

Pesticide Toxicity

The toxicity of a pesticide is expressed through the terms “oral” and “dermal” LD₅₀. The lower the LD₅₀ value, the more toxic the material. LD₅₀ is the dosage of poison that kills 50 percent of the test animals (usually rats or rabbits) with a single application of the “pure” pesticide for a given weight of animal (mg/kg of weight). Oral LD₅₀ is the measure of the toxicity of pure pesticide when administered internally to test animals. Dermal LD₅₀ is the measure of the toxicity of pure pesticide when applied to the skin of test animals.

Pesticide Information

Common Name	Trade Name	Chemical Class	Oral LD ₅₀	Dermal LD ₅₀	Manufacturer
			(mg/kg) Rat	(mg/kg) Rabbit	
abamectin B1	Avert	microbial toxin	>5000	>2000	Merck
acephate	Orthene	organophosphate	700	>10,250	Valent
ammonium phenate bromide	Microban	disinfectant	—	—	Microban Germicidal Co.
amorphous silica gel	Drione, Tri-Die	desiccant & botanical	>5000	—	Roussel Uclaf, Whitmire
<i>Bacillus thuringiensis</i>	Acrobe, Bactimos	biological (bacteria)	none	none	Novo-Nordisk, Abbott
Berliner var. <i>israelensis</i> (B.t.i.)	Dunks, Teknar, Vectobac				Summit
bendiocarb	Ficam	carbamate	40	>1000 (Rat)	Nor-Am
bendiocarb + pyrethrins	Ficam Plus	carbamate + botanical	40	>1000 (Rat)	Nor-Am
bifenthrin	Biflex	pyrethroid	375	>2000	FMC
borate	Bora-Care, Mop-Up, Tim-Bor	boron compound	>5000	>2000	Nissus, Waterbury, U.S. Borax
boric acid	Boric Acid, Borid, Blue Diamond Paste, Drax, Niban, Perma-Dust	boron compound	>3160	>2000	numerous
carbaryl	Apicide, Sevin	carbamate	246	—	Mystic, Rhone Poulenc
chlorpyrifos	Duration, Dursban, Empire, Engage, Equity, Killmaster II, Ortho-Chlor, Tenure	organophosphate	96	2000	Whitmire, DowElanco, Positive Formulators
chlorpyrifos + fenoxycarb	Ultraban	organophosphate + insect growth regulator	>5000	>2000	Whitmire
chlorpyrifos + pyrethrins	Dual Use	organophosphate + botanical	>1500	>1800 (Rat)	Roussel Uclaf
cyfluthrin	Optem, Tempo	pyrethroid	826	>5000	Whitmire, Miles
cypermethrin	Cynoff, Cyper-Active, Demon, Prevail, Vikor	pyrethroid	250	>2000	FMC, Roussel Uclaf
d-Limonene	Flea-Stop	monocyclic terpene	—	—	Farnam
d-phenothrin	Steri-Fab	disinfectant	10,000	10,000 (Rat)	Noble Pine Products
deltamethrin	Suspend	pyrethroid	>15,000	>10,000	DowElanco
diatomaceous earth	Answer, Organic Plus	inorganic silica	—	—	Eaton, Organic Plus
diatomaceous earth + pyrethrins	Organic Plus	inorganic silica + botanical	—	—	Organic Plus
diazinon	Diazinon, Knox Out	organophosphate	300	3600	Ciba Geigy, Whitmire
esfenvalerate	Conquer	pyrethroid	458	>2000	Paragon
fenoxycarb	Torus, Ultra Guard	insect growth regulator	>5000	>2000	Ciba Geigy, Whitmire
fenvalerate	Tribute	pyrethroid	451	2500	Roussel Uclaf
fluralinate	Mavrik, Yardex	pyrethroid	261	>20,000	Zoecon

Pesticide Information (continued)

Common Name	Trade Name	Chemical Class	Oral LD ₅₀	Dermal LD ₅₀	Manufacturer
			(mg/kg) Rat	(mg/kg) Rabbit	
hexaflumuron	Sentricon System	insect growth regulator	—	—	DowElanco
hydramethylnon	Combat Maxforce, Siege	amidinohydrazone	>5000	>2000	American Cyanamid
hydroprene	Gentrol	insect growth regulator	>5100	>2100	Zoecon
insecticidal soap + pyrethrin	Safer Flea & Tick Killer	fatty acid salts + biological	—	—	Ringer Corp.
lambdacyhalothrin	Commodore	pyrethroid	167	>2000	ICI Americas
linalool	Demize	botanical	>5000	>2000	Pet Chemicals
<i>Metarhizium anisopliae</i>	Bio-Path	biological (fungus)	—	—	Eco Science Corp.
methomyl	Flytek, Muscamone	carbamate	3000	>10,000	Zoecon
methoprene	Altosid, Pharorid, Precor	insect growth regulator	>5000	>2000	Zoecon
methoprene + permethrin	Precor Plus Fogger, Precor 2000	insect growth regulator	>5500	>5100	Zoecon
methoxychlor	Marlate	chlorinated hydrocarban	6000	—	Kincaid Enterprises
methyl bromide	—	alkyl bromide	214	—	Great Lakes
naphthalene	Napthalene	—	—	—	—
para-Dichloro-benzene	PDB	—	—	—	—
permethrin	Astro, Dagnet, Ectiben, Flee, Nix, Permanone, Prelude, Torpedo	pyrethroid	430	>2000	FMC, Roussel Uclaf, Zeneca
propetamphos	Safrotin	organophosphate	119	2825 (Rat)	Zoecon
propoxur	Baygon	carbamate	50	>5000 (Rat)	Miles
pyrethrum	Exciter, Kicker, Microcare, Pyrenone, Pyrethrins, Safer, Synerol, Uld, X-Clude	botanical	1500	>1800 (Rat)	Prentiss, Roussel Uclaf, Whitmire, Fairfield American, Gold Crest, Safer, MicroGen
resmethrin	Vectrin	pyrethroid	>5000	>2000	Velsicol
rotenone	—	botanical	132	—	numerous
<i>Steinernema carpocapsae</i>	Bio Safe, Exhibit, Vector	biological (nematodes)	—	—	Ortho, Ciba Geigy, Lesco
sulfluramid	Pro-Control	sulfonamide	—	—	MicroGen
sulfuryl fluoride	Vikane	formamidine	—	—	DowElanco
temephos	Abate	organophosphate	4204	2000	American Cyanamid
tetramethrin	—	pyrethroid	>5000	>5000 (Rat)	numerous
tralomethrin	Saga	pyrethroid	350	>2000	Roussel Uclaf
trichlorfon	Larva-Lur	organophosphate	250	>2100	Prentiss
Repellents:					
citronella oil	Skin So Soft	—	—	—	Avon
deet	Cutters, Diethyl-toluamide Off	—	2000	—	numerous
permethrin	Permanone	pyrethroid	430	>2000 (Rat)	Roussel Uclaf