunfan Chemical Co., Ltd.
7	PD20220092	Sulfentrazone	94%	TC	Low	2027/5/31	Jiangxi Heyi Chemical Co., Ltd.
8	PD20220142	Tembotrione	97%	TC	Low	2027/7/28	Jiangxi Tianyu Chemical Co., Ltd.
9	PD20220089	L-glufosinate	90%	TC	Moderate	2027/5/31	Lier Chemical Co., Ltd.
10	PD20220420	L-glufosinate	45.70%	TK	Low	2027/12/29	
11	PD20220260	Glufosinate-ammonium	50%	TK	Low	2027/10/8	Shandong Eshung Industrial Co., Ltd.
12	PD20220331	L-glufosinate	40%	TK	Low	2027/12/29	Shandong Luba Chemical Co., Ltd.
13	PD20220406	Glufosinate-ammonium	95%	TC	Low	2027/12/29	
14	PD20220017	Topramezone	97%	TC	Low	2027/1/17	Weifang Xinlu Chemical Co., Ltd.
15	PD20220170	L-glufosinate	90%	TC	Moderate	2027/8/30	
16	PD20220368	L-glufosinate	90%	TC	Moderate	2027/12/29	Zhejiang Wynca Chemical Industrial Group Co., Ltd.

Source: ICAMA & CCM



### 3 China's new registrations of insecticide technical in 2022

#### 3.1 Insecticide registration, registrant and active ingredient in China, 2019–2022

Under insecticide category, there were 11 new registration certificates approved in 2022, approaching the number of the previous year.

Regarding application, all of these full and export-only registrations of insecticide technical were for agricultural use. Thereinto, 3 new approvals with various insecticide active ingredients can only be sold to overseas.

Table 3.1-1 Number of registration, registrant and active ingredient of insecticide technical in China, 2019–2022

Year	Item	Insecticide for agricultural use	Insecticide for hygienic use	Total
2019	Registration	4	0	4
	Registrant	4	0	4
	Active ingredient	4	0	4
2020	Registration	2	0	2
	Registrant	2	0	2
	Active ingredient	2	0	2
2021	Registration	11	1	12
	Registrant	9	1	10
	Active ingredient	11	1	12
2022	Registration	8	0	8
	Registrant	8	0	8
	Active ingredient	2	0	2

Source: ICAMA & CCM

### 3.2 Details of full registrations of insecticide technical in China

In 2022, there were eight insecticide technicals approved with full registration in China, accounting for 15.69% of the total new full registrations. By type, all of them were TC products. These new insecticidal registrations belonged to 8 registrants, involving 2 active ingredients, i.e. diafenthiuron and chlorantraniliprole.

In China, FMC Corporation owned two compositions of matter patents for chlorantraniliprole: one has expired on 20 March, 2021 and the other on 13 Aug., 2022, spurring some Chinese enterprises to apply for a chlorantraniliprole TC registration. As of 31 Dec. 2022, totaling seven registrants have obtained new full registrations for their chlorantraniliprole TC products, including the listed pesticide/pharmaceutical enterprises: Jiangsu Flag Chemical Industry Co., Ltd., Lier Chemical Co., Ltd., Shaanxi Meibang Pharmaceutical Group Co., Ltd. and Nanjing Red Sun Co., Ltd.

Table 3.2-1 Details of new full registrations of insecticide technical in China, 2022

No.	Registration code	Active ingredient	Content	Type	Toxicity	Expiry date	Registrant
1	PD20220049	Chlorantraniliprole	95.30%	TC	Low	2027/3/24	Xiangshui Zhongshan Bioscience Co., Ltd.
2	PD20220078	Chlorantraniliprole	97%	TC	Low	2027/4/23	Synwill Yichang Chemical Co., Ltd.
3	PD20220216	Chlorantraniliprole	95%	TC	Low	2027/10/8	Jiangsu Flag Chemical Industry Co., Ltd.
4	PD20220225	Diafenthiuron	96%	TC	Moderate	2027/10/8	Shaanxi Meibang Pharmaceutical Group Co., Ltd.
5	PD20220234	Chlorantraniliprole	97%	TC	Low	2027/10/8	Lier Chemical Co., Ltd.
6	PD20220286	Chlorantraniliprole	98%	TC	Low	2027/10/8	Youdao Chemistry (Shandong) Co., Ltd.
7	PD20220310	Chlorantraniliprole	96%	TC	Low	2027/12/29	Shandong Aokun Crop Science Co., Ltd.
8	PD20220399	Chlorantraniliprole	97%	TC	Low	2027/12/29	Nanjing Red Sun Co., Ltd.

Source: ICAMA & CCM

## 4 China's new registrations of fungicide technical in 2022

### 4.1 Fungicide registration, registrant and active ingredient in China, 2019–2022

In 2022, altogether 22 fungicide technicals were approved in China, increasing by 57% and 450% against the numbers in 2021 and 2020, respectively.

Involving 8 active ingredients, these new registrations belonged to 21 registrants, and all of them were TC products, 6 of which were registered for export trades.

Table 4.1-1 Number of registration, registrant and active ingredient of fungicide technical in China, 2019–2022

Item	2019	2020	2021	2022
Registration	15	4	14	22
Registrant	15	4	13	21
Active ingredient	14	4	12	8

Source: ICAMA & CCM

## 4.2 Details of full registrations of fungicide technical in China

In 2022, 16 full fungicide technical registrations were granted to 16 Chinese pesticide enterprises in China. Among them, 13 TC products used prothioconazole as their active ingredient, which was firstly introduced to China by Anhui Jiuyi Agriculture Co., Ltd. and Shandong Hailir Chemicals Co., Ltd. with the contents of 97% and 95%, separately in Jan. 2019.

Table 4.2-1 Details of new full registrations of fungicide technical in China, 2022

No.	Registration Code	Active ingredient	Content	Type	Toxicity	Expiry date	Registrant
1	PD20220002	Prothioconazole	94%	TC	Low	2027/1/17	Hebei Xingbai Agricultural Technology Co., Ltd.
2	PD20220007	Metconazole	95%	TC	Low	2027/1/17	Shanghai High Victory Fine Chemical Co., Ltd.
3	PD20220171	Prothioconazole	95%	TC	Low	2027/8/30	CAC Nantong Chemical Co., Ltd.
4	PD20220173	Trifloxystrobin	98%	TC	Low	2027/8/30	Shandong Jingbo Agrochemicals Technology Co., Ltd.
5	PD20220228	Prothioconazole	95%	TC	Low	2027/10/8	Liaoning Zhonghui Biotechnology Co., Ltd.
6	PD20220238	Prothioconazole	95%	TC	Low	2027/10/8	Xiangshui Zhongshan Bioscience Co., Ltd.
7	PD20220239	Prothioconazole	97%	TC	Low	2027/10/8	Inner Mongolia Miraculous Crop Science Co., Ltd.
8	PD20220242	Prothioconazole	95%	TC	Low	2027/10/8	Ningxia Yifan Biotechnology Co., Ltd.
9	PD20220251	Prothioconazole	96%	TC	Low	2027/10/8	Shandong Aokun Crop Science Co., Ltd.
10	PD20220259	Prothioconazole	98%	TC	Low	2027/10/8	Shandong United Pesticide Industry Co., Ltd.
11	PD20220270	Tebuconazole	98%	TC	Low	2027/10/8	Hubei Wojia Biological Agriculture Co., Ltd.
12	PD20220271	Prothioconazole	96%	TC	Low	2027/10/8	Wuxi Jiabao Pesticide & Pharmaceutical Co.,Ltd.
13	PD20220326	Prothioconazole	96%	TC	Low	2027/12/29	Jiangsu Good Harvest-Weien Agrochemical Co., Ltd.
14	PD20220333	Prothioconazole	97%	TC	Low	2027/12/29	Jiangsu Agrochem Laboratory Co., Ltd.
15	PD20220398	Prothioconazole	95%	TC	Low	2027/12/29	ABA Chemicals (Nantong) Limited
16	PD20220414	Prothioconazole	95%	TC	Low	2027/12/29	Jilin Lesi Pharmaceutical Co., Ltd.

Source: ICAMA & CCM

## 5 China's export-only registrations of pesticide technical in 2022

### 5.1 Status of China's export-only registration, 2020–2022

Since 2020, the Ministry of Agriculture and Rural Affairs of P. R. China (MARA) has issued a number of policies, including the *Announcement No. 269* in June 2020 and the *Explanations for Announcement No. 269* in Oct. 2020, and stipulated that approvals would be given to pesticide registrations for export only, the involved products of which are strictly forbidden for use in China.

According to the data released by the Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs of the People's Republic of China (ICAMA), totaling 363 export-only registrations of pesticides were granted in 2020–2022, with 50 TC/TK products included. Among the 50 TC/TK ones, 58% (=29) got their production registrations issued for export use in 2022, marking great progresses compared with that in 2021 and 2020.

Table 5.1-1 Export-only registration of pesticide technical & formulation in China, 2020-2022

Year	Technical (TC & TK)	Formulation	Total
2020	1	1	2
2021	20	99	119
2022	29	211	240
<b>Total</b>	<b>50</b>	<b>311</b>	<b>361</b>

Note: 1. Two formulations (EX20210081 and EX20220066) were excluded, both of which were canceled as of March 2023. 2. In 2022, 16 newly changed export-only registrations from full registration were added with 3 TC/TK pesticides and 13 formulations.  
Source: ICAMA & CCM

### 5.2 Registrant, active ingredient and toxicity of export-only registration in China

In 2022, 29 export-only registrations of TC&TK products from 22 registrants were approved, including 3 changed from full registration.

Results showed that the 22 Chinese holders of new export-only registrations of pesticide technical are located across eight provinces—9 of them in Jiangsu, owning 12 registrations; 4 in Shandong, holding 8 registrations; 6 evenly distributed in three provinces: Hebei, Sichuan and Hunan, and the rest 3 in Guangdong, Shaanxi and Zhejiang. Each registrant from these provinces (Jiangsu and Shandong excluded) owned only one new export-only TC/TK registration.

Calculated by type, there were 23 new technical materials (TC) and 6 new technical concentrates (TK) for export only. By category, most of these new export-only pesticide technicals were herbicides, followed by fungicides and insecticides. In 2022, there were 23 active ingredients out of these 29 new export-only TC&TK registrations, top 5 of which were paraquat, asulam, difenoconazole, flumioxazin and spiroxamine.

By toxicity level, there were 17 export-only TC/TK pesticides registered as low-toxic, 7 as mild-toxic; and 5 as moderate-toxic.

Table 5.2-1 Number of new export-only registration, registrant and active ingredient of pesticide technical in China by region, 2022

No.	Region	Number of export-only registrations	Number of registrants	Number of active ingredients
1	Jiangsu Province	12	9	10
2	Shandong Province	8	4	8
3	Hebei Province	2	2	2
4	Sichuan Province	2	2	2
5	Hunan Province	2	2	2
6	Guangdong Province	1	1	1
7	Shaanxi Province	1	1	1
8	Zhejiang Province	1	1	1
<b>Total</b>		<b>29</b>	<b>22</b>	<b>27</b>

Note: Since certain active ingredients could be applied by Chinese registrants in different provinces, the sum of counts in this chart might not equal the total.

Source: ICAMA & CCM

Table 5.2-2 Registrants holding new export-only registrations of pesticide technical in China, 2022

No.	Registrant	Number of registrations
1	Shandong Weifang Rainbow Chemical Co., Ltd.	5
2	CAC Nantong Chemical Co., Ltd.	2
3	Jiangsu Agrochem Laboratory Co., Ltd.	2
4	Jiangsu Youjia Plant Protection Co., Ltd.	2
5	Guang'an Lier Chemical Co., Ltd.	1
6	Hebei Lingang Chemical Co., Ltd.	1
7	Hebei Sinochem Fusheng Co., Ltd.	1
8	Huai'an Glory Chemical Co., Ltd.	1
9	Hunan Bide Biochemical Technology Co., Ltd.	1
10	Hunan Haili Chemical Industry Co., Ltd.	1
11	Jiangsu Baozong & Baoda Pharmachem Co., Ltd.	1
12	Jiangsu Changqing Agrochemical Co., Ltd.	1
13	Jiangsu Institute of Ecomones Co., Ltd.	1
14	Jiangsu Noon Crop Science Co., Ltd.	1
15	Jiangsu Yunfan Chemical Co., Ltd.	1

No.	Registrant	Number of registrations
16	Lier Chemical Co., Ltd.	1
17	Pingyuan Best Chemical Co., Ltd.	1
18	Shaanxi Hengrun Chemical Industry Co., Ltd.	1
19	Shandong United Pesticide Industry Co., Ltd.	1
20	Shangyu Nutrichem Co., Ltd.	1
21	Weifang Luba Chemical Co., Ltd.	1
22	Yingde Greatchem Chemical Co., Ltd.	1
<b>Total</b>		<b>29</b>

Source: ICAMA & CCM

Table 5.2-3 New export-only (TC&TK) registrations by category, 2022

Category	TC	TK	Number of export-only registrations
Herbicide	12	6	18
Fungicide	6	0	6
Insecticide	3	0	3
Plant growth regulator	2	0	2
<b>Total</b>	<b>23</b>	<b>6</b>	<b>29</b>

Source: ICAMA & CCM

Table 5.2-4 New export-only (TC&TK) registrations by toxicity level, 2022

Toxicity	TC	TK	Number of export-only registration
Low	14	3	17
Mild	7	0	7
Moderate	2	3	5
<b>Total</b>	<b>23</b>	<b>6</b>	<b>29</b>

Source: ICAMA & CCM

Table 5.2-5 Active ingredients in new export-only registrations of pesticide technical in China, 2022

No.	Active ingredient	Number of export-only registrations
1	Paraquat	3
2	Asulam	2
3	Difenoconazole	2
4	Flumioxazin	2
5	Spiroxamine	2
6	1,4-Dimethylnaphthalene	1
7	Bentazone	1
8	Bicyclopyrone	1
9	Butafenacil	1
10	Carbetamide	1
11	Carbosulfan	1
12	Clethodim	1
13	Clomazone	1
14	Cyclanilide	1
15	Etridiazole	1
16	Fosamine	1
17	Imidacloprid	1
18	Metominostrobin	1
19	Prosulfuron	1
20	Spiromesifen	1
21	Tembotrione	1
22	Triasulfuron	1
23	Triclopyr-butotyl	1
<b>Total</b>		<b>29</b>

Source: ICAMA & CCM

### 5.3 Details of export-only registrations of pesticide technical in China

In 2022, there were 22 registrants holding 29 new export-only pesticides, including 3 paraquat TKs changed from full registration. Thereinto, Shandong Weifang Rainbow Chemical Co., Ltd. boasted five new export-



only TC&TK registrations (three herbicides, one fungicide and one insecticide); CAC Nantong Chemical Co., Ltd. got two herbicides: 97% asulam TC and 97.4% asulam TC; Jiangsu Youjia Plant Protection Co., Ltd. was approved for two fungicide certificates, namely, 94% difenoconazole TC and 95% difenoconazole TC; Jiangsu Agrochem Laboratory Co., Ltd. registered two herbicides, i.e. 97% butafenacil TC and 51.9% bentazone TK.

Table 5.3-1 New registrations of herbicide technical for export only in China, 2022

No.	Registrant	Registration code	Active ingredient	Content	Type	Expiry date	Toxicity
1	CAC Nantong Chemical Co., Ltd.	EX20220102	Asulam	97%	TC	2027/7/28	Mild
		EX20220159	Asulam	97.40%	TC	2027/10/8	Mild
2	Guang'an Lier Chemical Co., Ltd.	EX20220074	Flumioxazin	98%	TC	2027/4/23	Low
3	Hebei Lingang Chemical Co., Ltd.	EX20220244	Paraquat	42%	TK	2028/2/25	Moderate
4	Jiangsu Agrochem Laboratory Co., Ltd.	EX20220200	Butafenacil	97%	TC	2027/12/29	Low
		EX20220236	Bentazone	51.90%	TK	2027/12/29	Low
5	Jiangsu Baozong & Baoda Pharmachem Co., Ltd.	EX20220225	Clomazone	90%	TC	2027/12/29	Low
6	Jiangsu Changqing Agrochemical Co., Ltd.	EX20220007	Prosulfuron	95%	TC	2027/1/17	Low
7	Jiangsu Institute of Ecomones Co., Ltd.	EX20220087	Triasulfuron	95%	TC	2027/5/31	Low
8	Jiangsu Noon Crop Science Co., Ltd.	EX20220243	Paraquat	42%	TK	2028/2/28	Moderate
9	Jiangsu Yunfan Chemical Co., Ltd.	EX20220172	Clethodim	50%	TK	2027/10/8	Low
10	Lier Chemical Co., Ltd.	EX20220009	Triclopyr-butotyl	95%	TC	2027/1/17	Low
11	Pingyuan Best Chemical Co., Ltd.	EX20220203	Carbetamide	98%	TC	2027/12/29	Mild
12	Shandong Weifang Rainbow Chemical Co., Ltd.	EX20220028	Tembotrione	96%	TC	2027/2/16	Low
		EX20220032	Fosamine	54%	TK	2027/2/16	Low
		EX20220068	Bicyclopyrone	96%	TC	2027/4/23	Mild
13	Shangyu Nutrichem Co., Ltd.	EX20220137	Flumioxazin	98%	TC	2027/8/30	Mild
14	Weifang Luba Chemical Co., Ltd.	EX20220145	Paraquat	32.60%	TK	2027/12/13	Moderate

Note: Three renewed paraquat TK certificates were added from full registrations, with the dates of first registration on 14 Dec., 2007, 29 Feb., 2008 and 26 Feb., 2008, respectively.  
Source: ICAMA & CCM

Table 5.3-2 New registrations of insecticide technical for export only in China, 2022

No.	Registrant	Registration code	Active ingredient	Content	Type	Expiry date	Toxicity
1	Hunan Haili Chemical Industry Co., Ltd.	EX20220011	Carbosulfan	92%	TC	2027/1/17	Low
2	Shandong Weifang Rainbow Chemical Co., Ltd.	EX20220033	Spiromesifen	98%	TC	2027/2/16	Low
3	Shandong United Pesticide Industry Co., Ltd.	EX20220242	Imidacloprid	95%	TC	2027/12/29	Low

Source: ICAMA &amp; CCM

Table 5.3-3 New registrations of fungicide technical for export only in China, 2022

No.	Registrant	Registration code	Active ingredient	Content	Type	Expiry date	Toxicity
1	Yingde Greatchem Chemical Co., Ltd.	EX20220161	Etridiazole	96%	TC	2027/10/8	Low
2	Huai'an Glory Chemical Co., Ltd.	EX20220061	Metominostrobin	97%	TC	2027/4/23	Low
3	Jiangsu Youjia Plant Protection Co., Ltd.	EX20220019	Difenoconazole	95%	TC	2027/1/17	Mild
		EX20220005	Difenoconazole	94%	TC	2027/1/17	Mild
4	Shandong Weifang Rainbow Chemical Co., Ltd.	EX20220047	Spiroxamine	96.50%	TC	2027/4/23	Moderate
5	Shaanxi Hengrun Chemical Industry Co., Ltd.	EX20220072	Spiroxamine	95%	TC	2027/4/23	Low

Source: ICAMA &amp; CCM

Table 5.3-4 New export-only registrations of plant growth regulator in China, 2022

No.	Registrant	Registration code	Active ingredient	Content	Type	Expiry date	Toxicity
1	Hebei Sinochem Fusheng Co., Ltd.	EX20220149	1,4-Dimethylnaphthalene	98.50%	TC	2027/10/8	Low
2	Hunan Bide Biochemical Technology Co., Ltd.	EX20220241	Cyclanilide	99%	TC	2027/12/29	Moderate

Source: ICAMA &amp; CCM

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