

AGRICULTURAL GUIDE

Published by the University of Missouri-Columbia Extension Division

MAR 30 1990
Pest Control

Missouri Restricted Use List

*James H. Jarman, Integrated Pest Management
Fall, 1989*

This list is to be used for informational purposes only. These restricted use pesticides have been registered with the Missouri Department of Agriculture as of spring 1989. Pesticides frequently are added or removed from the list. There are other "restricted use" pesticides not listed here because the products containing those pesticides were not registered in Missouri as of spring 1989.

Our latest restricted use information is available electronically (updated periodically) over the Agricultural Electronic Bulletin Board, (314) 882-8289, Pest Management File Transfer List or Bulletins List. For further information contact your local University Extension office or Pesticide Coordinator, 45 Agriculture Building, University of Missouri-Columbia, 65211, 314/882-7871.

The label on a pesticide is the last word on use and its classification as a "General" or a "Restricted" use pesticide.

ALWAYS READ AND UNDERSTAND THE LABEL BEFORE USING ANY PESTICIDE!

Insecticides, Acaricides, Nematicides and Fumigants

Common name (Brand names)	Pesticide Type* (see below)	Criteria influencing restriction
ALDICARB (Temik)	I,A,N	Registration standard (3/30/84). Other hazards (acute toxicity) — accident history.
ALUMINUM PHOSPHIDE (Phostoxin, Deltia, Gastoxin, Gastion, Phostek, Fumitoxin Quick phos, L-Fume)	Fg	Registration standard (10/8/86) Inhalation hazard to humans.
AZINPHOS METHYL (Guthion, Azinphos Methyl)	I,A	Registration standard (9/11/86). Human inhalation hazard. Acute toxicity. Hazard to avian (bird), aquatic (water) and mammalian (animal) species.
BENDIOCARB (Turcam)	I	Toxicity to aquatic (water) and avian (bird) species Production (7/1/88), Channels of trade (7/1/89).
BIFENTHRIN (Capture)	I,A	Toxicity to fish and aquatic (water) organisms.
CALCIUM CYANIDE (Calcium Cyanide, A-Dust, G-Fumigant)	Fg	Human inhalation hazard.

*Insecticide (kills insects) = I, Acaricide (kills mites, ticks) = A, Nematicide (kills nematodes) = N, Fumigants = Fg. Some or all uses and formulations of these pesticides are classified "restricted use." RPAR stands for "rebuttable presumption against re-registration."

Insecticides, acaricides, nematicides and fumigants -- Continued

Common name (Brand names)	Pesticide type* *(See below)	Criteria influencing restriction
NICOTINE (Nicotine)	I	Acute inhalation toxicity. Effects on aquatic (water) organisms.
OXAMYL (Vydate)	I,N	Acute inhalation toxicity. Avian (bird) oral toxicity.
OXYDEMETON METHYL (Metasystox-R)	I	Registration Standard. Reproductive effects.
PERMETHRIN (Ambush, Pounce, Torpedo, M-Gard W320)	I	Possible adverse effects on aquatic (water) organisms.
PHORATE (Thimet, Aastar, Phorate)	I	Acute dermal toxicity and residue effects on avian (bird) and mammalian (animal) species.
PHOSPHAMIDON (Swat)	I,A	Acute dermal toxicity and residue effects on avian (bird) and mammalian (animal) species.
PROFENOFOS (Curacron)	I,A	Registration Standard — Corrosive to eyes.
PROPETAMPHOS (Safrotin)	I	Product for indoor, domestic use. Voluntarily restricted.
SULFOTEPP (Plant Fume 103, Tedion Dithion, Dithio, Telone C17)	I,A	Inhalation hazard to humans.
SULFURYL FLUORIDE (Vikane)	Fg	Registration Standard. Possible acute toxicity hazard in humans. Acute inhalation hazard.
SULPROFOS (Bolstar)	I	Registration Standard. Wildlife hazard.
TEFLUATHRIN (Force)	I	Toxicity to fish and aquatic organisms effective date (1/13/89).
TERBUFOS (Counter)	I,N	Highly toxic to humans, fish and wildlife.
TOXAPHENE** (Toxaphene)	I	Potential human oncogenicity (tumor causing). Acute toxicity to aquatic (water) organisms. Hazard to non-target organisms.
TRALOMETHRIN (Scout)	I	Registration action. Toxicity to aquatic (water) organisms.

*Insecticide (kills insects) = I, Acaricide (kills mites, ticks) = A, Nematicide (kills nematodes) = N, Fumigants = Fg. Some or all uses and formulations of these pesticides are classified "Restricted use."

**No products registered for sale in Missouri for 1989.

Isecticides, acaricides, nematicides and fumigants -- Continued

Common name (Brand names)	Pesticide type* (See below)	Criteria influencing restriction
FENSULFOTHION (Dasanit)	I,N	Acute dermal and inhalation toxicity.
FENVALERATE (Pydrin)	I	Possible adverse effects on aquatic (water) organisms.
FLUCYTHRINATE (Payoff, Aastar)	I	Possible adverse effects on aquatic (water) organisms.
FLUVALINATE (Mavrik)	I	Registration standard. Highly toxic to aquatic (water) organisms
FONOFOS (Dyfonate)	I	Acute dermal toxicity.
ISAZOPHOS (Triumph)	I,N	Avian (bird), fish and aquatic (water) organism toxicity.
ISOFENFOS (Pryfon)	I	Acute toxicity (11/6/87).
LINDANE (Super Sweet Mange and Lice Control, Borer and Beetle Killer)	I	Special Review, Registration Standard (9/30/85) Possible oncogenicity (tumor causing).
MAGNESIUM PHOSPHIDE (Magtoxin, Fumicel, Fumi-Strip)	Fg	Inhalation hazard.
METHAMIDOPHOS (Monitor)	I,Fg	Acute dermal toxicity. Residue effects on avian (bird) species.
METHIDATHION (Supracide)	I	Residue effects on avian (bird) species.
METHOMYL (Lannate, Nudrin)	I	Residue effects on mammalian (animal) species. Other hazards — accident history.
METHIOCARB (Mesural)	I, A, M (AV)	Registration action. Possible hazard to non-target organisms.
METHYL BROMIDE (Brom-O-Gas, Meth-O-Gas, Bro-Mean)	Fg	Acute dermal and inhalation toxicity. Accident history.
METHYL PARATHION (Penn Cap M, Dithio, Methyl Parathion)	I	Hazard to bees. Acute dermal toxicity. Residue effects on avian (bird) and mammalian (animal) species.
MEVINPHOS (Phosdrin)	I,A	Acute dermal toxicity and effects on avian (bird) and mammalian (animal) species.
MONOCROTOPHOS (Azodrin)	I,A	Residue effects on mammalian (animal) and avian (bird) species. Acute dermal toxicity.

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Insecticides, acaricides, nematicides and fumigants -- Continued

Common name (Brand names)	Pesticide type* *(See below)	Criteria influencing restriction
CARBOFURAN (Furadan)	I,N	Acute toxicity (oral, dermal, inhalation). Causes cancer in animals 7/84. Acute inhalation toxicity (8/1/79)
CHLORDIMEFORM (Fundal, Galecron)	I,A	Causes cancer in laboratory animals. Insect ovicide (kills insect eggs). No antidote known.
CHLORFENVINPHOS (Birlane, Supona)	I	Acute dermal toxicity.
CHLOROPICRIN (Larvacide 100, Chlor-O-Pic, Bromo-O-Gas, Terr-O Gas, Timberfume, Telone C-17, Quasar)	Fg,I, F,R,WP	Acute inhalation toxicity. Hazard to non-target organisms. Fungicide (kills fungus). Nematicide (kills nematodes) when used with Dichloropropene.
CYFLUTHRIN (Baythroid)	I	Impact to fish and aquatic (water) organisms.
CYPERMETHRIN (Cymbush, Ammo)	I	Oncogenicity (causes tumors) and hazard to non-target organisms.
CYHALOTHRIN (Karate)	I	Registration Action, Toxicity to fish and aquatic (water) invertebrates.
DICROTOPHOS (Bidrin, Inject-A-Cide-B)	I,A	Acute dermal toxicity Residue effects on avian (bird) species
DIFLUBENZURON (Dimilin)	I	Registration standard (9/30/85) Lack of environmental hazard data.
DIOXATHION (Delnav, Conav, Deltic)	I	Acute dermal toxicity.
DISULFOTON (Di-Syston)	I,N	Registration standard (3/31/83) Acute dermal toxicity.
EPN** (Tide Methyl, Veto, Milan)	I	Acute dermal and inhalation toxicity. Residue effects on avian (bird) species.
ESFENVALERATE (Asana)	I	Possible adverse effects on aquatic (water) organisms.
ETHOPROP (Mocap)	I,N	Registration standard (6/30/83) Acute dermal toxicity.
ETHYL PARATHION (Parathion, Ethyl Parathion, Dithion 63, Aqua 8, Phoskill)	I	Human inhalation hazard. Acute dermal toxicity. Residue effects on aquatic (water), avian (bird), and mammalian (animal) species. Other hazards — accident history.
FENAMIPHOS (Nemacur)	N	Acute dermal toxicity. Avian (bird) acute oral. Acute inhalation toxicity.

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**No products registered for sale in Missouri for 1989.

Herbicides, Fungicides, Wood Preservatives

Common name (Brand names)	Pesticide type* *(See below)	Criteria influencing restriction
ALACHLOR (Lasso Micro Tech or M.T., Arena, Guide, Bullet, Cannon, Freedom, Judge, Stall, Saddle)	H	Special renew, PD-4 (12/31/87). Oncogenic (tumor causing) potential, effective date (6/30/88).
AMITROLE (Amitrol, Amitrol-T Amizol, Amizine)	H	Registration standard. (Could not be re-registered unless restricted.) Oncogenic (tumor causing) potential.
ARSENIC "OXIDES" (CCA, Omsmose K-33-C, Mitrol, Wolmanac Concentrate, Wood Treating Chemicals CCA.)	WP	Possible oncogenic (tumor causing), mutagenic (causes mutation), reproductive, and/or fetotoxic (toxic to fetus in womb) effects.
BROMOXYNIL (Buctril, Buctril +)	H	Dermal exposure causes birth defects in laboratory animals.
CYANAZINE (Bladex, Extrazine)	H	Ground water contamination. Teratogenicity (causes abnormal (monstrous) development). Fetotoxicity (toxic to fetus).
CREOSOTE (Creosote, Pole Life, Creosote Oil, Timpreg, Osmoplastic, Kopperplastic Coal Tar, Kolineum, Timberlife)	WP	Possible oncogenic (tumor causing) and mutagenic (causes mutations) effects.
CADMIUM CHLORIDE (Caddy)	F	Special Review PD-4 (8/19/87) Kidney effects.
DICLOFOPMETHYL (Hoelon)	H	Voluntarily restricted — oncogenicity (tumor causing).
DICHLOROPROPENE (Telone C-17, Osmose Mit-Fume)	F	Oncogenicity (tumor causing).
DODEMORPH ACETATE (Milban)	F	Corrosive to eye tissue. Voluntarily restricted.
PARAQUAT (Gramoxone, Paraquat)	H	Human toxicological data. Other hazards — use & accident history.
PENTACHLOROPHENOL (Penta, Penta Plus PCP, PCP, POL NU, Pentacon, Dura-Treat, Industrial Penta, Penta-WR 24-12 Wood Preservative)	WP	Voluntary restriction — possible oncogenicity (tumor causing), reproductive effects.
PHENYL MERCURY ACETATE (PMAS)	F	Toxic to fish and other non-target organisms.
PICLORAM (Tordon, Access)	H	Hazard to non-target organisms (Specifically non-target plants, both crop and non-crop)

*Herbicides (kills weeds) = H, fungicides (kills fungus) = F, Wood Preservatives = WP, Dessicant = D. Some or all uses and formulations of these pesticides are classified "restricted use."

Herbicides, fungicides, wood preservatives - Continued

Common Name (Brand names)	Pesticide type* *(See below)	Criteria influencing restriction
PRONAMIDE (Kerb)	H	RPAR decision, oncogenicity (causes tumors). (RPAR: Rebuttable presumption against re-registration. Now called "Special Review".)
TRIPHENYL TIN HYDROXIDE (Du-Ter, Super Tin)	F	Possible mutagenic (causes mutations) effects.

*Herbicides (kills weeds) = H, fungicides (kills fungus) = F, Wood Preservatives = WP, Dessicant = D. Some or all uses and formulations of these pesticides are classified "restricted use."

Rodenticides and Avicides

Common Name (Brand names)	Pesticide type* *(see below)	Criteria influencing restriction
AVITROL, 4-AP (Avitrol, 4-AP)	Av	Registration Standard (9/80). Hazard to fish and non-target birds.
CHLOROPHAINONE (Rozol Blue Tracking Powder, Rozol Tracking Powder)	R	Human hazard, potential for food contamination. Possible inhalation hazard.
ENDRIN (Endrin, Rid-A-bird Control Liquid)	Av (Insecticide)	Acute dermal toxicity. Hazard to non-target organisms.
STARLICIDE (Starlicide)	AV	Registration Action (Use as bird repellent). Hazard to non-target organisms.
STRYCHNINE (Mouse Maise, Elston Gopher Getter, SRO Pocket Gopher Bait for Burrow Builders)	R	Acute oral toxicity. Hazard to non-target avian (bird) species.
TERGITOL [Compound PA-14 (avian stressing agent)]	Av	Limited to situations approved by U.S. Fish and Wildlife Service and must be supervised by government agency personnel trained in bird control.
ZINC PHOSPHIDE (Z.P. Tracking Powder, Forces Mouse Con No. 2, Ridall-Z, 2-100 Field Mouse Bait)	R	Acute inhalation and oral toxicity. Hazard to non- target organisms.

*Rodenticides (kills rats, mice, etc.) = R, Avicides (kills birds) = AV. Some or all uses and formulations of these pesticides are classified "restricted Use."



■ Issued in furtherance of Cooperative Extension Work Acts of May 8 and June 30, 1914 in cooperation with the United States Department of Agriculture. Gail L. Imig, Director, Cooperative Extension Service, University of Missouri and Lincoln University, Columbia, Missouri 65211. ■ An equal opportunity institution.