

NAMES, CLASSIFICATION, AND TOXICITY OF INSECTICIDES

The following chart will help you identify specific pesticides and give you an indication of their toxicities, as well as their mode of action (IRAC code).

Names — Each generally used name of each pesticide is listed alphabetically in the left-hand column of the chart. Synonyms in general usage are listed in the next column opposite each entry. Trade names are indicated by the superscript “^{***}”; they should be capitalized. Other names are usually not capitalized.

Classes — Most insecticides are classified chemically as:	Class	Primary Site of Action	IRAC CODE
	Car. = carbamate	Acetylcholinesterase inhibitor	1A
	OP = organophosphate	Acetylcholinesterase inhibitor	1B
	OC = organochlorines	GABA-gated chloride channel antagonists	2A
	PP = phenylpyrazoles	GABA-gated chloride channel antagonists	2B
	SyP = synthetic pyrethroids	Sodium channel modulators	3A
	NEO = neonicotinoids	Nicotinic acetylcholine receptor	4A
	SX = sulfoximes	Nicotinic acetylcholine receptor agonist	4C
	BU = butenolides	Nicotinic acetylcholine receptor agonist	4D
	SP = spinosyns	Nicotinic acetylcholine receptor activator	5
	AV = avermectins	Chloride channel activators	6
	JH = juvenile hormone	Juvenile hormone mimic	7A
	FL = flonicamid	Feeding blockers	9C
	ET = etoxazole	Mite growth inhibitors	10B
	B = bacterial origin	Microbial disruptors	11A, 11B
	PRO = propargite	ATP synthase inhibitors	12C
	IGR = insect growth regulator	Chitin synthesis inhibitors	15, 16, 17, 18, 20A
	MISC = chemistry unclear	Uncertain mode of action	UN
	OX = oxadiazine	Sodium channel blocker	22A
	Phos. = phosphine	Mitochondrial inhibitors	24A
	DM = diamides	Ryanodine receptor	28

Toxicity Categories and LD₅₀ Values — When registering pesticides, the Environmental Protection Agency uses acute LD₅₀ values to determine the toxicity category and words or symbols that must be placed on the label. For this purpose, the test animals are usually rats, mice, or rabbits, but other mammals are sometimes used.

Toxicity Category	Signal Words Required On Label by EPA	ORAL LD ₅₀ (mg/kg)	DERMAL LD ₅₀ (mg/kg) 24-Hr. Exposure	Probable Lethal Oral Dose For Adult Humans
I. Highly Toxic	DANGER, POISON, Plus Skull & Crossbones Symbol	0 to 50	0 to 200	A few drops to 1 t
II. Moderately Toxic	WARNING	50 to 500	50 to 2,000	1 t to 2 T
III. Slightly Toxic	CAUTION	500 to 5,000	2,000 to 20,000	1 oz to 1 pt (1 lb)
IV. Low Toxicity	CAUTION	5,000	20,000	1 pt (1 lb) or more

The LD₅₀ is the dosage of the chemical at which one-half of the test animals are killed. It is based on the bodyweight of the animal and is expressed in milligrams of the chemical per kilogram of animal (mg/kg). A mg/kg is equivalent to 1 ppm. The lower the LD₅₀ value, the higher the toxicity. Although most reported LD₅₀ values are for technical material or actual toxicant, they are based on formulated products in some instances. All of these in the charts are for the technical material unless otherwise indicated. The toxicity categories given in the following charts are based on available data and are not necessarily the toxicity categories that would be assigned by EPA for the specific pesticides. Formulated pesticides usually have a higher LD₅₀ than the technical material and may not fall in the same toxicity category as the technical material.

The usual ways of administering chemicals are oral (by mouth), dermal (applied to the skin), and inhalation. Inhalation toxicity is expressed as LC₅₀ (lethal concentration). It is not as generally used as the other two.

Toxicity may be either acute or chronic. Acute refers to rather quick action from a single exposure, while chronic refers to the toxic effect of many exposures over a period of time.

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Insecticide Names	Other Names	Class	Toxicity Category	IRAC CODE	Acute LD ₅₀ Values for White Rats	
					ORAL (mg/kg)	DERMAL (mg/kg)
Abacus*	abamectin, Agri-Mek*, Abba*, AbamectinE*, Flora-Mek*, Reaper*, Temprano*, Zoro*, Clinch*	AV	II	6	300	>1800
abamectin	Agri-Mek*, Abba*, Abacus*, AbamectinE*, Flora-Mek*, Reaper*, Temprano*, Zoro*, Clinch*	AV	II	6	300	>1800
Abate*	temephos	OP	III	1B	8600-13,000	>4000
Abba*	abamectin, Agri-Mek*, Abacus*, AbamectinE*, Flora-Mek*, Reaper*, Temprano, Zoro*, Clinch*	AV	II	6	300	>1800
acephate	Orthene*, Bracket*	OP	III	1B	866-945	>10,250 (rabbit)
acetamiprid	Intruder*, Assail*, TriStar*, Strafer*, Anarchy*, ArVida*	NEO	III	4A	1,064	>2000
Actara*	thiamethoxam, Cruiser*, Centric*, Flagship*, Meridian*, Platinum*	NEO	III	4A	>5000	>2000
Actellic*	pirimiphos-methyl, Actellifog*	OP	III	1B	>2000	>4592
Adjourn*	esfenvalerate, Asana XL*, S-FenvaloStar*, Zyrate*	SyP	II	3A	458	>2000
Admire*	imidacloprid, Provado*, Merit*, Gaucho*, Advise*, Couraze*	NEO	III	4A	4,350	>5050 (rabbit)
Advantage*	imidacloprid	NEO	III	4A	1732-1943	>2000
AgLogic	aldicarb	Car.	I	1A	0.93	<5.0 (rabbit)
Agri-Mek*	abamectin, Epi-Mek*, Abacus*, AbamectinE*, Flora-Mek*, Reaper*, Temprano*, Zoro*, Abba*, Clinch*	AV	II	6	300	>1800
Agritol*	<i>Bacillus thuringiensis</i>	B	IV	11A	Non-toxic to mammals	
aldicarb	AgLogic	Car.	I	1A	0.93	<5.0 (rabbit)
allethrin	Pynamin*	SyP	III	3A	680-1000	>11,200
alpha-cypermethrin	Fastac*	SyP	III	3	210-1050	>5000
Altacor*	chlorantraniliprole, Coragen*, Prevathon*, Dermacor*, GrubEx*, Acelepryn*, Altriset*	DM	II	28	98.11	>5000
Alias*	imidacloprid, Admire*, Provado*, Merit*, Couraze*, Prey*, Sherpa*, Widow*, Wrangler*, Pasada*, Advise*, Imida*, ImiGold*, Nuprid*	NEO	III	4A	4350	>5050 (rabbit)
Altosid*	methoprene, Diacon*	JH	III	7A	>34,600	>3,000 (rabbit)
Aluminum Phosphide*	Phostoxin*, Gastoxin*, Fumitoxin*, Weevil-Cide*, Killz-All*	Phos.	I	24A	20	
Ambush*	permethrin, Pounce*, Arctic*, Perm-Up*	SyP	II	3A	430-4000	>4000
Amdro*	hydramethylnon	IGR	III	20A	>5000	>2000 (rabbit)
Ammo*	cypermethrin, Battery*, UP-Cyde*, Cyper G*, Holster*	SyP	II	3A	247	>2000
Applaud*	buprofezin, Talus*, Centaur*, Courier*	IGR	III	16	>5000	>2000
Arctic*	permethrin, Pounce*, Ambush*, Perm-Up*	SyP	II	3A	430-4000	>4000
arprocarb	Baygon*, propoxur	Car.	II	1A	128	800-1000
Asana XL*	esfenvalerate, Adjourn*, S-FenvaloStar*, Zyrate*	SyP	II	3A	458	>2000
Assail*	acetamiprid, Intruder*, TriStar*, Strafer*, Anarchy*, ArVida*	NEO	III	4A	1064	>2000
Atroban*	permethrin	SyP	II	3A	>4000	>4000
azadirachtin	Azatrol*, Azatin XL*, Neemix*, Azahar*, Ecozin Plus*, Debug*, Ornazin*	MISC	IV	UN	>5000	>2000
Azahar*	azadirachtin, Azatrol*, Azatin*, Neemix*, Ecozin*, Debug*, Ornazin*	MISC	IV	UN	>5000	>2000
Azatrol*	azadirachtin, Azahar*, Azatin*, Neemix*, Ecozin*, Debug*, Ornazin*	MISC	IV	UN	>5000	>2000
azinphos-methyl	Guthion*	OP	I	1B	5-20	220
Aztec*	cyfluthrin + tebufirimfos, Defcon*	SyP + OP	I	3A + 1B	1.3	
<i>Bacillus thuringiensis</i>	Dipel*, Thuricide*, Agritol*, Sok-BT*, Bactur*, Biobit*, MVP II*, Foray*	B	IV	11A	Non-toxic to mammals	
<i>Bacillus thuringiensis</i> var. <i>israelensis</i>	Agree*, Xentari*, <i>Bti</i> *, Bactomos*, Teknar*, Vectobac*, Gnatrol*	B	IV	11A	Non-toxic to mammals	
Battalion*	deltamethrin, DeltaDust*, DeltaGard*, DeltaGold*, Shooter*, Decis*, Over 'n Out!*, TopChoice*, Chipco Choice*, Maxforce*, Centynal*, Chipco Firestar*, Suspend*	Syp	I	3A	42.9	>2000

Insecticide Names	Other Names	Class	Toxicity Category	IRAC CODE	Acute LD ₅₀ Values for White Rats	
					ORAL (mg/kg)	DERMAL (mg/kg)
Battery*	cypermethrin, UP-Cyde*, Ammo*, Cyper G*, Holster*	SyP	I	3A	257	>2000
Baygon*	propoxur, arprocarb	Car.	II	1A	128	800-1000
Baythroid XL*	beta-cyfluthrin, Tempo Ultra*	SyP	III	3A	647	>2000
Belay*	clothianidin, Poncho*, NipsIt Inside*, Crossfire*	NEO	III	4A	3044	>5000
Beleaf*	flonicamid, Carbine*, Aria*	FL	II	9C	>2000	>2000
Belt*	flubendiamide, Synapse*	DM	II	28	<2000	>4000
Besiege*	chlorantraniliprole + lambda-cyhalothrin, Voliam Xpress*	DM + SyP	III	28 + 3A	180	>2000
beta-cyfluthrin	Baythroid XL*, Tempo Ultra*	SyP	I	3A	647	>5000
Bidrin*	dicrotophos, Inject-A-Cide B*, Dicromax*	OP	I	1B	17-22	224 (rabbit)
Bidrin XP II*	dicrotophos + bifenthrin	OP + SyP	I	1B + 3A	17-22	224 (rabbit)
bifenthrin	Bifenture*, Bisect*, Sniper*, UpStar*, Menace*, Tundra*, Capture*, Talstar*, Brigade*, Fanfare*, Discipline*	SyP	II	3A	375	>2000 (rabbit)
Bifenture*	bifenthrin, Bisect*, Sniper*, UpStar*, Menace*, Tundra*, Capture*, Talstar*, Brigade*, Fanfare*, Discipline*	SyP	II	3A	375	>2000 (rabbit)
Bisect*	bifenthrin, Bifenture*, Sniper*, UpStar*, Menace*, Tundra*, Capture*, Talstar*, Brigade*, Fanfare*, Discipline*	SyP	II	3A	375	>2000 (rabbit)
Blackhawk*	spinosad, Tracer*, Spinto*, Success*, Entrust*, Sensat*, Execute*, Consero*, Contain*	SP	IV	5	5000	>5000
Bracket*	acephate, Orthene*	OP	III	1B	866-945	>10,250 (rabbit)
Brigadier*	bifenthrin + imidacloprid	SyP + NEO	II	3A + 4A	175	>5000
buprofezin	Applaud*, Talus*, Centaur*, Courier*	IGR	III	16	>5000	>2000
Capture*	bifenthrin, Talstar*, Brigade*, Discipline*	SyP	II	3A	275	>2000 (rabbit)
carbaryl	Sevin*	Car.	III	1A	246-283	4000
Carbine*	flonicamid, Beleaf*, Aria*	FL	II	9C	>2000	>2000
Centric*	thiamethoxam, Cruiser*, Actara*, Flagship*, Meridian*, Platinum*	NEO	III	4A	>5000	>2000
chlorantraniliprole	Altacor*, Coragen*, Prevathon*, Dermacor*, GrubEx*, Acelepryn*, Altriset*	DM	II	28	98.11	>5000
chlorpyrifos	Dursban*, Lorsban*, Nufos*, Warhawk*, Whirlwind*, Hatchet*, Yuma*, Eraser*, Govern*, Pilo*, CPF*, Vulcan*, Pyrofos*	OP	II	1B	97-276	2000 (rabbit)
chlorpyrifos-methyl + deltamethrin	Storcide II*	OP + SyP	II	1B + 3A	150	>5000
Clinch*	abamectin, Agri-Mek*, Avid, Epi-Mek*, Zephyr*	AV	II	6	300	>1800
Closer	sulfoxaflor, Transform	SX	IV	4C	>2000	>4000
clothianidin	Poncho*, Belay*, NipsIt Inside*, Arena*, Crossfire*	NEO	III	4A	3044	>5000
Cobalt*	chlorpyrifos + lambda-cyhalothrin	OP + SyP	II	1B + 3A	97-276	>2000
Comite*	propargite, Omite*	PRO	I	12C	600	>5000
Confirm*	tebufenozide	IGR	IV	18	5000	>5000
Consero*	spinosad, Tracer*, Spintor*, Success*, Entrust*, Sensat*, Execute*, Blackhawk*, Contain*	SP	IV	5	5000	>5000
Contain*	spinosad, Tracer*, Spintor*, Success*, Entrust*, Sensat*, Execute*, Blackhawk*, Consero*	SP	IV	5	5000	>5000
Coragen*	chlorantraniliprole, Altacor*, Prevathon*, Dermacor*, GrubEx*, Acelepryn*, Altriset*	DM	II	28	98.11	>5000
Co-Ral*	coumaphos	OP	I	1B	15.5-41	860
coumaphos	Co-Ral*	OP	I	1B	15.5-41	860
Counter*	terbufos	OP	I	1B	4.5-9.0	1.1 (rabbit)
Couraze*	imidacloprid, Provado*, Admire*, Merit*, Alias*, Prey*, Sherpa*, Widow*, Wrangler*, Imida*, Advise*, Pasada*, ImiGold*, Nuprid*	NEO	III	4A	4350	>5050 (rabbit)
Cruiser*	thiamethoxam, Centric*, Warden*, Seed Shield*, Adage*	NEO	III	4A	>5000	>2000
Curacron*	profenofos	OP	I	1B	622	472 (rabbit)
cyfluthrin	Tombstone*, Decathlon*, Renounce*, Tempo*, Optashield*, Aztez*, Defcon*	SyP	I	3A	1015	>2000 (rabbit)
cyfluthrin + tebufenozide	Aztez*, Defcon*	SyP + OP	I	3A + 1B	1.3	>2000 (rabbit)
Cymbush*	cypermethrin, Ammo*, Battery*, UP-Cyde*	SyP	I	3A	247	>2000
cypermethrin	Ammo*, Cymbush*, Battery*, UP-Cyde*, Cyper G*, Holster*	SyP	I	3A	247	>2000
cyromazine	Larvadex*	IGR	IV	17	3387	>3100

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					ORAL (mg/kg)	DERMAL (mg/kg)
DDVP*	dichlorvos, dichlorphos, Vapona*	OP	I	1B	56-80	75-107
Decathlon*	cyfluthrin, Tombstone*, Renounce*, Tempo*, Optashield*	SyP	I	3A	1015	>2000 (rabbit)
Declare*	gamma-cyhalothrin, Proaxis*, Prolex*	SyP	III	3A	2250-2646	>5000
Defcon*	cyfluthrin + tebupirimfos, Aztec*	SyP + OP	I	3A + 1B	1.3	
deltamethrin	DeltaDust*, DeltaGard*, Delta Gold*, Shooter*, Over 'n Out!*, Battalion*, Top Choice*, Maxforce*, Chipco Choice*, Centynal*, Chipco FireStar*, Decis*, Suspend*	SyP	I	3A	42.9	>2000
Demon*	cypermethrin	SyP	I	3A	247	>2000
Denim*	emamectin benzoate	AV	I	6	2950	>2000 (rabbit)
Diacon*	S-methoprene*	IGR	III	7A	>34,600	>3000 (rabbit)
Diamond*	novaluron, Pedestal*, Rimon*	IGR	III	15	3914	8,000 (rabbit)
Diazinon*	Spectracide*, Dryzon*	OP	II, III	1B	300-400	3600 (rabbit)
Dibrom*	naled	OP	I	1B	430	1100 (rabbit)
dichlorphos	dichlorvos, Vapona*, DDV*	P*	OP	I	1B	56-80 75-107
dichlorvos	dichlorphos, Vapona*, DDVP*	OP	I	1B	56-80	75-107
dicofol	Dicofol*, Kelthane*	OC	II, III	UN	820-960	1000-1230
Dicromax*	Bidrin*, dicrotophos, Inject-A-Cide B*	OP	I	1B	17-22	224 (rabbit)
dicrotophos	Bidrin*, Inject-A-Cide B*	OP	I	1B	17-22	224 (rabbit)
diflubenzuron	Dimilin*	IGR	III	15	4540	
dimethoate	Dimate*, Dimethoate*	OP	II	1B	215	400-610
Dimilin*	diflubenzuron	IGR	III	15	4540	
dinotefuran	Tenchu*	NEO	IV	4A	>2000	>2000
Dipel ESNT*	<i>Bacillus thuringiensis</i>	B	IV	11	Non-toxic to mammals	
Dipterex*	Dylox*, trichlorfon, Neguvon*, Anthion*, Proxol*, GX-130*	OP	III	1B	560-630	2000
disulfoton	Di-Syston*	OP	I	1B	2-10	6-20
Di-Syston*	disulfoton	OP	I	1B	2-10	6-20
Dragnet*	permethrin	SyP	I-III	3A	430-4000	>4000
Dursban*	chlorpyrifos, Lorsban*, Nufos*	OP	II	1B	97-276	2000 (rabbit)
Dylox*	trichlorfon, Dipterex*, Neguvon*, Proxol*	OP	II	1B	560-630	>2000
Ectiban*	permethrin	SyP	II	3A	4000	>4000
Endigo*	thiamethoxam + lambda-cyhalothrin	NEO + SyP	II	4A + 3A	310.2	>2000
endosulfan	Thionex*	OC	I	2A	30-110	359 (rabbit)
Entrust*	spinosad, Tracer*, Spintor*, Success*, Consero*, Sensat*, Execute*, Blackhawk*, Contain*	SP	IV	5	5000	>5000
Epi-Mek*	abamectin, Agri-Mek*, Abba*, Abacus*, AbamectinE*, Flora-Mek*, Reaper*, Temprano*, Zoro*, Clinch*	AV	II	6	300	>1800
Eraser*	chlorpyrifos, Lorsban*, Nufos*, Whirlwind*, Warhawk*, Pilot*, Govern*, CPF*, Vulcan*	OP	II	1B	97-276	2000 (rabbit)
esfenvalerate	Asana XL*, Adjourn*, S-FenvaloStar*	SyP	II	3A	458	>2000 (rabbit)
Execute*	spinosad, Tracer*, Spintor*, Success*, Consero*, Sensat*, Entrust*, Blackhawk*, Contain*	SP	IV	5	5000	>5000
famphur	Warbex*	OP	I	1B	35-62	1460-5093 (rabbit)
Fastac*	alpha-cypermethrin	SyP	III	3	210-1050	>5000
fenpyroximate	Portal*, Fujimite*	MISC.	III	21	810	>5000
fipronil	Regent*, Termidor*	PP	II	2B	336	382 (rabbit)
flonicamid	Carbine*, Beleaf*, Aria*	FL	II	9C	>2000	>2000
Flora-Mek*	abamectin, Agri-Mek*, Abba*, Abacus*, AbamectinE*, Epi-Mek*, Reaper*, Temprano*, Zoro*, Clinch*	AV	II	6	300	>1800
flubendiamide	Belt*, Synapse*	DM	II	28	<2000	>4000
flupyradifurone	Sivanto*	BU	III	4D	>2000	>2000
Fumitoxin*	aluminum phosphide, Phostoxin*	Phos.	I	24A	20	
gamma-cyhalothrin	Proaxis*, Prolex*, Declare*	SyP	III	3A	2250-2646	>5000

Insecticide Names	Other Names	Class	Toxicity Category	IRAC CODE	Acute LD ₅₀ Values for White Rats	
					ORAL (mg/kg)	DERMAL (mg/kg)
Gaucho*	imidacloprid	NEO	III	4A	609	>2000
Govern*	chlorpyrifos, Lorsban*, Nufos*, Whirlwind*, Warhawk*, Pilot*, Eraser*	OP	II	1B	97-276	2000 (rabbit)
Grizzly*	lambda-cyhalothrin, Karate*, Silencer*, Kendo*, Jitzo*, Paradigm*, Lamcap*, Warrior*	SyP	II	3A	180	>2000
Guthion*	azinphos-methyl	OP	I	1B	11-13	220
halofenozide	Mach II*	IGR	IV	18	2850	>2850
Hatchet*	chlorpyrifos, Dursban*, Lorsban*, Whirlwind*, Warhawk*, Yuma*	OP	II	1B	97-276	>2000 (rabbit)
Heligen	nucleopolyhedrovirus	Misc.	III		>4000	>4000
hydramethylnon	Amdro*	MISC	III	20A	>5000	>2000 (rabbit)
Imida*	imidacloprid, Provado*, Alias*, Couraze*	NEO	III	4A	4350	>5050 (rabbit)
imidacloprid	Admire*, Provado*, Gaucho*, Merit*, Alias*, Couraze*, Imidacloprid*, Prey*, Sherpa*, Widow*, Wrangler*, Pasada*, Advise*, Imida*, ImiGold*, Nuprid*, Axxess*, Concur*, Sativa IM*, Senator*	NEO	III	4A	4350	>5050 (rabbit)
Imidan*	phosmet	OP	II	1B	147-316	>4640 (rabbit)
ImiGold*	imidacloprid, Provado*, Imida*, Alias*	NEO	III	4A	4350	>5050 (rabbit)
indoxacarb	Steward*	OX	III	22A	268	>5000
Intrepid*	methoxyfenozide	IGR	IV	18A	>5000	>2000
Intrepid Edge*	methoxyfenozide + spinetoram	IGR + SP	IV	18A + 5	>5000	>2000
Intruder*	acetamiprid, Assail*, Strafer*, Anarchy*, ArVida*	NEO	III	4A	1064	>2000
Ivermectin*	Ivomec*	AV		6		
Ivomec*	Ivermectin*	AV		6		
Javelin*	<i>Bacillus thuringiensis</i>	B	IV	11	Non-toxic to mammals	
Kaiso*	lambda-cyhalothrin, Karate*, Silencer*, Kendo*, Jitzo*, Paradigm*, Lamcap*, Warrior*	SyP	II	3A	180	>2000
Karate*	lambda-cyhalothrin, Silencer*, Warrior*, Kendo, Jitzo, Paradigm, Lamcap*	SyP	II	3A	180	>2000
lambda-cyhalothrin	Karate*, Silencer*, Warrior*, Battle, Scimitar*, Grizzly*, Kendo*, Taiga*, Mystic*, Helena lambda*, Lambda-T*, Kaiso*, Lamcap*, Lambda-Cyhalothrin*, Lambda-Cy*, LambdaStar*, Paradigm*	SyP	II	3A	180	>2000
LambdaStar*	lambda-cyhalothrin, Karate*, Silencer*, Warrior*	SyP	II	3A	180	>2000
Lambda-T*	lambda-cyhalothrin, Karate*, Silencer*, Warrior*	SyP	II	3A	180	>2000
Lannate*	methomyl	Car.	I	1A	17-24	>5880 (rabbit)
Larvadex*	cyromazine	IGR	IV	17	3387	>3100
Larvin*	thiodicarb	Car.	II	1A	66-120	>2000 (rabbit)
Leverage 360*	beta-cyfluthrin + imidacloprid	SyP + NEO	III	3A + 4A	>1044	>2000
lindane	gamma isomer of BHC	OC	II	2A	88-125	1000
Lorsban*	chlorpyrifos, Dursban*, Nufos*, Warhawk*, Whirlwind*, Hatchet*, Yuma*, Eraser*, Pilot*, Govern*, CPF*, Vulcan*	OP	II	1B	97-276	2000 (rabbit)
Mach II*	halofenozide	IGR	IV	18	2850	>2850
malathion	Fyfanon*	OP	III	1B	1000-1375	4100 (rabbit)
Menace*	bifenthrin	SyP	II	3A	375	>2000 (rabbit)
Merit*	imidacloprid, Admire*, Alias*, Couraze*, Trimax*, Provado*, Prey*, Sherpa*, Widow*, Wrangler*	NEO	III	4A	4350	>5050 (rabbit)
MesuroI*	methiocarb, Slug-Geta*, Bug-Geta*	Car.	II		10-130	5000 (rabbit)
Metaldehyde*	Slug and snail bait, Deadline*, Durham Metaldehyde*	MISC	II, III		630	
methidathion	Supracide*	OP	I	1B	44	200 (rabbit)
methiocarb	MesuroI*	Car.	II		10-130	5000 (rabbit)
methomyl	Lannate*	Car.	I	1A	17-24	5880 (rabbit)
methoprene	Altosid*, Diacon*	IGR	III	7A	>34,600	>3000 (rabbit)
methoxyfenozide	Intrepid*	IGR	IV	18A	>5000	>2000
methoxyfenozide + spinetoram	Intrepid Edge*	IGR + SP	IV	18A + 5	>5000	>2000
methyl parathion	Penncap M*, Methyl*	OP	I	1B	5	50
Mustang Maxx*	zeta-cypermethrin, Respect*	SyP	I	3A	106	>5000
MVP II*	<i>Bacillus thuringiensis</i>	B	IV	11	Non-toxic to mammals	

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					ORAL (mg/kg)	DERMAL (mg/kg)
Mystic Z*	lambda-cyhalothrin, Karate*, Silencer*, Warrior*	SyP	II	3A	180	>2000
naled	Dibrom*	OP	II	1B	430	1100 (rabbit)
Neguvon*	trichlorfon, Dipterex*, Dylox*, GX-130*, Proxol*	OP	III	1B	560-630	>2000
NipsIt Inside*	clothianidin, Poncho*, Belay*, Arena*, Crossfire*	NEO	III	4A	3044	>5000
novaluron	Diamond*, Pedestal*, Rimon*, Mayhem*	IGR	III	15	3914	8000 (rabbit)
nucleopolyhedrovirus	Heligen	Misc.	III		>4000	>4000
Nufos*	chlorpyrifos, Lorsban*, Warhawk*, Whirlwind*, Yuma*, Dursban*	OP	II	1B	97-276	>2000 (rabbit)
Nuprid*	imidacloprid, Provado*, Alias*, Couraze*	NEO	III	4A	4350	>5050 (rabbit)
Oberon*	spiromesifen	MISC	III	23	>2000	>4000
Omite*	propargite, Comite*	MISC	III	12C	2200	
Orthene*	acephate, Bracket*	OP	III	1B	866-945	>2000 (rabbit)
Overtime*	permethrin	SyP	II	3A	4000	4000
oxamyl	Vydate*	Car.	I	1A	5.4	37
paradichlorobenzene	PDB*	OC	III		500-5000	2000 (rabbit)
PDB*	paradichlorobenzene	OC	III		500-5000	2000 (rabbit)
Penncap-M*	microencapsulated methyl parathion	OP	II	1B	>600	>5400
Permethrin II*	permethrin	SyP	II	3A	430-4000	>4000
permethrin	Ambush*, Atroban*, Overtime*, Permethrin II*, Ectiban*, Pounce*, Astro*, Arctic*, Perm-Up*	SyP	II	3A	430-4000	>4000
phorate	Thimet*	OP	I	1A	2-4	20-30 (guinea pig)
phosmet	Imidan*	OP	II	1B	147-316	>4640 (rabbit)
phostoxin	aluminum phosphide, Weevil-Cide*	Phos.	I	24A	20	
Pilot*	chlorpyrifos, Lorsban*, Eraser*, Nufos*, Warhawk*, Whirlwind*	OP	II	1A	97-276	2000 (rabbit)
piperonyl butoxide	Butacide*, Incite*	MISC	III		>7500	
Poncho*	clothianidin, Belay*, Arena*, NipsIt Inside*, Crossfire*	NEO	III	4A	3044	>5000
Portal*	fenproximate, Fujimite*	MISC	III	21	810-1004	>5000
Pounce*	permethrin	SyP	I	3A	439-4000	>4000
Premise*	imidacloprid	NEO	III	4A	4143-4870	>2000
Prey*	imidacloprid, Admire*, Alias*, Provado*, Merit*, Couraze*, Sherpa*, Widow*, Wrangler*	NEO	III	4A	4350	>5050 (rabbit)
Proaxis*	gamma-cyhalothrin, Prolex*, Declare*	SyP	III	3A	2250-2646	>5000
profenofos	Curacron*	OP	I	1B	622	472 (rabbit)
Prolex*	gamma-cyhalothrin, Proaxis*, Declare*	SyP	III	3A	2250-2646	>5000
propargite	Omite*, Comite*	Phos.	III	12C	220-600	>5000
propoxur	Baygon*, arprocarb	Car.	II	1A	128	800-1000
Provado*	imidacloprid, Admire*, Gaucho*, Merit*, Alias*, Couraze*, Prey*, Sherpa*, Widow*, Wrangler*	NEO	III	4A	4350	>5050 (rabbit)
Proxol*	trichlorfon, Dylox*	OP	III	1B	560-630	>2000
pyrethrins	pyrethrum	Pyr.	III	3A	1500	>1800
pyrethrum	pyrethrins	Pyr.	III	3A	1500	>1800
Rabon*	tetrachlorvinphos, Ravap*	OP	III	1B	4000-5000	>2500 (rabbit)
Radiant*	spinetoram	SP	IV	5	>5000	>5000
Ravap*	tetrachlorvinphos, Rabon*	OP	III	1B	4000-5000	>2500 (rabbit)
Regent*	fipronil	PP	II	2B	336	382 (rabbit)
resmethrin	Chryson*, Synthrin*	Pyr.	III	3A	4240	2500 (rabbit)
Sensat*	spinosad, Tracer*, Spintor*, Success*, Consero*, Execute*, Entrust*, Blackhawk*, Contain*	SP	IV	5	5000	>5000
Sevin*	carbaryl	Car.	III	1A	246-283	4000
S-FenvaloStar*	esfenvalorate, Asana XL*, Adjourn*	SyP	II	3A	458	>2000
Sherpa	imidacloprid, Admire*, Alias*, Provado*, Merit*, Couraze*, Prey*, Widow*, Wrangler*	NEO	III	4A	4350	>5050 (rabbit)
Sivanto*	flupyradifurone	BU	III	4D	>2000	>2000
Sniper*	bifenthrin, Brigade*, Discipline*, Fanfare*	SyP	II	3A	347	>2000 (rabbit)

Insecticide Names	Other Names	Class	Toxicity Category	IRAC CODE	Acute LD ₅₀ Values for White Rats	
					ORAL (mg/kg)	DERMAL (mg/kg)
Spectracide*	diazinon	OP	II, III	1B	300-400	3600 (rabbit)
spinetoram	Radiant*	SP	IV	5	>5000	>5000
spinosad	Tracer*, Spintor*, Blackhawk*, Success*, Contain*, Sensat*, Entrust*, Execute*, Consero*	SP	IV	5	5000	>5000
Spintor*	spinosad, Tracer*, Blackhawk*, Success*, Contain*, Sensat*, Entrust*, Execute*, Consero*	SP	IV	5	5000	>5000
spiromesifen	Oberon*	MISC	III	23	>2000	>4000
Steward*	indoxacarb	OX	III	22A	268	>5000
Storicide II*	chlorpyrifos-methyl + deltamethrin	OP + SyP	II	1B + 3A	150	>5000
Strafer*	acetamiprid, Assail*, Intruder*, Anarchy*, ArVida*	NEO	III	4A	1064	>2000
Success*	spinosad, Tracer*, Spintor*, Blackhawk*, Contain*, Sensat*, Entrust*, Execute*, Consero*	SP	IV	5	5000	>5000
sulfoxaflor	Closer, Transform	SX	IV	4C	>2000	>4000
Supracide*	methidathion	OP	I	1B	44	200 (rabbit)
Synapse*	flubendiamide, Belt*	DM	II	28	<2000	>4000
Taktic*	amitraz	MISC	II	19	400	>1600
Talstar*	bifenthrin	SyP	II	3A	375	>2000 (rabbit)
Tame*	Danitol*, fenpropathrin	SyP	I	3A	68	
tebufenozide	Confirm*, Mach II*	IGR	IV	18A	5000	>5000
temephos	Abate*	OP	III	1B	8600-13,000	>4000
Tempo*	cyfluthrin, Decathlon*, Renounce*, Tombstone*	SyP	I	3A	1015	>2000 (rabbit)
Tempo Ultra*	beta-cyfluthrin, Baythroid XL*	SyP	III	3A	647	>2000
Tenchu*	dinotefuron	NEO	IV	4A	>2000	>2000
terbufos	Counter*	OP	I	1B	4.5-9.0	1.1 (rabbit)
tetrachlorvinphos	Rabon*	OP	III	1B	4000-5000	>2500 (rabbit)
thiamethoxam	Centric*, Cruiser*, Actara*	NEO	III	4A	>5000	>2000
Thimet*	phorate	OP	I	1B	204	20-30 (guinea pig)
thiodicarb	Larvin*	Car.	II	1A	66-120	>2000 (rabbit)
Thionex*	endosulfan	OC	I	2A	30-110	359 (rabbit)
Tombstone*	cyfluthrin, Decathlon*, Renounce*, Tempo*	SyP	I	3A	1015	>2000 (rabbit)
Torpedo*	permethrin	SyP	II	3A	430-4000	>4000
Tourizmo*	flubendiamide + buprofezin, Vetica*	DM + IGR	III	28 + 16	<2000	>2000
Tracer*	spinosad, Spintor*, Sensat*, Contain*, Conserve*, Entrust*, Blackhawk*, Consero*, Success*	SP	IV	5	5000	>5000
Transform	Closer, sulfoxaflor	SX	IV	4C	>2000	>4000
trichlorfon	Dylox*, Dipterex*, Neguvon*	OP	III	1B	560-630	>2000
Tundra*	bifenthrin	SyP	II	3A	347	>2000 (rabbit)
UP-Cyde*	cypermethrin, Ammo*, Battery*, Cyper G*, Holster*	SyP	I	3A	247	>2000
UpStar*	bifenthrin	SyP	II	3A	347	>2000 (rabbit)
Vapona*	dichlorphos, DDVP*, dichlorvos	OP	I	1B	80	107
Vendex*	fenbutatin-oxide	MISC	I	12B	2631	>2000
Vetica*	flubendiamide + buprofezin, Tourizmo*	DM + IGR	III	28 + 16	<2000	>2000
Vydate*	oxamyl	Car.	I	1A	5.4	37
Warbex*	famphur	OP	I	1B	35-62	1460-5093 (rabbit)
Warhawk*	chlorpyrifos, Lorsban*, Whirlwind*, Govern*, Eraser*, Yuma*, CPF*	OP	II	1B	97-276	>2000 (rabbit)
Whirlwind*	chlorpyrifos, Lorsban*, Warhawk*, Govern*, Eraser*, Yuma*, Vulcan*	OP	II	1B	97-276	>2000 (rabbit)
Widow*	imidacloprid, Admire*, Alias*, Provado*, Merit*, Couraze*, Prey*, Sherpa*, Wrangler*	NEO	III	4A	4350	>5050 (rabbit)
Wrangler*	imidacloprid, Admire*, Alias*, Provado*, Merit*, Couraze*, Prey*, Sherpa*, Widow*	NEO	III	4A	4350	>5050 (rabbit)
Yuma*	chlorpyrifos, Lorsban*, Whirlwind*, Warhawk*, Hatchet*, Dursban*	OP	II	1B	97-276	>2000 (rabbit)
Zeal*	etoxazole	ET	III	10B	>5000	>5000
zeta-cypermethrin	Mustang*, Mustang Maxx*, Respect*	SyP	II	3A	106	>5000
Zoro*	abamectin, Agri-Mek*, Epi-Mek*, Abacus*, AbamectinE*, Flora-Mek*, Temprano*, Reaper*, Abba*, Clinch*	AV	II	6	300	>1800

**Ecological Characteristics of Some Agricultural Insecticides
Commonly Used in Arkansas**

Insecticide (common name)	Relative Toxicity ^a to:		
	Fish	Birds	Bees
abamectin (Agri-Mek)	VH	VL	VH
Acephate (Orthene)	VL	M	H
acetamiprid (Intruder)		M	M
aldicarb (Temik)	M	VH	VL
Azadirachtin	H	NT	VL
Azinphosmethyl (Guthion)	VH	H	VH
<i>Bacillus thuringiensis</i> (DiPel)	NT	NT	NT
Bifenthrin (Brigade)	VH	M	VH
Buprofezine (Applaud)	NT	NT	VL
Carbaryl (Sevin)	M	L	VH
Carbofuran (furadan)	H	H	VH
Chlorantraniliprole (Prevathon, Coragen)		VL	L
Chlorpyrifos (Lorsban-Dursban)	VH	H	H
chlorpyrifos-methyl/deltamethrin (Storcide II)		VL	VH
chlothianidin (Belay)	H	L	H
cyfluthrin (Tombstone)	VH	L	VH
cypermethrin (Ammo)	VH	VL	VH
deltamethrin	VH	H	VH
dicofof	VH	M	VL
dicrotophos	M	VH	VH
diflubenzuron	VL	VL	NT
Dimethoate (Cygon)	M	H	M
Dindotefuran (Tenchu)		L	H
disulfoton (Di-Syston)		H	VH
endosulfan (Thionex)	VH	H	M
Esfenvalerate (Asana)	VH	H	L
etoxazole (Zeal)		VL	VL
fenpropathrin (Danitol)	VH	M	VH
fenpyroximate (Portal)		VL	L
fipronil (Regent)		L	VH
Flubendiamide (Belt)		VL	VL
Fionicamid (Carbine)	VL	L	L
Imidacloprid (Trimax, Admire, Alias, etc.)		L	VH
indoxacarb (Steward)		M	H
lambda-cyhalothrin	VH	L	VH
Malathion	M	H	H
metaldehyde		H	L
methiocarb (Mesurol)		H	H
Methomyl (Lannate)	M	H	H
Methoxyfenozide (Intrepid)	M	L	L
novaluron (Diamond)		L	M
oxamyl (Vydate)	M	VH	VH
Permethrin (Ambush, Pounce, etc.)	VH	H	L
Phorate (Thimet)	VH	VH	VL
Phosmet (Imidan)	VH	VH	VL
pirimifos-methyl (Actellic)		H	VH
Propargite (Comite)	VH	L	L
Spinosad (Tracer, Spintor)	L	L	VH
Spiromesifen (Oberon)		L	L
Tebufofenozide (Confirmer)	M	L	L
Tefluthrin	VH	H	L
Terbufos (Counter)	VH	M	H
Thiamethoxam (Centric, Cruiser)		L	H
Thiodicarb (Larvin)	M	M	L

^aVL=very low; L=low; M=moderate; H=high; VH=very high; NT=no evidence of acute or chronic toxicity.

TRADE NAMES OF GENERIC INSECTICIDES

Active Ingredient	Trade Names
abamectin	Abba, Abacus, AbamectinE, Agri-Mek, Avid, Clinch, Epi-Mek, Flora-Mek, Reaper, Temprano, Varsity, Zephyr, Zoro
acephate	Acephate, Bracket, Orthene, Avatar
acetamiprid	Assail, Intruder, Tristar, Strafer, Anarchy, ArVida
beta-cyfluthrin	Baythroid XL
bifenthrin	Bifenthrin AG, Bifenture, Bisect, Brigade, Capture, Discipline, Empower, Fanfare, Menace, Onyx, Sniper, Talstar, Tundra, UpStar, Wisdom
buprofezin	Applaud, Centaur, Courier, Talus
chlorpyrifos	Chlorpyrifos, Govern, Hatchet, Lock-On, Lorsban, Nufos, Warhawk, Whirlwind, Yuma, Eraser, Pilot, CPF, Vulcan
chlothianidin	Belay, Clutch, Poncho, NipsIt Inside, Arena
cyfluthrin	Decathlon, Renounce, Tempo, Tombstone, Sultrus
cypermethrin	Ammo, Battery, Cypermethrin, Mustang, UP-Cyde, Cyper-G, Holster
deltamethrin	Chipco Choice, Chipco FireStar, DeltaDust, DeltaGard, Delta Gold, Over 'n Out!, Shooter, Top Choice, Battalion, Centynal, Suspend
esfenvalerate	Adjourn, Asana XL, S-FenvaloSta, Zyrate
gamma-cyhalothrin	Declare, Proaxis, Prolex
lambda-cyhalothrin	Battle, Grizzly, Helena Lambda, Kaiso, Karate, Karate Z, Lambda T, Lambda-Cy, Lambda-Cyhalothrin, LambdaStar, Mystic Z, Silencer, Taiga Z, Warrior II, Warrior Z, Kendo, Jitzu, Lamcap, Paradigm, Province, Ravage, Ballista
imidacloprid	Admire, Advise, Advise Max, Alias, Couraze, Couraze Max, Imida E, Imidacloprid, ImiGold, Macho, Merit, Montana, Nuprid, Pasada, Prey, Provado, Provoke, S-Cloprid, Sherpa, Trimax Pro, Widow, Wrangler, Zenith
malathion	Fyfanon, Malathion
permethrin	Actroban, Ambush, Arctic, Astro, Ectiban, Permethrin, Permethrin, Perm-UP, Pounce
pyriproxyfen	Distance, Esteem, Knack, Seize
spinosad	Blackhawk, Conserve, Entrust, SpinTor, Success, Tracer, Contain, Sensat
zeta-cypermethrin	Mustang Maxx, Respect