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# **Global Guide of Coming Off-patent Agrochemical Active Ingredients**

**The Third Edition**

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## Contents

Executive summary .....	1
Methodology and scope .....	4
1 Profiles of coming off-patent herbicides .....	8
1.1 Flucetosulfuron .....	8
1.2 Flufenpyr-ethyl .....	11
1.3 Foramsulfuron .....	13
1.4 Metamifop .....	20
1.5 Orthosulfamuron .....	22
1.6 Penoxsulam .....	25
1.7 Pinoxaden .....	31
1.8 Propoxycarbazone .....	37
1.9 Tembotrione .....	41
1.10 Thiencarbazone-methyl .....	46
1.11 Topramezone .....	51
2 Profiles of coming off-patent insecticides .....	56
2.1 Bistrifluron .....	56
2.2 Clothianidin .....	58
2.3 Ethiprole .....	68
2.4 Flubendiamide .....	70
2.5 Metofluthrin .....	74
2.6 Pyridalyl .....	77
2.7 Pyrifluquinazon .....	80
2.8 Spirotetramat .....	82
3 Profiles of coming off-patent fungicides .....	88
3.1 Amisulbrom .....	88
3.2 Benalaxyl-M .....	91
3.3 Benthiavalicarb-isopropyl .....	95
3.4 Cyflufenamid .....	98
3.5 Dimoxystrobin .....	102
3.6 Fenpyrazamine .....	105
3.7 Fluopicolide .....	107
3.8 Fluoxastrobin .....	113
3.9 Isotianil .....	119
3.10 Metalaxyl-M .....	120
3.11 Metrafenone .....	138
3.12 Orysastrobin .....	144
3.13 Penthiopyrad .....	147
3.14 Prothioconazole .....	150
3.15 Pyraclostrobin .....	164
3.16 Silthiofam .....	182
3.17 Valifenalate .....	184

## LIST OF TABLES

- Table 1.1-1 Patent information of flucetosulfuron in some countries/regions, as of Aug. 2016
- Table 1.1-2 Registration information of flucetosulfuron in China, as of Aug. 2016
- Table 1.2-1 Patent information of flufenpyr-ethyl in some countries/regions, as of Aug. 2016
- Table 1.3-1 Patent information of foramsulfuron in some countries/regions, as of Aug. 2016
- Table 1.3-2 Registration information of foramsulfuron in Argentina, as of Aug. 2016
- Table 1.3-3 Registration information of foramsulfuron in Denmark, as of Aug. 2016
- Table 1.3-4 Registration information of foramsulfuron in Australia, as of Aug. 2016
- Table 1.3-5 Registration information of foramsulfuron in Belgium, as of Aug. 2016
- Table 1.3-6 Registration information of foramsulfuron in Canada, as of Aug. 2016
- Table 1.3-7 Registration information of foramsulfuron in Chile, as of Aug. 2016
- Table 1.3-8 Registration information of foramsulfuron in France, as of Aug. 2016
- Table 1.3-9 Registration information of foramsulfuron in Greece, as of Aug. 2016
- Table 1.3-10 Registration information of foramsulfuron in the Netherlands, as of Aug. 2016
- Table 1.3-11 Registration information of foramsulfuron in Switzerland, as of Aug. 2016
- Table 1.3-12 Registration information of foramsulfuron in Uruguay, as of Aug. 2016
- Table 1.4-1 Patent information of metamifop in some countries/regions, as of Aug. 2016
- Table 1.4-2 Registration information of metamifop in China, as of Aug. 2016
- Table 1.4-3 Registration information of metamifop in Uruguay, as of Aug. 2016
- Table 1.5-1 Patent information of orthosulfamuron in some countries/regions, as of Aug. 2016
- Table 1.5-2 Registration information of orthosulfamuron in China, as of Aug. 2016
- Table 1.6-1 Patent information of penoxsulam in some countries/regions, as of Aug. 2016
- Table 1.6-2 Registration information of penoxsulam in Argentina, as of Aug. 2016
- Table 1.6-3 Registration information of penoxsulam in Brazil, as of Aug. 2016
- Table 1.6-4 Registration information of penoxsulam in Chile, as of Aug. 2016
- Table 1.6-5 Registration information of penoxsulam in China, as of Aug. 2016
- Table 1.6-6 Registration information of penoxsulam in France, as of Aug. 2016
- Table 1.6-7 Registration information of penoxsulam in Greece, as of Aug. 2016
- Table 1.6-8 Registration information of penoxsulam in Switzerland, as of Aug. 2016
- Table 1.6-9 Registration information of penoxsulam in Uruguay, as of Aug. 2016
- Table 1.7-1 Patent information of pinoxaden in some countries/regions, as of Aug. 2016
- Table 1.7-2 Registration information of pinoxaden in Argentina, as of Aug. 2016
- Table 1.7-3 Registration information of pinoxaden in Denmark, as of Aug. 2016
- Table 1.7-4 Registration information of pinoxaden in South Africa, as of Aug. 2016
- Table 1.7-5 Registration information of pinoxaden in Australia, as of Aug. 2016
- Table 1.7-6 Registration information of pinoxaden in Belgium, as of Aug. 2016
- Table 1.7-7 Registration information of pinoxaden in Canada, as of Aug. 2016
- Table 1.7-8 Registration information of pinoxaden in Chile, as of Aug. 2016
- Table 1.7-9 Registration information of pinoxaden in China, as of Aug. 2016
- Table 1.7-10 Registration information of pinoxaden in Finland, as of Aug. 2016
- Table 1.7-11 Registration information of pinoxaden in France, as of Aug. 2016
- Table 1.7-12 Registration information of pinoxaden in Greece, as of Aug. 2016

- Table 1.7-13 Registration information of pinoxaden in the Netherlands, as of Aug. 2016
- Table 1.7-14 Registration information of pinoxaden in Switzerland, as of Aug. 2016
- Table 1.7-15 Registration information of pinoxaden in Uruguay, as of Aug. 2016
- Table 1.8-1 Patent information of propoxycarbazone in some countries/regions, as of Aug. 2016
- Table 1.8-2 Registration information of propoxycarbazone in Belgium, as of Aug. 2016
- Table 1.8-3 Registration information of propoxycarbazone in Denmark, as of Aug. 2016
- Table 1.8-4 Registration information of propoxycarbazone in Finland, as of Aug. 2016
- Table 1.8-5 Registration information of propoxycarbazone in France, as of Aug. 2016
- Table 1.8-6 Registration information of propoxycarbazone in Greece, as of Aug. 2016
- Table 1.8-7 Registration information of propoxycarbazone in Canada, as of Aug. 2016
- Table 1.9-1 Patent information of tembotrione in some countries/regions, as of Aug. 2016
- Table 1.9-2 Registration information of tembotrione in Belgium, as of Aug. 2016
- Table 1.9-3 Registration information of tembotrione in South Africa, as of Aug. 2016
- Table 1.9-4 Registration information of tembotrione in Canada, as of Aug. 2016
- Table 1.9-5 Registration information of tembotrione in Chile, as of Aug. 2016
- Table 1.9-6 Registration information of tembotrione in France, as of Aug. 2016
- Table 1.9-7 Registration information of tembotrione in Greece, as of Aug. 2016
- Table 1.9-8 Registration information of tembotrione in the Netherlands, as of Aug. 2016
- Table 1.9-9 Registration information of tembotrione in Switzerland, as of Aug. 2016
- Table 1.10-1 Patent information of thien carbazone-methyl in some countries/regions, as of Aug. 2016
- Table 1.10-2 Registration information of thien carbazone-methyl in Belgium, as of Aug. 2016
- Table 1.10-3 Registration information of thien carbazone-methyl in Canada, as of Aug. 2016
- Table 1.10-4 Registration information of thien carbazone-methyl in France, as of Aug. 2016
- Table 1.10-5 Registration information of thien carbazone-methyl in Greece, as of Aug. 2016
- Table 1.10-6 Registration information of thien carbazone-methyl in Switzerland, as of Aug. 2016
- Table 1.10-7 Registration information of thien carbazone-methyl in the Netherlands, as of Aug. 2016
- Table 1.10-8 Registration information of thien carbazone-methyl in Uruguay, as of Aug. 2016
- Table 1.10-9 Registration information of thien carbazone-methyl in China, as of Aug. 2016
- Table 1.11-1 Patent information of topramezone in some countries/regions, as of Aug. 2016
- Table 1.11-2 Registration information of topramezone in Argentina, as of Aug. 2016
- Table 1.11-3 Registration information of topramezone in South Africa, as of Aug. 2016
- Table 1.11-4 Registration information of topramezone in Belgium, as of Aug. 2016
- Table 1.11-5 Registration information of topramezone in Canada, as of Aug. 2016
- Table 1.11-6 Registration information of topramezone in Chile, as of Aug. 2016
- Table 1.11-7 Registration information of topramezone in China, as of Aug. 2016
- Table 1.11-8 Registration information of topramezone in Greece, as of Aug. 2016
- Table 1.11-9 Registration information of topramezone in Uruguay, as of Aug. 2016
- Table 1.11-10 Registration information of topramezone in the Netherlands, as of Aug. 2016

Table 2.1-1 Patent information of bistrifluron in some countries/regions, as of Aug. 2016

Table 2.1-2 Registration information of bistrifluron in Australia, as of Aug. 2016

Table 2.1-3 Registration information of bistrifluron in Argentina, as of Aug. 2016

Table 2.2-1 Patent information of clothianidin in some countries/regions, as of Aug. 2016

Table 2.2-2 Registration information of clothianidin in Argentina, as of Aug. 2016

Table 2.2-3 Registration information of clothianidin in Chile, as of Aug. 2016

Table 2.2-4 Registration information of clothianidin in Denmark, as of Aug. 2016

Table 2.2-5 Registration information of clothianidin in South Africa, as of Aug. 2016

Table 2.2-6 Registration information of clothianidin in Australia, as of Aug. 2016

Table 2.2-7 Registration information of clothianidin in Belgium, as of Aug. 2016

Table 2.2-8 Registration information of clothianidin in Brazil, as of Aug. 2016

Table 2.2-9 Registration information of clothianidin in Canada, as of Aug. 2016

Table 2.2-10 Registration information of clothianidin in China, as of Aug. 2016

Table 2.2-11 Registration information of clothianidin in Finland, as of Aug. 2016

Table 2.2-12 Registration information of clothianidin in Greece, as of Aug. 2016

Table 2.2-13 Registration information of clothianidin in the Netherlands, as of Aug. 2016

Table 2.2-14 Registration information of clothianidin in Switzerland, as of Aug. 2016

Table 2.2-15 Registration information of clothianidin in Uruguay, as of Aug. 2016

Table 2.2-16 Registration information of clothianidin in France, as of Aug. 2016

Table 2.3-1 Patent information of ethiprole in some countries/regions, as of Aug. 2016

Table 2.3-2 Registration information of ethiprole in China, as of Aug. 2016

Table 2.4-1 Patent information of flubendiamide in some countries/regions, as of Aug. 2016

Table 2.4-2 Registration information of flubendiamide in Argentina, as of Aug. 2016

Table 2.4-3 Registration information of flubendiamide in Australia, as of Aug. 2016

Table 2.4-4 Registration information of flubendiamide in South Africa, as of Aug. 2016

Table 2.4-5 Registration information of flubendiamide in Chile, as of Aug. 2016

Table 2.4-6 Registration information of flubendiamide in China, as of Aug. 2016

Table 2.4-7 Registration information of flubendiamide in Greece, as of Aug. 2016

Table 2.4-8 Registration information of flubendiamide in the Netherlands, as of Aug. 2016

Table 2.4-9 Registration information of flubendiamide in Uruguay, as of Aug. 2016

Table 2.4-10 Registration information of flubendiamide in Brazil, as of Aug. 2016

Table 2.5-1 Patent information of metofluthrin in some countries/regions, as of Aug. 2016

Table 2.5-2 Registration information of metofluthrin in Australia, as of Aug. 2016

Table 2.5-3 Registration information of metofluthrin in Canada, as of Aug. 2016

Table 2.5-4 Registration information of metofluthrin in China, as of Aug. 2016

Table 2.5-5 Registration information of metofluthrin in the Netherlands, as of Aug. 2016

Table 2.6-1 Patent information of pyridalyl in some countries/regions, as of Aug. 2016

Table 2.6-2 Registration information of pyridalyl in China, as of Aug. 2016

Table 2.6-3 Registration information of pyridalyl in the South Africa, as of Aug. 2016

Table 2.6-4 Registration information of pyridalyl in the Netherlands, as of Aug. 2016

Table 2.7-1 Patent information of pyrfluquinazon in some countries/regions, as of Aug. 2016

Table 2.8-1 Patent information of spirotetramat in some countries/regions, as of Aug. 2016

Table 2.8-2 Registration information of spirotetramat in Australia, as of Aug. 2016

Table 2.8-3 Registration information of spirotetramat in Denmark, as of Aug. 2016

Table 2.8-4 Registration information of spirotetramat in South Africa, as of Aug. 2016

Table 2.8-5 Registration information of spirotetramat in Belgium, as of Aug. 2016

Table 2.8-6 Registration information of spirotetramat in Canada, as of Aug. 2016

Table 2.8-7 Registration information of spirotetramat in Chile, as of Aug. 2016

Table 2.8-8 Registration information of spirotetramat in China, as of Aug. 2016

Table 2.8-9 Registration information of spirotetramat in France, as of Aug. 2016

Table 2.8-10 Registration information of spirotetramat in Greece, as of Aug. 2016

Table 2.8-11 Registration information of spirotetramat in the Netherlands, as of Aug. 2016

Table 2.8-12 Registration information of spirotetramat in the Uruguay, as of Aug. 2016

Table 2.8-13 Registration information of spirotetramat in Switzerland, as of Aug. 2016

Table 3.1-1 Patent information of amisulbrom in some countries/regions, as of Aug. 2016

Table 3.1-2 Registration information of amisulbrom in Belgium, as of Aug. 2016

Table 3.1-3 Registration information of amisulbrom in Denmark, as of Aug. 2016

Table 3.1-4 Registration information of amisulbrom in Finland, as of Aug. 2016

Table 3.1-5 Registration information of amisulbrom in the Netherlands, as of Aug. 2016

Table 3.1-6 Registration information of amisulbrom in Switzerland, as of Aug. 2016

Table 3.1-7 Registration information of amisulbrom in China, as of Aug. 2016

Table 3.1-8 Registration information of amisulbrom in Australia, as of Aug. 2016

Table 3.2-1 Patent information of benalaxyl-M in some countries/regions, as of Aug. 2016

Table 3.2-2 Registration information of benalaxyl-M in Argentina, as of Aug. 2016

Table 3.2-3 Registration information of benalaxyl-M in Australia, as of Aug. 2016

Table 3.2-4 Registration information of benalaxyl-M in Belgium, as of Aug. 2016

Table 3.2-5 Registration information of benalaxyl-M in Brazil, as of Aug. 2016

Table 3.2-6 Registration information of benalaxyl-M in Chile, as of Aug. 2016

Table 3.2-7 Registration information of benalaxyl-M in France, as of Aug. 2016

Table 3.2-8 Registration information of benalaxyl-M in Greece, as of Aug. 2016

Table 3.2-9 Registration information of benalaxyl-M in the Netherlands, as of Aug. 2016

Table 3.2-10 Registration information of benalaxyl-M in Switzerland, as of Aug. 2016

Table 3.3-1 Patent information of benthiavalicarb-isopropyl in some countries/regions, as of Aug. 2016

Table 3.3-2 Registration information of Benthiavalicarb-isopropyl in Belgium, as of Aug. 2016

Table 3.3-3 Registration information of Benthiavalicarb-isopropyl in Denmark, as of Aug. 2016

Table 3.3-4 Registration information of Benthiavalicarb-isopropyl in Greece, as of Aug. 2016

Table 3.3-5 Registration information of Benthiavalicarb-isopropyl in the Netherlands, as of Aug. 2016

Table 3.3-6 Registration information of Benthiavalicarb-isopropyl in Switzerland, as of Aug. 2016

Table 3.4-1 Patent information of cyflufenamid in some countries/regions, as of Aug. 2016

Table 3.4-2 Registration information of cyflufenamid in Australia, as of Aug. 2016

Table 3.4-3 Registration information of cyflufenamid in Denmark, as of Aug. 2016

Table 3.4-4 Registration information of cyflufenamid in South Africa, as of Aug. 2016

Table 3.4-5 Registration information of cyflufenamid in Belgium, as of Aug. 2016

Table 3.4-6 Registration information of cyflufenamid in Greece, as of Aug. 2016

Table 3.4-7 Registration information of cyflufenamid in the Netherlands, as of Aug. 2016

Table 3.4-8 Registration information of cyflufenamid in Switzerland, as of Aug. 2016

Table 3.4-9 Registration information of cyflufenamid in France, as of Aug. 2016

Table 3.5-1 Patent information of dimoxystrobin in some countries/regions, as of Aug. 2016

Table 3.5-2 Registration information of dimoxystrobin in Belgium, as of Aug. 2016

Table 3.5-3 Registration information of dimoxystrobin in Denmark, as of Aug. 2016

Table 3.5-4 Registration information of dimoxystrobin in France, as of Aug. 2016

Table 3.6-1 Patent information of fenpyrazamine in some countries/regions, as of Aug. 2016

Table 3.6-2 Registration information of fenpyrazamine in Australia, as of Aug. 2016

Table 3.6-3 Registration information of fenpyrazamine in Chile, as of Aug. 2016

Table 3.6-4 Registration information of fenpyrazamine in Denmark, as of Aug. 2016

Table 3.6-5 Registration information of fenpyrazamine in Belgium, as of Aug. 2016

Table 3.6-6 Registration information of fenpyrazamine in Switzerland, as of Aug. 2016

Table 3.6-7 Registration information of fenpyrazamine in France, as of Aug. 2016

Table 3.6-8 Registration information of fenpyrazamine in Greece, as of Aug. 2016

Table 3.6-9 Registration information of fenpyrazamine in the Netherlands, as of Aug. 2016

Table 3.7-1 Patent information of fluopicolide in some countries/regions, as of Aug. 2016

Table 3.7-2 Registration information of fluopicolide in Argentina, as of Aug. 2016

Table 3.7-3 Registration information of fluopicolide in Denmark, as of Aug. 2016

Table 3.7-4 Registration information of fluopicolide in South Africa, as of Aug. 2016

Table 3.7-5 Registration information of fluopicolide in Belgium, as of Aug. 2016

Table 3.7-6 Registration information of fluopicolide in Brazil, as of Aug. 2016

Table 3.7-7 Registration information of fluopicolide in Canada, as of Aug. 2016

Table 3.7-8 Registration information of fluopicolide in Chile, as of Aug. 2016

Table 3.7-9 Registration information of fluopicolide in China, as of Aug. 2016

Table 3.7-10 Registration information of fluopicolide in Finland, as of Aug. 2016

Table 3.7-11 Registration information of fluopicolide in France, as of Aug. 2016

Table 3.7-12 Registration information of fluopicolide in Greece, as of Aug. 2016

Table 3.7-13 Registration information of fluopicolide in the Netherlands, as of Aug. 2016

Table 3.7-14 Registration information of fluopicolide in Switzerland, as of Aug. 2016

Table 3.7-15 Registration information of fluopicolide in Uruguay, as of Aug. 2016

Table 3.8-1 Patent information of fluoxastrobin in some countries/regions, as of Aug. 2016

Table 3.8-2 Registration information of fluoxastrobin in Argentina, as of Aug. 2016

Table 3.8-3 Registration information of fluoxastrobin in Chile, as of Aug. 2016

Table 3.8-4 Registration information of fluoxastrobin in Denmark, as of Aug. 2016

Table 3.8-5 Registration information of fluoxastrobin in Belgium, as of Aug. 2016

Table 3.8-6 Registration information of fluoxastrobin in Canada, as of Aug. 2016

Table 3.8-7 Registration information of fluoxastrobin in France, as of Aug. 2016

Table 3.8-8 Registration information of fluoxastrobin in the Netherlands, as of Aug. 2016

---

Table 3.8-9 Registration information of fluoxastrobin in Switzerland, as of Aug. 2016

Table 3.8-10 Registration information of fluoxastrobin in Uruguay, as of Aug. 2016

Table 3.8-11 Registration information of fluoxastrobin in China, as of Aug. 2016

Table 3.8-12 Registration information of fluoxastrobin in Greece, as of Aug. 2016

Table 3.9-1 Patent information of isotianil in some countries/regions, as of Aug. 2016

Table 3.10-1 Patent information of metalaxyl-M in some countries/regions, as of Aug. 2016

Table 3.10-2 Registration information of metalaxyl-M in Argentina, as of Aug. 2016

Table 3.10-3 Registration information of metalaxyl-M in Chile, as of Aug. 2016

Table 3.10-4 Registration information of metalaxyl-M in Denmark, as of Aug. 2016

Table 3.10-5 Registration information of metalaxyl-M in South Africa, as of Aug. 2016

Table 3.10-6 Registration information of metalaxyl-M in Australia, as of Aug. 2016

Table 3.10-7 Registration information of metalaxyl-M in Belgium, as of Aug. 2016

Table 3.10-8 Registration information of metalaxyl-M in Brazil, as of Aug. 2016

Table 3.10-9 Registration information of metalaxyl-M in Canada, as of Aug. 2016

Table 3.10-10 Registration information of metalaxyl-M in China, as of Aug. 2016

Table 3.10-11 Registration information of metalaxyl-M in Finland, as of Aug. 2016

Table 3.10-12 Registration information of metalaxyl-M in Greece, as of Aug. 2016

Table 3.10-13 Registration information of metalaxyl-M in the Netherlands, as of Aug. 2016

Table 3.10-14 Registration information of metalaxyl-M in South Africa, as of Aug. 2016

Table 3.10-15 Registration information of metalaxyl-M in Switzerland, as of Aug. 2016

Table 3.10-16 Registration information of metalaxyl-M in Uruguay, as of Aug. 2016

Table 3.10-17 Registration information of metalaxyl-M in France, as of Aug. 2016

Table 3.11-1 Patent information of metrafenone in some countries/regions, as of Aug. 2016

Table 3.11-2 Registration information of metrafenone in Australia, as of Aug. 2016

Table 3.11-3 Registration information of metrafenone in Denmark, as of Aug. 2016

Table 3.11-4 Registration information of metrafenone in South Africa, as of Aug. 2016

Table 3.11-5 Registration information of metrafenone in Belgium, as of Aug. 2016

Table 3.11-6 Registration information of metrafenone in Canada, as of Aug. 2016

Table 3.11-7 Registration information of metrafenone in Chile, as of Aug. 2016

Table 3.11-8 Registration information of metrafenone in Greece, as of Aug. 2016

Table 3.11-9 Registration information of metrafenone in Switzerland, as of Aug. 2016

Table 3.11-10 Registration information of metrafenone in China, as of Aug. 2016

Table 3.11-11 Registration information of metrafenone in the Netherlands, as of Aug. 2016

Table 3.11-12 Registration information of metrafenone in France, as of Aug. 2016

Table 3.12-1 Patent information of oryastrobin in some countries/regions, as of Aug. 2016

Table 3.13-1 Patent information of penthiopyrad in some countries/regions, as of Aug. 2016

Table 3.13-2 Registration information of penthiopyrad in Argentina, as of Aug. 2016

Table 3.13-3 Registration information of penthiopyrad in Australia, as of Aug. 2016

Table 3.13-4 Registration information of penthiopyrad in France, as of Aug. 2016

Table 3.13-5 Registration information of penthiopyrad in Canada, as of Aug. 2016

Table 3.13-6 Registration information of penthiopyrad in Greece, as of Aug. 2016

Table 3.13-7 Registration information of penthiopyrad in the Netherlands, as of Aug. 2016



Table 3.13-8 Registration information of penthiopyrad in Switzerland, as of Aug. 2016

Table 3.14-1 Patent information of prothioconazole in some countries/regions, as of Aug. 2016

Table 3.14-2 Registration information of prothioconazole in Argentina, as of Aug. 2016

Table 3.14-3 Registration information of prothioconazole in Chile, as of Aug. 2016

Table 3.14-4 Registration information of prothioconazole in Denmark, as of Aug. 2016

Table 3.14-5 Registration information of prothioconazole in South Africa, as of Aug. 2016

Table 3.14-6 Registration information of prothioconazole in Australia, as of Aug. 2016

Table 3.14-7 Registration information of prothioconazole in Brazil, as of Aug. 2016

Table 3.14-8 Registration information of prothioconazole in Canada, as of Aug. 2016

Table 3.14-9 Registration information of prothioconazole in Finland, as of Aug. 2016

Table 3.14-10 Registration information of prothioconazole in France, as of Aug. 2016

Table 3.14-11 Registration information of prothioconazole in Greece, as of Aug. 2016

Table 3.14-12 Registration information of prothioconazole in the Netherlands, as of Aug. 2016

Table 3.14-13 Registration information of prothioconazole in Belgium, as of Aug. 2016

Table 3.14-14 Registration information of prothioconazole in Switzerland, as of Aug. 2016

Table 3.15-1 Patent information of pyraclostrobin in some countries/regions, as of Aug. 2016

Table 3.15-2 Registration information of pyraclostrobin in Argentina, as of Aug. 2016

Table 3.15-3 Registration information of pyraclostrobin in Chile, as of Aug. 2016

Table 3.15-4 Registration information of pyraclostrobin in South Africa, as of Aug. 2016

Table 3.15-5 Registration information of pyraclostrobin in Australia, as of Aug. 2016

Table 3.15-6 Registration information of pyraclostrobin in Belgium, as of Aug. 2016

Table 3.15-7 Registration information of pyraclostrobin in Canada, as of Aug. 2016

Table 3.15-8 Registration information of pyraclostrobin in China, as of Aug. 2016

Table 3.15-9 Registration information of pyraclostrobin in Denmark, as of Aug. 2016

Table 3.15-10 Registration information of pyraclostrobin in Finland, as of Aug. 2016

Table 3.15-11 Registration information of pyraclostrobin in France, as of Aug. 2016

Table 3.15-12 Registration information of pyraclostrobin in Greece, as of Aug. 2016

Table 3.15-13 Registration information of pyraclostrobin in the Netherlands, as of Aug. 2016

Table 3.15-14 Registration information of pyraclostrobin in South Africa, as of Aug. 2016

Table 3.15-15 Registration information of pyraclostrobin in Switzerland, as of Aug. 2016

Table 3.15-16 Registration information of pyraclostrobin in Uruguay, as of Aug. 2016

Table 3.15-17 Registration information of pyraclostrobin in Brazil, as of Aug. 2016

Table 3.16-1 Patent information of silthiofam in some countries/regions, as of Aug. 2016

Table 3.16-2 Registration information of silthiofam in Belgium, as of Aug. 2016

Table 3.16-3 Registration information of silthiofam in Chile, as of Aug. 2016

Table 3.16-4 Registration information of silthiofam in China, as of Aug. 2016

Table 3.16-5 Registration information of silthiofam in Denmark, as of Aug. 2016

Table 3.16-6 Registration information of silthiofam in the Netherlands, as of Aug. 2016

Table 3.16-7 Registration information of silthiofam in France, as of Aug. 2016

Table 3.17-1 Patent information of valifenalate in some countries/regions, as of Aug. 2016

Table 3.17-2 Registration information of valifenalate in Belgium, as of Aug. 2016

Table 3.17-3 Registration information of valifenalate in France, as of Aug. 2016

Table 3.17-4 Registration information of valifenalate in Switzerland, as of Aug. 2016

### LIST OF FIGURES

- Figure 1.1-1 Chemical structure of flucetosulfuron
- Figure 1.1-2 Synthesis route of flucetosulfuron
- Figure 1.2-1 Chemical structure of flufenpyr-ethyl
- Figure 1.2-2 Synthesis route of flufenpyr-ethyl
- Figure 1.3-1 Chemical structure of foramsulfuron
- Figure 1.3-2 Synthesis route A of foramsulfuron
- Figure 1.3-3 Synthesis route B of foramsulfuron
- Figure 1.3-4 Synthesis route C of foramsulfuron
- Figure 1.3-5 Synthesis route D of foramsulfuron
- Figure 1.4-1 Chemical structure of metamifop
- Figure 1.4-2 Synthesis route of metamifop
- Figure 1.5-1 Chemical structure of orthosulfamuron
- Figure 1.5-2 Synthesis route A of orthosulfamuron
- Figure 1.5-3 Synthesis route B of orthosulfamuron
- Figure 1.6-1 Chemical structure of penoxsulam
- Figure 1.6-2 Synthesis route A of penoxsulam
- Figure 1.6-3 Synthesis route B of penoxsulam
- Figure 1.7-1 Chemical structure of pinoxaden
- Figure 1.7-2 Synthesis route of pinoxaden
- Figure 1.8-1 Chemical structure of propoxycarbazone
- Figure 1.8-2 Synthesis route of propoxycarbazone
- Figure 1.9-1 Chemical structure of tembotrione
- Figure 1.9-2 Synthesis route of tembotrione
- Figure 1.10-1 Chemical structure of thiencarbazone-methyl
- Figure 1.11-1 Chemical structure of topramezone
- Figure 1.11-2 Synthesis route of topramezone
- Figure 2.1-1 Chemical structure of bistrifluron
- Figure 2.1-2 Synthesis route of bistrifluron
- Figure 2.2-1 Chemical structure of clothianidin
- Figure 2.2-2 Synthesis route A of clothianidin
- Figure 2.2-3 Synthesis route B of clothianidin
- Figure 2.2-4 Synthesis route C of clothianidin
- Figure 2.2-5 Synthesis route D of clothianidin
- Figure 2.3-1 Chemical structure of ethiprole
- Figure 2.4-1 Chemical structure of flubendiamide
- Figure 2.5-1 Chemical structure of metofluthrin
- Figure 2.5-2 Synthesis route of metofluthrin
- Figure 2.6-1 Chemical structure of pyridalyl
- Figure 2.6-2 Synthesis route A of pyridalyl

Figure 2.6-3 Synthesis route B of pyridalyl  
Figure 2.6-4 Synthesis route C of pyridalyl  
Figure 2.7-1 Chemical structure of pyrifluquinazon  
Figure 2.8-1 Chemical structure of spirotetramat  
Figure 2.8-2 Synthesis route of spirotetramat  
Figure 3.1-1 Chemical structure of amisulbrom  
Figure 3.2-1 Chemical structure of benalaxyl-M  
Figure 3.2-2 Synthesis route A of benalaxyl-M  
Figure 3.2-3 Synthesis route B of benalaxyl-M  
Figure 3.3-1 Chemical structure of bentiavalicarb-isopropyl  
Figure 3.3-2 Synthesis route of bentiavalicarb-isopropyl  
Figure 3.4-1 Chemical structure of cyflufenamid  
Figure 3.4-2 Synthesis route of cyflufenamid  
Figure 3.5-1 Chemical structure of dimoxystrobin  
Figure 3.5-2 Synthesis route of dimoxystrobin  
Figure 3.6-1 Chemical structure of fenpyrazamine  
Figure 3.7-1 Chemical structure of fluopicolide  
Figure 3.7-2 Synthesis route A of fluopicolide  
Figure 3.7-3 Synthesis route B of fluopicolide  
Figure 3.8-1 Chemical structure of fluoxastrobin  
Figure 3.8-2 Synthesis route A of fluoxastrobin  
Figure 3.8-3 Synthesis route B of fluoxastrobin  
Figure 3.9-1 Chemical structure of isotianil  
Figure 3.9-2 Synthesis route of isotianil  
Figure 3.10-1 Chemical structure of metalaxyl-M  
Figure 3.10-2 Synthesis route A of metalaxyl-M  
Figure 3.10-3 Synthesis route B of metalaxyl-M  
Figure 3.11-1 Chemical structure of metrafenone  
Figure 3.11-2 Synthesis route of metrafenone  
Figure 3.12-1 Chemical structure of orysastrobin  
Figure 3.12-2 Synthesis route A of orysastrobin  
Figure 3.12-3 Synthesis route B of orysastrobin  
Figure 3.12-4 Synthesis route C of orysastrobin  
Figure 3.13-1 Chemical structure of penthiopyrad  
Figure 3.13-2 Synthesis route A of penthiopyrad  
Figure 3.13-3 Synthesis route B of penthiopyrad  
Figure 3.14-1 Chemical structure of prothioconazole  
Figure 3.14-2 Synthesis route A of prothioconazole  
Figure 3.14-3 Synthesis route B of prothioconazole  
Figure 3.14-4 Synthesis route C of prothioconazole  
Figure 3.14-5 Synthesis route D of prothioconazole  
Figure 3.15-1 Chemical structure of pyraclostrobin

Figure 3.15-2 Synthesis route A of pyraclostrobin

Figure 3.15-3 Synthesis route B of pyraclostrobin

Figure 3.16-1 Chemical structure of silthiofam

Figure 3.16-2 Synthesis route of silthiofam

Figure 3.17-1 Chemical structure of valifenalate

## 1. Introduction

*Global Guide of Coming Off-patent Agrochemical Active Ingredients* is CCM's third-edition report on coming off-patent agrochemicals in the world, which has been finished in Sept. 2016. This report contains profiles of 36 active ingredients (11 herbicides, 8 insecticides, 17 fungicides) whose patents is expected to be expired in 2015-2020.

In order to know more information about those active ingredients, CCM has done summarized the registration information in 15 countries, including Argentina, Australia, Belgium, Brazil, Canada, Chile, China, Denmark, Finland, Greece, the Netherlands, South Africa, Switzerland and Uruguay.

As for each active ingredient, this report introduces its basic information, chemical structure, history, synthesis route, application, physical & safety data, patent information and registration information, etc.

## 2. Approach for the report

- Desk research

The sources of desk research are various and include published magazines, journals, government statistics, industrial statistics, customs statistics, association seminars as well as information from the internet. A lot of work went into compiling and analyzing the information obtained.

- Data processing and presentation

The data collected and compiled were sourced from:

- Published articles from Chinese periodicals, magazines, journals, and the third-party databases
- Government statistics & customs statistics
- Comments from industrial experts
- CCM's database
- Professional databases from other sources
- Information from the internet

The data from various channels have been combined to make this report as precise and scientific as possible. Throughout the process, a series of internal discussions were held in order to analyze the data and draw conclusions from it.

### 3. What is in the report?

Taking flucetosulfuron for example, the information about flucetosulfuron is introduced in the following aspects:

#### - Basic information

IUPAC name: xxx

CAS No.: xxx

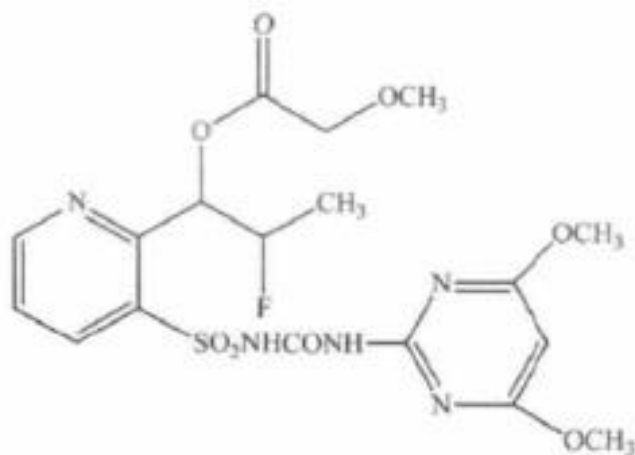
Formula: xxx

Typical formulations: xxx

Formulation type: xxx

Trade name: xxx

Figure 1.1-1 Chemical structure of flucetosulfuron

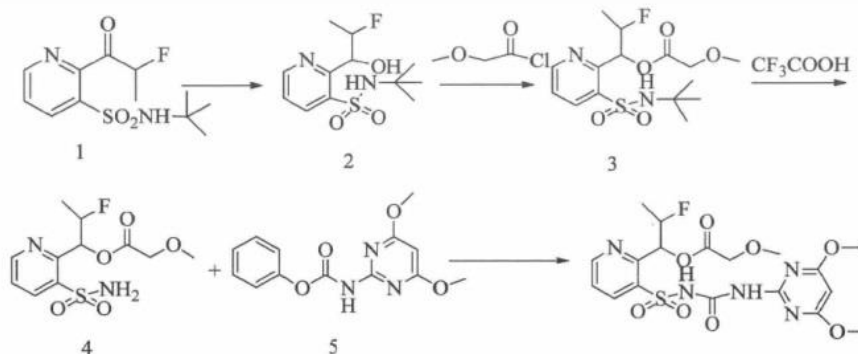


#### - History

Flucetosulfuron was reported by xxx. And it was first marketed in South Korea in 2004, by xxx.

## - Synthesis route

Figure 1.1-2 Synthesis route of flucetosulfuron



## - Application

Flucetosulfuron is used for the control of broad-leaved weeds, some grass weeds, and sedges, in rice and cereals. It is applied to both soil and foliage in rice, controlling xxx, xxx and xxx, at xxx g/ha. It controls broad-leaved weeds in cereals, including xxx, xxx and xxx, at xxx g/ha.

## - Physical & safety data

- Physical properties

Molecular weight: xxx

Physical form: xxx

Melting point: xxx

Vapour pressure: xxx

Octanol-water partition coefficient:  $K_{ow}$  logP= xxx

Henry's law constant: xxx

Solubility: In water xxx.

pKa: xxx

- Ecotoxicity

...

- Environmental profile

...

**- Patent information**

Table 1.1-1 Patent information of flucetosulfuron in some countries/regions, as of Aug. 2016

Country/region	Patent No.	Time
China	XXXX	XXXX
The European Union	XXXX	XXXX
XXXX	XXXX	XXXX
XXXX	XXXX	XXXX

Source: EPO & SIPO

**- Registration information**

Table 1.1-2 Registration information of flucetosulfuron in XXXX, as of Aug. 2016

Active ingredient	Specification	Content	Product name	Registrant
Flucetosulfuron	TC	XXXX	XXXX	XXXX
Flucetosulfuron	XXXX	XXXX	XXXX	XXXX
Flucetosulfuron	XXXX	XXXX	XXXX	XXXX

Source: ICAMA

...

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