

New Registrations of Pesticide Formulation in China in 2023

The Ninth Edition

May 2024

Researched & Prepared by:

Kcomber Inc.

Copyright by Kcomber Inc.

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

Contents

Executive summary	1
Methodology	2
1 Overview on new registration of pesticide formulation in China, 2023	3
1.1 Registration status of China's pesticide formulation, 2023	3
1.2 Registrants of China's new registration of pesticide formulation, 2023	6
1.3 Active ingredients of China's new registration of pesticide formulation, 2023	8
2 New registration of herbicide formulation for agriculture use in China, 2023	13
2.1 New registrations of herbicide formulation by formulation type.....	13
2.2 New registrations of herbicide formulation by toxicity	13
2.3 Main registrants of herbicide formulation in China.....	14
2.4 Active ingredients of herbicide formulation in China	15
3 New registration of insecticide formulation for agriculture use in China, 2023	17
3.1 New registrations of insecticide formulation by formulation type.....	17
3.2 New registrations of insecticide formulation by toxicity	18
3.3 Main registrants of insecticide formulation in China.....	18
3.4 Active ingredients of insecticide formulation in China	19
4 New registration of fungicide formulation for agriculture use in China, 2023	21
4.1 New registrations of fungicide formulation by formulation type	21
4.2 New registrations of fungicide formulation by toxicity.....	21
4.3 Main registrants of fungicide formulation in China	22
4.4 Active ingredients of fungicide formulation in China.....	22
5 New registration of pesticide formulation for export use only, 2023	25
5.1 Registration status of China's export-only pesticide formulation, 2023	25
5.2 New registrations of export-only pesticide formulation by category, 2023	25
5.3 New registration of export-only pesticide formulation by formulation type, 2023	26
5.4 New registrations of export-only pesticide formulation by toxicity, 2023.....	26
5.5 Main registrants of export-only pesticide formulation, 2023.....	27
5.6 Active ingredients of export-only pesticide formulation, 2023	28

LIST OF TABLES

Table 1.1-1 New & renewal registrations of pesticide in China, 2023
Table 1.1-2 Newly changed registrations for export-only pesticides, 2023
Table 1.1-3 Category of China's newly approved pesticide formulation, 2023
Table 1.1-4 Formulation type of China's newly approved pesticide formulation, 2021–2023
Table 1.1-5 Toxicity of China's newly approved pesticide formulation, 2023
Table 1.2-1 Registrants of China's newly approved pesticide formulation by geographic region, 2023
Table 1.2-2 China's main registrants of newly approved pesticide formulation, 2023
Table 1.2-3 Foreign registrants of newly approved pesticide formulation in China, 2023
Table 1.3-1 Top 25 active ingredients of newly approved pesticide formulations in China, 2023
Table 1.3-2 Top 14 active ingredients of newly approved single pesticide formulations in China, 2023
Table 1.3-3 Top 15 active ingredients of newly approved mixed pesticide formulations in China, 2023
Table 1.3-4 Registrations with first approved active ingredients of pesticide formulation in China, 2023
Table 2.1-1 Formulation type of newly approved herbicide formulation for agriculture use in China, 2023
Table 2.2-1 Toxicity of newly approved herbicide formulation for agriculture use in China, 2023
Table 2.3-1 Main registrants of newly approved herbicide formulation for agriculture use in China, 2023
Table 2.4-1 Major active ingredients of newly approved herbicide formulation for agriculture use in

China, 2023

Table 2.4-2 Major active ingredients of newly approved single herbicide formulation for agriculture use in China, 2023

Table 2.4-3 Major active ingredients of newly approved mixed herbicide formulation for agriculture use in China, 2023

Table 3.1-1 Formulation type of newly approved insecticide formulation for agriculture use in China, 2023

Table 3.2-1 Toxicity of newly approved insecticide formulation for agriculture use in China, 2023

Table 3.3-1 Main registrants of newly approved insecticide formulation for agriculture use in China, 2023

Table 3.4-1 Major active ingredients of newly approved insecticide formulation for agriculture use in China, 2023

Table 3.4-2 Major active ingredients of newly approved single insecticide formulation for agriculture use in China, 2023

Table 3.4-3 Major active ingredients of newly approved mixed insecticide formulation for agriculture use in China, 2023

Table 4.1-1 Formulation type of newly approved fungicide formulation for agriculture use in China, 2023

Table 4.2-1 Toxicity of newly approved fungicide formulation for agriculture use in China, 2023

Table 4.3-1 Main registrants of newly approved fungicide formulation for agriculture use in China, 2023

Table 4.4-1 Major active ingredients of newly approved fungicide formulation for agriculture use in China, 2023

Table 4.4-2 Major active ingredients of newly approved single fungicide formulation for agriculture use in China, 2023

Table 4.4-3 Major active ingredients of newly approved mixed fungicide formulation for agriculture use in China, 2023

Table 5.1-1 Newly granted registration for export-only pesticide technical & formulation in China, 2020–2023

Table 5.2-1 Category of China's newly approved export-only pesticide formulation, 2023

Table 5.3-1 Formulation type of China's newly approved export-only pesticide formulation, 2023

Table 5.4-1 Toxicity of China's newly approved export-only pesticide formulation, 2023

Table 5.5-1 Registrants of China's newly approved export-only pesticide formulation by geographic region, 2023

Table 5.5-2 Main registrants of China's newly approved export-only formulation, 2023

Table 5.6-1 Major active ingredients of China's newly approved export-only formulation, 2023

Table 5.6-2 Major active ingredients of China's newly approved single export-only formulation, 2023

Table 5.6-3 Major active ingredients of China's newly approved mixed export-only formulation, 2023

LIST OF FIGURES

Figure 1.1-1 China's newly added registrations of pesticide by type, 2021–2023

Figure 1.2-1 Number of China's newly approved pesticide formulation by geographic region, 2023

Executive summary

According to ICAMA, over 14,500 pesticide registrations were granted in 2023, about 89% of which were formulation registrations, including 1,124 formulation registrations newly approved. These new formulation registrations were applied by 409 enterprises, with the top 17 registrants accounting for 22.60% of the total new formulation approvals. The top 25 active ingredients of China's newly approved pesticide formulations represented 26.26% of new registrations.

In 2023, 211 new registrations for export-only pesticides were granted, 82% of which were in the form of formulations; the newly approved export-only pesticide formulations fell into five categories in China; about 79% of them were applied by enterprises located in East China. In China, the newly registered export-only pesticide formulations can be sorted into 14 formulation types, with the low-toxicity ones accounting for 83%.

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 Overview on new registration of pesticide formulation in China, 2023

1.1 Registration status of China's pesticide formulation, 2023

According to data released by the Institute for the Control of Agrochemicals, Ministry of Agriculture and Rural Affairs of the People's Republic of China (ICAMA) as of 31 Dec., 2023, totalling 14,567 registrations of pesticides (for agriculture, sanitation, and export-only use) were granted in 2023, including 46 registrations for export-only pesticides altered from those for agriculture use in China with validity dates extended.

Regarding China's 14,567 valid registrations, 1,216 were new permits and 13,351 were renewed ones. To be specific, 12,995 registrations were for pesticide formulation—1,124 were registrations applied for the first time and 11,871 were renewal ones—accounting for 89.21% of the total.

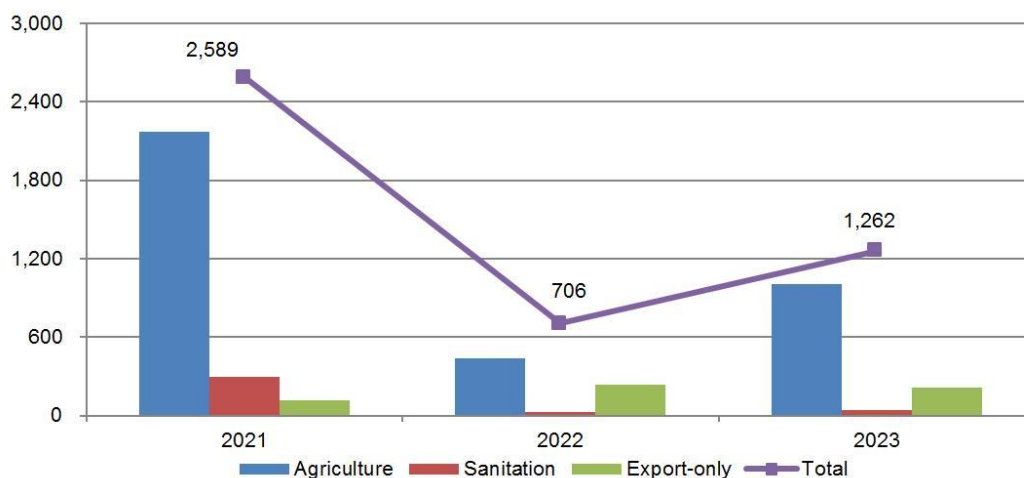
Table 1.1-1 New & renewal registrations of pesticide in China, 2023

No.	Registration type	Formulation	Technical	Total
1	New	1,124	92	1,216
2	Renewal	11,871	1,480	13,351
Total		12,995	1,572	14,567

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

Figure 1.1-1 China's newly added registrations of pesticide by type, 2021–2023

Number of registration



Note: 1. In 2023, 46 registrations of pesticides for agriculture use in China changed into for export only were added. 2. In 2022, 16 registrations of pesticides for agriculture use in China changed into for export only were added.

Source: ICAMA & CCM

Table 1.1-2 Newly changed registrations for export-only pesticides, 2023

No.	Active Ingredient	Formulation	Technical	Total
1	Metsulfuron-methyl	16	1	19
2	Metsulfuron-methyl-Tribenuron-methyl	1	0	
3	Metsulfuron-methyl-Thifensulfuron-methyl	1	0	
4	2,4-D butylate	1	3	12

No.	Active Ingredient	Formulation	Technical	Total
5	2,4-D butylate·Nicosulfuron	1	0	
6	2,4-D butylate·Nicosulfuron·Atrazine	1	0	
7	2,4-D butylate·Acetochlor	1	0	
8	2,4-D butylate·Acetochlor·Clomazone	1	0	
9	2,4-D butylate·Acetochlor·Atrazine	1	0	
10	2,4-D butylate·Acetochlor·Prometryn	1	0	
11	2,4-D butylate·Propisochlor	1	0	
12	2,4-D butylate·Propisochlor·Clomazone	1	0	
13	Chlorimuron-ethyl	1	8	9
14	Paraquat	1	4	5
15	Fipronil	1	0	1
Total		30	16	46

Note: The pesticides in the table were changed from for agriculture use in China to for export only.
Source: ICAMA & CCM

- Pesticide category, type and toxicity of new formulation registrations

In 2023, the 1,124 new formulation registrations under 13 pesticide categories with 553 single and/or mixed active ingredient(s) marked a yearly increase of 83.36%. The top three formulation categories, insecticides, herbicides and fungicides, represented 933 registrations combined, accounting for 83.01% of the total approvals. 407 Insecticide formulations were registered with 145 one and/or more active ingredient(s), 359 herbicide formulations with 171 active ingredient(s), and 167 fungicide formulations with 118 active ingredient(s).

Table 1.1-3 Category of China's newly approved pesticide formulation, 2023

No.	Category	Number of registration	Number of active ingredient
1	Insecticide	407	145
2	Herbicide	359	171
3	Fungicide	167	118
4	Plant growth regulator	103	73
5	Hygienic insecticide	41	26
6	Others	47	34
Total		1,124	553

Note: Since certain active ingredients could be repeatedly counted in different usages, the sum of counts in each category might not equal the total.

Source: ICAMA & CCM

The newly registered pesticide formulations covered 30 types in 2023. By number of registrations, the top 5

formulation types were suspension concentrate (SC), soluble concentrate (SL), emulsifiable concentrate (EC), oil dispersion (OD) and water dispersible granule (WG), accounting for 75.44% of the total; the top 15 counted 1,099 (=97.78%) new registrations.

Table 1.1-4 Formulation type of China's newly approved pesticide formulation, 2021–2023

No.	Formulation type	Code	Number of registration, 2023	Number of registration, 2022	Number of registration, 2021
1	Suspension concentrate	SC	393	173	704
2	Soluble concentrate	SL	160	111	376
3	Emulsifiable concentrate	EC	119	99	284
4	Oil dispersion	OD	111	42	221
5	Water dispersible granule	WG	65	62	199
6	Granule	GR	60	24	156
7	Flowable concentrate for seed treatment	FS	46	17	133
8	Micro-emulsion	ME	46	9	87
9	Wettable powder	WP	26	24	108
10	Emulsion, oil in water	EW	24	9	40
11	Suspoemulsion	SE	14	4	/
12	Water soluble granule	SG	9	10	40
13	Water soluble powder	SP	9	6	32
14	Capsule suspension	CS	9	3	/
15	Bait	RB	8	5	/
16	Others		25	15	111
Total			1,124	613	2,491

Source: ICAMA & CCM

By toxicity level, there were 923 new registrations of pesticide formulations registered as low-toxic or low-toxic (TC: highly toxic), 165 as mild-toxic, as well as 36 with toxicity being moderate or moderate (TC: highly toxic), in which the low-toxicity ones accounted for 82.12%.

Table 1.1-5 Toxicity of China's newly approved pesticide formulation, 2023

No.	Toxicity	Number of registration
1	Low	905
2	Mild	165
3	Moderate	29
4	Low (TC: highly toxic)	18
5	Moderate (TC: highly toxic)	7
Total		1,124

Source: ICAMA & CCM

1.2 Registrants of China's new registration of pesticide formulation, 2023

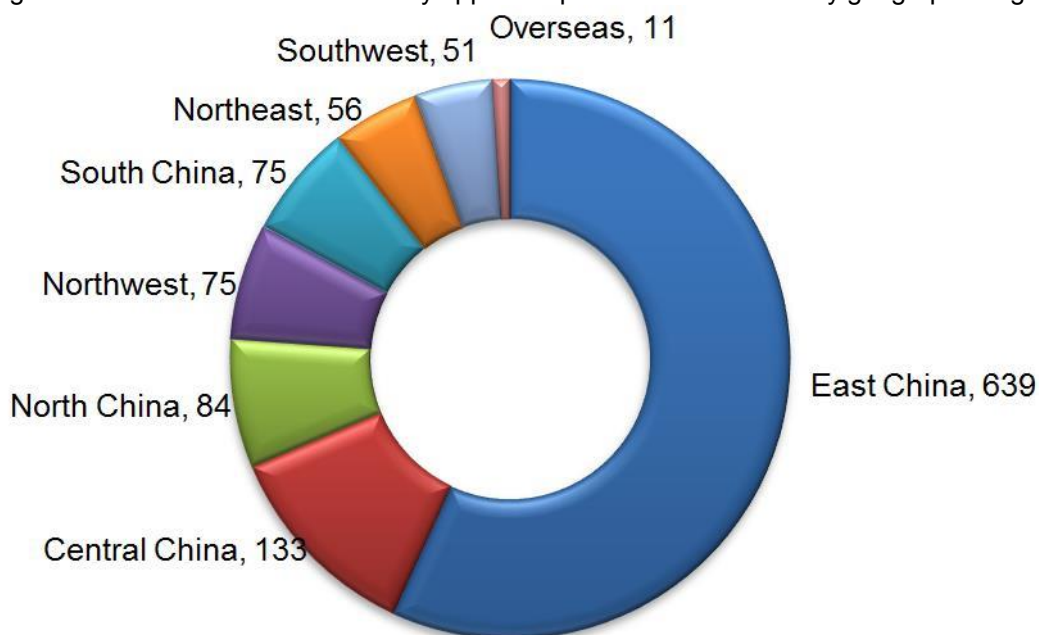
In 2023, there were 409 registrants holding China's new registrations of pesticide formulations, including 399 domestic companies and 10 overseas companies. Thereinto, Chinese registrants were located in seven regions across China. The majority of the registrants concentrate in East China (221).

Table 1.2-1 Registrants of China's newly approved pesticide formulation by geographic region, 2023

No.	Region	Number of registration	Number of registrant
1	East China	639	221
2	Central China	133	50
3	North China	84	34
4	Northwest	75	17
5	South China	75	35
6	Northeast	56	20
7	Southwest	51	22
8	Overseas	11	10
Total		1,124	409

Source: ICAMA & CCM

Figure 1.2-1 Number of China's newly approved pesticide formulation by geographic region, 2023



Source: ICAMA & CCM

17 Enterprises were granted 9 or above new formulation registrations, which amounted to 254 new registrations, accounting for 22.60% of the total formulation approvals. The biggest holder by registration number was Shandong Weifang Rainbow Chemical Co., Ltd. (47).

Table 1.2-2 China's main registrants of newly approved pesticide formulation, 2023

No.	Registrant (EN)	Registrant (CN)	Province	Number of registration
1	Shandong Weifang Rainbow Chemical Co., Ltd.	山东潍坊润丰化工股份有限公司	Shandong Province	47
2	Zenenorva Crop Protection (Anhui) Co., Ltd.	捷利诺华作物保护(安徽)有限公司	Anhui Province	20
3	Shaanxi Tunpsion Bio-Technology Co., Ltd.	陕西汤普森生物科技有限公司	Shaanxi Province	18
4	Hebei Veyong Bio-Chemical Co., Ltd.	河北威远生物化工有限公司	Hebei Province	17
5	Shaanxi Meibang Pharmaceutical Group Co., Ltd.	陕西美邦药业集团股份有限公司	Shaanxi Province	17
6	Shandong Binnong Technology Co., Ltd.	山东滨农科技有限公司	Shandong Province	16
7	Anhui Jintudi Biotechnology Co., Ltd.	安徽金土地生物科技有限公司	Anhui Province	14
8	Shandong Zhongxin Kenong Bio-Technology Co., Ltd.	山东中新科农生物科技有限公司	Shandong Province	13
9	Jilin Jinqiu Pesticide Co., Ltd.	吉林金秋农药有限公司	Jilin Province	12
10	Anhui Yuanjing Crop Protection Co., Ltd.	安徽远景作物保护有限公司	Anhui Province	11
11	Hailir Pesticides and Chemicals Group Co., Ltd.	海利尔药业集团股份有限公司	Shandong Province	11
12	Hunan Xinchangshan Agricultural Development Co., Ltd.	湖南新长山农业发展股份有限公司	Hunan Province	11

No.	Registrant (EN)	Registrant (CN)	Province	Number of registration
13	Guangdong Kefeng Bio-Technology Co., Ltd.	广东科峰生物技术有限公司	Guangdong Province	10
14	Wanrong Crop Technology Co., Ltd.	万容作物科技有限公司	Jilin Province	10
15	Jiangxi Zhongxun Agro-Chemical Co., Ltd.	江西中迅农化有限公司	Jiangxi Province	9
16	Shandong Yuanfeng Biotechnology Co., Ltd.	山东源丰生物科技有限公司	Shandong Province	9
17	Shaanxi Hengtian Chemical Co., Ltd.	陕西恒田生物农业有限公司	Shaanxi Province	9
Total				254

Source: ICAMA & CCM

- Foreign registrants approved with China's pesticide formulation registrations in 2023

10 Foreign companies were awarded new pesticide formulation registrations in China in 2023, in which fungicide registration took the largest part. Among these registrants, Reckitt (Australia) PTY Limited held two hygienic insecticide registrations, and Adama Agan Co., Ltd. obtained the only herbicide registration (882 g/L Flumioxazin·S-Metolachlor OD).

Table 1.2-3 Foreign registrants of newly approved pesticide formulation in China, 2023

No.	Registrant (EN)	Registrant (CN)	Country	Number of registration
1	Reckitt (Australia) PTY Limited	利洁时(澳大利亚)有限公司	Australia	2
2	Arysta Lifescience (Shanghai) Co., Ltd.	爱利思达生物化学有限公司	Japan	1
3	Adama Agan Co., Ltd.	安道麦阿甘有限公司	Israel	1
4	New Australia Agricultural Development Company Pty Ltd.	澳大利亚新澳农业发展有限公司	Switzerland	1
5	BASF SE	巴斯夫欧洲公司	Germany	1
6	Bugs (Korea) Co., Ltd.	韩国布格斯有限公司	South Korea	1
7	Mexico Anglo-Industrial Corporation	墨西哥英吉利工业公司	Mexico	1
8	Earth Corporation	日本阿斯制药株式会社	Japan	1
9	Syngenta AG	瑞士先正达作物保护有限公司	Switzerland	1
10	Sumitomo Chemical Co., Ltd.	住友化学园艺株式会社	Japan	1
Total				11

Source: ICAMA & CCM

1.3 Active ingredients of China's new registration of pesticide formulation, 2023

In 2023, the top 25 ingredients of China's newly approved pesticide formulations (single & mixed) in terms of number represented 294 (=26.16%) new registrations covering 9 herbicides, 13 insecticides, 1 fungicide, 1 nematocidal and 1 acaricide.

Table 1.3-1 Top 25 active ingredients of newly approved pesticide formulations in China, 2023

No.	Active ingredient	Category	Number of registration
1	Chlorantraniliprole	Insecticide	43
2	Chlorantraniliprole·Abamectin-aminomethyl	Insecticide	29
3	Tembotrione	Herbicide	17
4	Clothianidin·Chlorantraniliprole	Insecticide	16
5	Glufosinate-p	Herbicide	15
6	Topramezone	Herbicide	14
7	Glyphosate	Herbicide	13
8	Emamectin benzoate	Insecticide	12
9	Clothianidin·Bifenthrin	Insecticide	12
10	Abamectin-aminomethyl·Lufenuron	Insecticide	10
11	Chlorantraniliprole·Indoxacarb	Insecticide	10
12	Etoxazole·Bifenazate	Acaricide	10
13	Glufosinate-ammonium	Herbicide	9
14	Chlorantraniliprole·Chlorfenapyr	Insecticide	9
15	Dinotefuran	Insecticide	8
16	Cyhalofop-butyl	Herbicide	8
17	2,4-D-ethylhexyl	Herbicide	7
18	Abamectin	Nematicide	7
19	Topramezone·Atrazine	Herbicide	7
20	Pyraclostrobin·Tebuconazole	Fungicide	7
21	Chlorfenapyr·Lufenuron	Insecticide	7
22	Metamifop	Herbicide	7
23	Flonicamid·Bifenthrin	Insecticide	7
24	Chlorantraniliprole·Abamectin	Insecticide	7
25	Clothianidin	Insecticide	7
Total			298

Source: ICAMA & CCM

In China, a total of 465 new registrations of single pesticide formulations contained 178 different active ingredients. Thereinto, based on the number of new registrations, the top 14 active ingredients made up 173 registrations, accounting for 37.20% of the total single pesticide formulations.

As for mixed formulations, 659 new registrations were granted in 2023 with 375 combinations of two or three active ingredients. Thereinto, 95 approvals were formulations with 68 mixes of three active ingredients; four-active-ingredient registration remains not available in 2023. Ranked by the number of registrations, the top 15 groups of active ingredients took up 22.61% (=149) of mixed pesticide formulations, including popular ones such as chlorantraniliprole-abamectin-aminomethyl, clothianidin·chlorantraniliprole, clothianidin·bifenthrin and abamectin-aminomethyl·lufenuron.

Table 1.3-2 Top 14 active ingredients of newly approved single pesticide formulations in China, 2023

No.	Active ingredient	Category	Number of registration
1	Chlorantraniliprole	Insecticide	43
2	Tembotrione	Herbicide	17
3	Glufosinate-p	Herbicide	15
4	Topramezone	Herbicide	14
5	Glyphosate	Herbicide	13
6	Emamectin benzoate	Insecticide	12
7	Glufosinate-ammonium	Herbicide	9
8	Dinotefuran	Insecticide	8
9	Cyhalofop-butyl	Herbicide	8
10	2,4-D-ethylhexyl	Herbicide	7
11	Abamectin	Nematicide	7
12	Metamifop	Herbicide	7
13	Clothianidin	Insecticide	7
14	Flonicamid	Insecticide	6
Total			173

Source: ICAMA & CCM

Table 1.3-3 Top 15 active ingredients of newly approved mixed pesticide formulations in China, 2023

No.	Active ingredient	Category	Number of registration
1	Chlorantraniliprole·Abamectin-aminomethyl	Insecticide	29
2	Clothianidin·Chlorantraniliprole	Insecticide	16
3	Clothianidin·Bifenthrin	Insecticide	12
4	Abamectin-aminomethyl·Lufenuron	Insecticide	10
5	Chlorantraniliprole·Indoxacarb	Insecticide	10
6	Etoxazole·Bifenazate	Acaricide	10
7	Chlorantraniliprole·Chlorfenapyr	Insecticide	9
8	Topramezone·Atrazine	Herbicide	7
9	Pyraclostrobin·Tebuconazole	Fungicide	7
10	Chlorfenapyr·Lufenuron	Insecticide	7
11	Fonicamid·Bifenthrin	Insecticide	7
12	Chlorantraniliprole·Abamectin	Insecticide	7
13	Fludioxonil·Metalaxyl-M	Fungicide	6
14	Thiamethoxam·Chlorantraniliprole	Insecticide	6
15	Terbutylazine·Topramezone	Herbicide	6
Total			149

Source: ICAMA & CCM

- Active ingredients of China's first registration out of single/mixed pesticide formulations

In 2023, 10 pesticide formulations were registered with active ingredients of first registration in China, including 4 fungicides, 3 insecticides and 3 herbicides.

Table 1.3-4 Registrations with first approved active ingredients of pesticide formulation in China, 2023

No.	Active ingredient	Content	Type	Registration code	Registrant (EN)	Category
1	Ceriporia lacerata GXMS1	5.0 million CFU/g	SC	PD20230098	Sichuan Jinzhu Eco-Agriculture Technology Co., Ltd.	Fungicide
2	Bacillus amyloliquefaciens HT2003	30.0 billion CFU/g	WP	PD20230096	Shaanxi Hengtian Chemical Co., Ltd.	Fungicide
3	Trichoderma harzianum Rifaistrain 1-22	600 million CFU/g	WP	PD20230092	Xi'an Dingsheng Biochemical Co., Ltd.	Fungicide
4	Cyclobutrifluram	450 g/L	SC	PD20230102	Syngenta AG	Fungicide
5	Spodoptera frugiperda multiple nucleopolyhedrovirus Hub1	2.0 billion PIB/mL	SC	PD20230100	Anhui Kewu Biotechnology Co., Ltd.	Insecticide
6	Teflubenzuron	300 g/L	SC	EX20230011	Shandong Weifang Rainbow Chemical Co., Ltd.	Insecticide
7	Teflubenzuron	300 g/L	SC	EX20230083	Henan Jinpeng Chemical Co., Ltd.	Insecticide
8	Butoxydim	25%	WG	EX20230029	Shandong Weifang Rainbow Chemical Co., Ltd.	Herbicide
9	Chloridazon	430 g/L	SC	EX20230042	Shandong Weifang Rainbow Chemical Co., Ltd.	Herbicide
10	Butoxydim	50%	WG	EX20230027	Shandong Weifang Rainbow Chemical Co., Ltd.	Herbicide

Source: ICAMA & CCM

2 New registration of herbicide formulation for agriculture use in China, 2023

2.1 New registrations of herbicide formulation by formulation type

In 2023, the 292 new registrations of herbicide formulation for agriculture use in China came in 14 formulation types, the top 3 of which were OD, EC and SL, adding up to 211 new registrations, accounting for 72.26% of the total in this category.

Table 2.1-1 Formulation type of newly approved herbicide formulation for agriculture use in China, 2023

No.	Formulation type	Code	Number of registration
1	Oil-base dispersion concentrate (oil dispersion)	OD	97
2	Emulsifiable concentrate	EC	66
3	Soluble concentrate	SL	48
4	Suspension concentrate	SC	32
5	Micro-emulsion	ME	16
6	Suspoemulsion	SE	8
7	Emulsion,oil in water	EW	6
8	Wettable powder	WP	5
9	Water dispersible granule	WG	5
10	Water soluble powder	SP	4
11	Capsule suspension	CS	2
12	Granule	GR	1
13	Water soluble granule	SG	1
14	Water dispersible tablet	WT	1
Total			292

Source: ICAMA & CCM

2.2 New registrations of herbicide formulation by toxicity

Among the 292 herbicide formulations granted with new registrations for agriculture purposes in 2023, 268 were lowly toxic, 23 were mildly toxic and only one was of moderate toxicity; the low-toxicity ones accounted for 91.78% of the total.

Table 2.2-1 Toxicity of newly approved herbicide formulation for agriculture use in China, 2023

No.	Toxicity	Number of registration
1	Low	268
2	Mild	23

No.	Toxicity	Number of registration
3	Moderate	1
Total		292

Source: ICAMA & CCM

2.3 Main registrants of herbicide formulation in China

In 2023, 292 new registrations of herbicide formulation for agriculture purposes in China were held by 141 registrants. The top 19 holders, each with 4 or above registrations, gained 109 approvals, taking up 37.33% of the total. Among them, Zenenorva Crop Protection (Anhui) Co., Ltd. ranked first with 13 registrations, followed by Wanrong Crop Technology Co., Ltd., holding 9 permits; 3 enterprises registered with 8 approvals, namely, Anhui Jintudi Biotechnology Co., Ltd., Jilin Jinqiu Pesticide Co., Ltd. and Shandong Binnong Technology Co., Ltd.

Table 2.3-1 Main registrants of newly approved herbicide formulation for agriculture use in China, 2023

No.	Registrant (EN)	Registrant (CN)	Province/Municipality	Number of registration
1	Zenorva Crop Protection (Anhui) Co., Ltd.	捷利诺华作物保护（安徽）有限公司	Anhui Province	13
2	Wanrong Crop Technology Co., Ltd.	万容作物科技有限公司	Jilin Province	9
3	Anhui Jintudi Biotechnology Co., Ltd.	安徽金土地生物科技有限公司	Anhui Province	8
4	Jilin Jinqiu Pesticide Co., Ltd.	吉林金秋农药有限公司	Jilin Province	8
5	Shandong Binnong Technology Co., Ltd.	山东滨农科技有限公司	Shandong Province	8
6	Xuchang Jian'an Changsheng Daily Chemical Co., Ltd.	许昌市建安区昌盛日化实业有限公司	Henan Province	7
7	Anhui Yuanjing Crop Protection Co., Ltd.	安徽远景作物保护有限公司	Anhui Province	6
8	Anhui Lanmpin Agricultural Development Co., Ltd.	安徽蓝田农业开发有限公司	Anhui Province	5
9	Shandong Runyang Chemical Co., Ltd.	山东润扬化学有限公司	Shandong Province	5
10	CEFC Anhui International Holding Co., Ltd.	安徽华星化工有限公司	Anhui Province	4
11	Anhui Shanghe Woda Biotechnology Co., Ltd.	安徽尚禾沃达生物科技有限公司	Anhui Province	4
12	Hunan Agricultural University Heartale Agrochem Co., Ltd.	湖南农大海特农化有限公司	Hunan Province	4
13	Hunan Xinchangshan Agricultural Development Co., Ltd.	湖南新长山农业发展股份有限公司	Hunan Province	4
14	Jiangxi Zhonghe Chemical Co., Ltd.	江西众和化工有限公司	Jiangxi Province	4
15	Qingdao Hansen Biologic Science Co., Ltd.	青岛瀚生生物科技股份有限公司	Shandong Province	4
16	Shandong Weifang Rainbow Chemical Co., Ltd.	山东潍坊润丰化工股份有限公司	Shandong Province	4

No.	Registrant (EN)	Registrant (CN)	Province/Municipality	Number of registration
17	Shandong Zhongxin Kenong Bio-Technology Co., Ltd.	山东中新科农生物科技有限公司	Shandong Province	4
18	Tianjin Boke Baisheng Technology Co., Ltd.	天津博克百胜科技有限公司	Tianjin City	4
19	Zhejiang Tianyi Biotechnology Co., Ltd.	浙江天一生物科技有限公司	Zhejiang Province	4
20	Others			183
Total				292

Source: ICAMA & CCM

2.4 Active ingredients of herbicide formulation in China

Among the 292 newly approved herbicide formulations for farmland use in 2023, 135 were single formulations with one active ingredient and the other 157 were mixed formulations containing two or three active ingredients, involving 149 different kinds of active ingredients (single and mixed) combined.

The single formulations were registered with 44 kinds of active ingredients, the top three of which in terms of registration amount were tembotrione, glufosinate-p and topramezone, accounting for 46 new certificates. On the other hand, 105 active-ingredient combinations were registered in the mixed herbicide formulation, with the top six taking up 31 registrations based on the number of new approvals.

Table 2.4-1 Major active ingredients of newly approved herbicide formulation for agriculture use in China, 2023

No.	Active ingredient	Number of registration
1	Tembotrione	17
2	Glufosinate-p	15
3	Topramezone	14
4	Cyhalofop-butyl	8
5	Topramezone·Atrazine	7
6	Metamifop	7
7	Terbuthylazine·Topramezone	6
8	MCPA	5
9	Pretilachlor·Bensulfuron-methyl	5
10	Metamifop·Cyhalofop-butyl	5
11	Pinoxaden	5
12	Others	198
Total		292

Source: ICAMA & CCM

- Active ingredients of single or mixed herbicide formulation

Table 2.4-2 Major active ingredients of newly approved single herbicide formulation for agriculture use in China, 2023

No.	Active ingredient	Number of registration
1	Tembotrione	17
2	Glufosinate-p	15
3	Topramezone	14
4	Cyhalofop-butyl	8
5	Metamifop	7
6	MCPA	5
7	Pinoxaden	5
8	Diquat dichloride	4
9	Bentazone	4
10	Others	56
Total		135

Source: ICAMA & CCM

Table 2.4-3 Major active ingredients of newly approved mixed herbicide formulation for agriculture use in China, 2023

No.	Active ingredient	Number of registration
1	Topramezone·Atrazine	7
2	Terbuthylazine·Topramezone	6
3	Pretilachlor·Bensulfuron-methyl	5
4	Metamifop·Cyhalofop-butyl	5
5	Triclopyr·Glyphosate	4
6	Fluoroglyphofen-ethyl·Glufosinate-ammonium	4
7	Others	126
Total		157

Source: ICAMA & CCM

3 New registration of insecticide formulation for agriculture use in China, 2023

3.1 New registrations of insecticide formulation by formulation type

In 2023, the 360 newly registered insecticide formulations for agriculture use in China fell into 14 different formulation types. The top 3 types, namely SC, GR and WG, made up 304 new registrations, accounting for 84.44% of the total in this category.

Table 3.1-1 Formulation type of newly approved insecticide formulation for agriculture use in China, 2023

No.	Formulation type	Code	Number of registration
1	Suspension concentrate	SC	234
2	Granule	GR	43
3	Water dispersible granule	WG	27
4	Micro-emulsion	ME	14
5	Oil-base dispersion concentrate (oil dispersion)	OD	11
6	Flowable concentrate for seed treatment	FS	7
7	Soluble concentrate	SL	6
8	Emulsion,oil in water	EW	5
9	Emulsifiable concentrate	EC	3
10	Capsule suspension	CS	3
11	Mixed formulations of CS and SC	ZC	3
12	Dispensor	DR*	2
13	Suspoemulsion	SE	1
14	Emulsion for seed treatment	ES	1
Total			360

Note: *English names and codes for pesticide formulation type established in China

Source: ICAMA & CCM

3.2 New registrations of insecticide formulation by toxicity

In 2023, China saw the registration of 360 new insecticide formulations for agricultural use, with 288 being categorised as low toxicity, representing 80.00% of the total registrations. The remaining formulations were split between 53 with mild toxicity and 19 with moderate toxicity levels.

Table 3.2-1 Toxicity of newly approved insecticide formulation for agriculture use in China, 2023

No.	Toxicity	Number of registration
1	Low	275
2	Mild	53
3	Moderate	17
4	Low (TC: highly toxic)	13
5	Moderate (TC: highly toxic)	2
Total		360

Source: ICAMA & CCM

3.3 Main registrants of insecticide formulation in China

In 2023, 197 enterprises registered insecticide formulations for agriculture use in China, of which Shaanxi Meibang Pharmaceutical Group Co., Ltd., Shaanxi Tunpsion Biotechnology Co., Ltd., Guangdong Kefeng Bio-Technology Co., Ltd. and Shandong Yuanfeng Biotechnology Co., Ltd. secured the top four places, with approvals accounting for 1.73% of the total 360 new registrations.

Table 3.3-1 Main registrants of newly approved insecticide formulation for agriculture use in China, 2023

No.	Registrant	Registrant (CN)	Province	Number of registration
1	Shaanxi Meibang Pharmaceutical Group Co., Ltd.	陕西美邦药业集团股份有限公司	Shaanxi Province	11
2	Shaanxi Tunpsion Bio-Technology Co., Ltd.	陕西汤普森生物科技有限公司	Shaanxi Province	9
3	Guangdong Kefeng Bio-Technology Co., Ltd.	广东科峰生物技术有限公司	Guangdong Province	7
4	Shandong Yuanfeng Biotechnology Co., Ltd.	山东源丰生物科技有限公司	Shandong Province	7
5	Anhui Jintudi Biotechnology Co., Ltd.	安徽金土地生物科技有限公司	Anhui Province	5
6	Guangdong Liwei Agricultural Technology Co., Ltd.	广东立威农业科技有限公司	Guangdong Province	5
7	Hunan Xinchangshan Agricultural Development Co., Ltd.	湖南新长山农业发展股份有限公司	Hunan Province	5
8	Jiangxi Bumper Biological Technology Co., Ltd.	江西巴姆博生物科技有限公司	Jiangxi Province	5
9	Shandong Zhongxin Kenong Bio-Technology Co., Ltd.	山东中新科农生物科技有限公司	Shandong Province	5
10	Shaanxi Yitianfeng Crop Technology Co., Ltd.	陕西亿田丰作物科技有限公	Shaanxi Province	5

No.	Registrant	Registrant (CN)	Province	Number of registration
		司		
11	Bengbu Shengdan Biochemical Co., Ltd.	蚌埠圣丹生物化工有限公司	Anhui Province	4
12	Hemeisi (Shandong) Plant Protection Co., Ltd.	禾美思 (山东) 植物保护有限公司	Shandong Province	4
13	Henan Changjian Biotechnology Co., Ltd.	河南常见生物科技有限公司	Henan Province	4
14	Henan Loong Boy Biotechnology Co., Ltd.	河南小龙人农业科技有限公司	Henan Province	4
15	Henan Yunnong Crop Protection Technology Co., Ltd.	河南蕴农植保科技有限公司	Henan Province	4
16	Shandong Tiandao Bioengineering Co., Ltd.	山东天道生物工程有限公司	Shandong Province	4
17	Others			272
Total				360

Source: ICAMA & CCM

3.4 Active ingredients of insecticide formulation in China

In 2023, 32 kinds of active ingredients were contained in the 95 single formulations of agricultural insecticide newly approved in China, among which chlorantraniliprole, in particular, ranked the top in terms of registration amount, followed by flonicamid and clothianidin. With regard to mixed formulation, the number of registrations amounted to 265, with 102 groups of active ingredients involved. The leading active ingredient mixtures—chlorantraniliprole·abamectin·aminomethyl, clothianidin·chlorantraniliprole, clothianidin·bifenthrin, chlorantraniliprole·indoxacarb—contributed to 10 or above registrations each.

Table 3.4-1 Major active ingredients of newly approved insecticide formulation for agriculture use in China, 2023

No.	Active ingredient	Number of registration
1	Chlorantraniliprole	41
2	Chlorantraniliprole·Abamectin·aminomethyl	29
3	Clothianidin·Chlorantraniliprole	15
4	Clothianidin·Bifenthrin	12
5	Chlorantraniliprole·Indoxacarb	10
6	Abamectin·aminomethyl·Lufenuron	9
7	Chlorantraniliprole·Chlorfenapyr	9
8	Others	235
Total		360

Source: ICAMA & CCM

- Active ingredient of single or mixed insecticide formulation

Table 3.4-2 Major active ingredients of newly approved single insecticide formulation for agriculture use in China, 2023

No.	Active ingredient	Number of registration
1	Chlorantraniliprole	41
2	Flonicamid	6
3	Clothianidin	6
4	Abamectin-aminomethyl	3
5	Spirotetramat	3
6	Thiamethoxam	3
7	Metaldehyde	3
8	Others	30
Total		95

Source: ICAMA & CCM

Table 3.4-3 Major active ingredients of newly approved mixed insecticide formulation for agriculture use in China, 2023

No.	Active ingredient	Number of registration
1	Chlorantraniliprole·Abamectin-aminomethyl	29
2	Clothianidin·Chlorantraniliprole	15
3	Clothianidin·Bifenthrin	12
4	Chlorantraniliprole·Indoxacarb	10
5	Abamectin-aminomethyl·Lufenuron	9
6	Chlorantraniliprole·Chlorfenapyr	9
7	Chlorfenapyr·Lufenuron	7
8	Flonicamid·Bifenthrin	7
9	Chlorantraniliprole·Abamectin	7
10	Etoxazole·Bifenazate	7
11	Thiamethoxam·Chlorantraniliprole	6
12	Others	147
Total		265

Source: ICAMA & CCM

4 New registration of fungicide formulation for agriculture use in China, 2023

4.1 New registrations of fungicide formulation by formulation type

In 2023, the 145 fungicide formulations registered for farmland use in China had 13 different formulation types. Thereinto, SC ranked first with a tally of 61 new registrations, accounting for 42.07% of the total in this category.

Table 4.1-1 Formulation type of newly approved fungicide formulation for agriculture use in China, 2023

No.	Formulation type	Code	Number of registration
1	Suspension concentrate	SC	61
2	Flowable concentrate for seed treatment	FS	18
3	Soluble concentrate	SL	13
4	Granule	GR	9
5	Water dispersible granule	WG	9
6	Emulsion,oil in water	EW	8
7	Micro-emulsion	ME	8
8	Wettable powder	WP	6
9	Emulsifiable concentrate	EC	4
10	Suspoemulsion	SE	4
11	Paste	PA	3
12	Ultra low volume concentrate	UL	1
13	Capsule suspension	CS	1
Total			145

Source: ICAMA & CCM

4.2 New registrations of fungicide formulation by toxicity

Among China's newly approved fungicide formulations for agricultural use in 2023, 121 were lowly toxic (including 1 with highly toxic TC), 19 were mildly toxic and 5 were of moderate toxicity.

Table 4.2-1 Toxicity of newly approved fungicide formulation for agriculture use in China, 2023

No.	Toxicity	Number of registration
1	Low	120
2	Mild	19
3	Moderate	5

No.	Toxicity	Number of registration
4	Low (TC: highly toxic)	1
Total		145

Source: ICAMA & CCM

4.3 Main registrants of fungicide formulation in China

In 2023, 109 enterprises were holding 145 new registrations of fungicide formulations for agriculture use in China. The top 10 registrants accounted for 23.45% of the total registrations and each obtained 3+ permits. Specifically, Shaanxi Hengtian Chemical Co., Ltd., Shaanxi Meibang Pharmaceutical Group Co., Ltd. and Shaanxi Tunpsion Bio-Technology Co., Ltd. topped the list, with five, four and four approvals, respectively.

Table 4.3-1 Main registrants of newly approved fungicide formulation for agriculture use in China, 2023

No.	Registrant	Registrant (CN)	Province	Number of registration
1	Shaanxi Hengtian Chemical Co., Ltd.	陕西恒田生物农业有限公司	Shaanxi Province	5
2	Shaanxi Meibang Pharmaceutical Group Co., Ltd.	陕西美邦药业集团股份有限公司	Shaanxi Province	4
3	Shaanxi Tunpsion Bio-Technology Co., Ltd.	陕西汤普森生物科技有限公司	Shaanxi Province	4
4	Anhui Yuanjing Crop Protection Co., Ltd.	安徽远景作物保护有限公司	Anhui Province	3
5	Henan Furuide Biological Technology Co., Ltd.	河南福瑞得生物科技有限公司	Henan Province	3
6	Hunan Agricultural University Heartale Agrochem Co., Ltd.	湖南农大海特农化有限公司	Hunan Province	3
7	Jiangxi Zhongxun Agro-Chemical Co., Ltd.	江西中迅农化有限公司	Jiangxi Province	3
8	Zenenorva Crop Protection (Anhui) Co., Ltd.	捷利诺华作物保护(安徽)有限公司	Anhui Province	3
9	Qingdao Haina Biotechnology Co., Ltd.	青岛海纳生物科技有限公司	Shandong Province	3
10	Syngenta Nantong Crop Protection Co., Ltd.	先正达南通作物保护有限公司	Jiangsu Province	3
11	Others			111
Total				145

Source: ICAMA & CCM

4.4 Active ingredients of fungicide formulation in China

In general, 104 active ingredients/ingredient combinations were involved in the 145 fungicide formulations approved for agricultural purposes in China in 2023. Counted by the number of registrations, the top 7 kinds of active ingredients, led by pyraclostrobin·tebuconazole, were contained in 36 fungicide formulations, which accounted for 24.83% of the total approvals.

In terms of single formulations, 40 registration certificates were approved with 33 different active ingredients. By the number of new registrations, kasugamycin, prothioconazole and oligosaccharins ranked the top three, accounting for 25% of the total new single fungicide formulations.

The mixed formulations represented 105 registrations, involving 71 combinations of active ingredients. Among them, pyraclostrobin-tebuconazole topped the list with seven registrations, followed by fludioxonil-metalaxyl-M, oxine-copper-kasugamycin and tebuconazole-trifloxystrobin, with six, five and five permits, separately. The top four mixtures accounted for 21.90% of the total.

Table 4.4-1 Major active ingredients of newly approved fungicide formulation for agriculture use in China, 2023

No.	Active ingredient	Number of registration
1	Pyraclostrobin-Tebuconazole	7
2	Fludioxonil-Metalaxyl-M	6
3	Kasugamycin	5
4	Oxine-copper-Kasugamycin	5
5	Tebuconazole-Trifloxystrobin	5
6	Pyraclostrobin-Prochloraz	4
7	Hymexazol-Metalaxyl-M	4
8	Others	109
Total		145

Source: ICAMA & CCM

- Active ingredient of single or mixed fungicide formulation

Table 4.4-2 Major active ingredients of newly approved single fungicide formulation for agriculture use in China, 2023

No.	Active ingredient	Number of registration
1	Kasugamycin	5
2	Prothioconazole	3
3	Oligosaccharins	2
4	Others	30
Total		40

Source: ICAMA & CCM

Table 4.4-3 Major active ingredients of newly approved mixed fungicide formulation for agriculture use in China, 2023

No.	Active ingredient	Number of registration
1	Pyraclostrobin·Tebuconazole	7
2	Fludioxonil·Metalaxyl-M	6
3	Oxine-copper·Kasugamycin	5
4	Tebuconazole·Trifloxystrobin	5
5	Pyraclostrobin·Prochloraz	4
6	Hymexazol·Metalaxyl-M	4
7	Fluopicolide·Dimethomorph	3
8	Prothioconazole·Tebuconazole	2
9	Famoxadone·Fluopicolide	2
10	Fluopicolide·Cyazofamid	2
11	Fludioxonil·Azoxystrobin·Metalaxyl-M	2
12	Oxine-copper·Oligosaccharins	2
13	Azoxystrobin·Thifluzamide	2
14	Tricyclazole·Prochloraz	2
15	Others	57
Total		105

Source: ICAMA & CCM

5 New registration of pesticide formulation for export use only, 2023

5.1 Registration status of China's export-only pesticide formulation, 2023

In order to facilitate the market supervision of pesticides and offer easy identification for consumers, China uses special registration certificate numbers on pesticide products, such as codes starting with "PD", "PDN", "WP" or "EX". Among them, the "EX-" codes are for pesticides exclusively for export which are not allowed to be sold and used in China since 2020. Notably, some certain pesticides with the type code "PD", representing pesticides for agriculture use in China, have been renewed as export-only ones after their registration validity ends since 2022.

According to the data released by ICAMA, totalling 572 registrations for export-only pesticides (technical & formulation) were granted in 2020–2023. A total of 211 new registrations for export-only pesticides were issued in China in 2023 with registration numbers starting with "EX2023-", down 12.08% year on year. Thereinto, 81.99% (=173) was made in the forms for pesticide formulations, the rest was approvals of technical products.

Table 5.1-1 Newly granted registration for export-only pesticide technical & formulation in China, 2020–2023

Year	Formulation	Technical (TC & TK)	Total
2020	1	1	2
2021	99	20	119
2022	211	29	240
2023	173	38	211
Total	484	88	572

Note: 1. In 2023, 46 registrations of pesticides for agriculture use in China (16 TC/TK and 30 formulations) changed into for export only were added. 2. In 2022, 16 registrations of pesticides for agriculture use in China (3 TC/TK and 13 formulations) changed into for export only were added.

Source: ICAMA & CCM

5.2 New registrations of export-only pesticide formulation by category, 2023

In 2023, there were 143 new registrations for export-only pesticide formulations under 6 categories in China, including 67 herbicides, 47 insecticides, 22 fungicides, 3 acaricides, as well as 2 acaricide/insecticide and plant growth regulators, respectively.

Table 5.2-1 Category of China's newly approved export-only pesticide formulation, 2023

No.	Category	Number of registration	Proportion
1	Herbicide	67	47%
2	Insecticide	47	33%
3	Fungicide	22	15%
4	Acaricide	3	2%
5	Acaricide/Insecticide	2	1%

No.	Category	Number of registration	Proportion
6	Plant growth regulator	2	1%
Total		143	100%

Source: ICAMA & CCM

5.3 New registration of export-only pesticide formulation by formulation type, 2023

In 2023, China's new export-only pesticide formulation can be sorted into 14 formulation types, 109 (=76.22%) of which were under the top 4 formulation types, namely EC, SC, SL and WG.

Table 5.3-1 Formulation type of China's newly approved export-only pesticide formulation, 2023

No.	Formulation type	Code	Number of registration
1	Emulsifiable concentrate	EC	38
2	Suspension concentrate	SC	27
3	Soluble concentrate	SL	25
4	Water dispersible granule	WG	19
5	Wettable powder	WP	12
6	Water soluble granule	SG	6
7	Oil-base dispersion concentrate (oil dispersion)	OD	3
8	Micro-emulsion	ME	3
9	Flowable concentrate for seed treatment	FS	3
10	Water soluble powder	SP	2
11	Capsule suspension	CS	2
12	Granule	GR	1
13	Emulsion,oil in water	EW	1
14	Suspoemulsion	SE	1
Total			143

Source: ICAMA & CCM

5.4 New registrations of export-only pesticide formulation by toxicity, 2023

China issued 143 new certificates for export-only pesticide formulation in 2023. In terms of toxicity, 117 new approvals were of low toxicity and 1 of low toxicity (TC: highly toxic), accounting for 82.52% of the total, in addition to 15 mild-toxic and 10 moderate-toxic ones.

Table 5.4-1 Toxicity of China's newly approved export-only pesticide formulation, 2023

No.	Toxicity	Number of registration
1	Low	117
2	Mild	15
3	Moderate	6
4	Moderate (TC: highly toxic)	4
5	Low (TC: highly toxic)	1
Total		143

Source: ICAMA & CCM

5.5 Main registrants of export-only pesticide formulation, 2023

46 Chinese enterprises obtained 143 new registrations of pesticide formulations for export only in 2023. Nearly 85% of these registrants with 113 approvals (79.02% of the total) were located in East China. Based on the number of registration, Shandong Weifang Rainbow Chemical Co., Ltd. topped the list by holding 42 new permits for export-only formulations in 2023, followed by Hebei Veyong Bio-Chemical Co., Ltd. (15), Shandong Binnong Technology Co., Ltd. (6) and Zhejiang Zhongshan Chemical Industry Group Co., Ltd. (6).

Table 5.5-1 Registrants of China's newly approved export-only pesticide formulation by geographic region, 2023

No.	Region	Number of registration	Number of registrant
1	East China	113	39
2	North China	25	4
3	Northwest China	4	2
4	Central China	1	1
Total		143	46

Source: ICAMA & CCM

Table 5.5-2 Main registrants of China's newly approved export-only formulation, 2023

No.	Registrant	Registrant (CN)	Province	Number of registration
1	Shandong Weifang Rainbow Chemical Co., Ltd.	山东潍坊润丰化工股份有限公司	Shandong Province	42
2	Hebei Veyong Bio-Chemical Co., Ltd.	河北威远生物化工有限公司	Hebei Province	15
3	Shandong Binnong Technology Co., Ltd.	山东滨农科技有限公司	Shandong Province	6
4	Zhejiang Zhongshan Chemical Industry Group Co., Ltd.	浙江中山化工集团股份有限公司	Zhejiang Province	6
5	Zhejiang Heben Pesticide & Chemicals Co., Ltd.	浙江禾本科技股份有限公司	Zhejiang Province	5
6	Hailir Pesticides and Chemicals Group Co., Ltd.	海利尔药业集团股份有限公司	Shandong Province	4

No.	Registrant	Registrant (CN)	Province	Number of registration
7	Hebei Xingbai Agricultural Technology Co., Ltd.	河北兴柏农业科技股份有限公司	Hebei Province	4
8	Jiangsu Trustchem Biotechnology Co., Ltd.	江苏仁信生物技术有限公司	Jiangsu Province	4
9	Trust Crop Protection Technology Co., Ltd.	江苏仁信作物保护技术有限公司	Jiangsu Province	4
10	Hebei Lansen Biotechnology Co., Ltd.	河北兰升生物科技有限公司	Hebei Province	3
11	CAC Nantong Chemical Co., Ltd.	南通泰禾化工股份有限公司	Jiangsu Province	3
12	Shaanxi Sunger Road Bio-Science Co., Ltd.	陕西上格之路生物科学有限公司	Shaanxi Province	3
13	Yanhua Yoloo (Laoting) Biotechnology Co., Ltd.	燕化永乐(乐亭)生物科技有限公司	Hebei Province	3
14	Others			41
Total				143

Source: ICAMA & CCM

5.6 Active ingredients of export-only pesticide formulation, 2023

In 2023, there were altogether 86 kinds of active ingredients and/or combinations in the 143 newly registered pesticide formulations for export only. Thereinto, the number of single formulations reached 126, accounting for 88.11% of the total, with predominant active ingredients including emamectin benzoate (=12), glyphosate (=11), glufosinate-ammonium (=7) and abamectin (=6). In addition, 17 mixed formulations were registered with two or three active ingredients. Thereinto, three combinations had 2 registrations each, namely chlorpyrifos·abamectin·aminomethyl, cymoxanil·dimethomorph·mancozeb and diflubenzuron·lambda-cyhalothrin; other combinations had only one registration.

Table 5.6-1 Major active ingredients of China's newly approved export-only formulation, 2023

No.	Active ingredient	Number of registration
1	Emamectin benzoate	12
2	Glyphosate	11
3	Glufosinate-ammonium	7
4	Abamectin	6
5	2,4-D-ethylhexyl	4
6	2,4-D	3
7	Acetamiprid	3
8	Haloxypop-P-methyl	3
9	Others	94
Total		143

Source: ICAMA & CCM

- Active ingredient of single or mixed export-only formulation

Table 5.6-2 Major active ingredients of China's newly approved single export-only formulation, 2023

No.	Active ingredient	Number of registration
1	Emamectin benzoate	12
2	Glyphosate	11
3	Glufosinate-ammonium	7
4	Abamectin	6
5	2,4-D-ethylhexyl	4
6	2,4-D	3
7	Acetamiprid	3
8	Haloxypop-P-methyl	3
9	Others	77
Total		126

Source: ICAMA & CCM

Table 5.6-3 Major active ingredients of China's newly approved mixed export-only formulation, 2023

No.	Active ingredient	Number of registration
1	Chlorpyrifos·Abamectin·aminomethyl	2
2	Cymoxanil·Dimethomorph·Mancozeb	2
3	Diflubenzuron·Lambda-cyhalothrin	2
4	Others	11
Total		17

Source: ICAMA & CCM

Kcomber's legal disclaimers

1. Kcomber guarantees that the information in the report is accurate and reliable to the best of its knowledge and experience. Kcomber defines the report as a consulting product providing information and does not guarantee its information is completely in accordance with the fact. Kcomber shall not have any obligations to assume any possible damage or consequences caused by subscribers' any corporate decisions based upon subscribers' own understanding and utilization of the report.

2. The complete copyright of the report is and will be held by Kcomber. Subscribers shall not acquire, or be deemed to acquire the copyright of the report.

3. The report provided by Kcomber shall be only used as source of subscriber's internal business decisions and shall not be used for any other purposes without Kcomber's prior written consent, unless stated and approved in license contract signed by both parties. Subscribers shall not distribute, resell and disclose the whole report or any part of the report to third parties and shall not publish any article or report by largely or directly copying or citing the information or data based on Kcomber's report without the prior written consent of Kcomber.

4. "Single User License" means that there shall be only ONE person to receive access and utilize the report. Subscriber can present the content of the report that marked the source from Kcomber to their internal colleagues for their internal communication and utilization, but cannot share the whole report to other individuals. Any citation, distribution, reselling and disclosure of the report as well as its partial content to any third party are prohibited, including but not limited to their parent companies or subsidiaries.

5. "Corporate License" means that subscriber shall not cite, distribute, resell the report or disclose information of the report to any third party without Kcomber's prior written consent, except subscribers' affiliates controlled with ownership of more than 50% of shares.

17th Floor, Huihua Commercial & Trade Building, No. 80 Xianlie Zhong Road Guangzhou,
510070, P.R.China

Website: <http://www.cnchemicals.com>

Tel: +86-20-37616606

Fax: +86-20-37616968

Email: econtact@cnchemicals.com