

Restricted Use Pesticides for Use in Florida¹

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Background

All pesticides are classified according to their toxicity, use pattern, and environmental effects. The two main classifications set out by the US Environmental Protection Agency (EPA) are unclassified use and restricted use, though unclassified pesticides are commonly referred to as general use pesticides. A restricted use pesticide is one that is for retail sale to and use by only certified applicators or persons under their direct supervision and only for those purposes covered by the applicator's certification. This document provides a listing of pesticide active ingredients registered in Florida that are classified as restricted use and the reason(s) for their restricted use classification.

Use Classification

The EPA classifies a pesticide as restricted use if use of the pesticide might result in an adverse effect on human health and/or the environment if used incorrectly. However, application by trained persons following label directions would protect against such an effect. The EPA evaluates the risk of using the pesticide in this decision, with risk considered to be the chance of harmful effects to human health or to ecological systems resulting from exposure to an environmental stressor. A similar term, but with a different meaning, is "hazard." A hazard is a situation that poses a level of threat to life, health, property, or environment. Most hazards are potential, with only a theoretical

risk of harm; however, once a hazard becomes "active," it can create an emergency. Hazard and possibility interact together to create risk. In classifying a pesticide, the EPA considers:

- the toxicity of the pesticide;
- the way in which the pesticide will be used; and
- the effect of the pesticide on the environment.

When a pesticide is classified as restricted, the label will state "Restricted Use Pesticide" at the top of the front panel. Below this heading may be a justification for the restricted use classification (Figure 1).

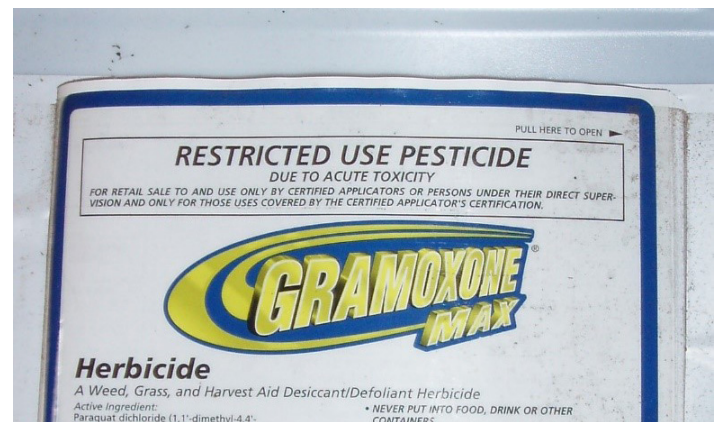


Figure 1. Restricted use product, labeled as such because of its risk of acute toxicity to the applicator or nontarget organisms.
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The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication does not signify our approval to the exclusion of other products of suitable composition. Use pesticides safely. Read and follow directions on the manufacturer's label.

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Although there is a federal list of restricted use active ingredients determined by the EPA, some states have their own lists of restricted products. Florida follows the federal guidelines for determining if a product is restricted. To purchase and apply restricted use pesticides, a person must be certified and licensed in the state of Florida. Table 1 provides a listing of active ingredients registered in Florida that have some or all formulations/products classified as restricted use, the pesticide type, and the reason for restriction. Keep in mind that although some active ingredients are formulated into products that are classified as restricted use, other formulations containing the same active ingredient are not classified as such. Thus, some products containing these active ingredients are available to the general public, including homeowners. To search all pesticide active ingredients registered in Florida, go to the public National Pesticide Information Retrieval Site (NPIRS) site at http://npirspublic.ceris.purdue.edu/state/state_menu.aspx?state=FL.

Table 1. Federally listed restricted use pesticide active ingredients that have some or all formulations/products registered in Florida by pesticide type, and the reason for restriction.

Pesticide type	Active ingredient	Reason(s) for restriction
Avicide	4-aminopyridine	Inhalation toxicity to humans
Fumigants	Aluminum phosphide	Inhalation toxicity to humans
	Chloropicrin	
	Dazomet	
	1,3-Dichloropropene	
	Dimethyl disulfide	
	Magnesium phosphide	
	Metam-sodium	
	Metam-potassium	
	Methyl bromide	
	Sulfuryl fluoride	
Fungicides	Fentin hydroxide	Carcinogenicity, potential for affecting fetal development, and high acute toxicity to humans
Herbicides	Acrolein	High acute toxicity
	Atrazine	Groundwater and surface water contamination concerns
	Dicamba	Registration condition ¹
	Diclofop-methyl	Carcinogenicity in laboratory mice, and eye irritation
	Paraquat dichloride	Acute toxicity to humans
	Picloram	May injure susceptible nontarget plants
	Propyzamide	Production of tumors in laboratory animals
Insecticides/miticides/nematicides	Abamectin	Toxic to fish, mammals, and aquatic organisms
	Aldicarb	Acute oral toxicity and groundwater contamination
	Bifenthrin	Toxic to fish and aquatic organisms
	Chlorpyrifos	Toxic to fish, aquatic invertebrates, small mammals, and birds
	Chlorethoxyfos	Acute human, avian, and aquatic invertebrate toxicity
	Cyfluthrin	Toxicity to fish and aquatic organisms
	Cypermethrin and zeta-cypermethrin	Toxicity to fish and aquatic organisms
	Deltamethrin	Acute toxicity and toxicity to fish and aquatic organisms
	Dicrotophos	Acute oral, dermal, and inhalation toxicity and risks to wildlife
	Diflubenzuron	Toxicity to aquatic invertebrate animals
	Disulfoton	Acute toxicity
	Emamectin-benzoate	Toxic to fish, mammals, and aquatic organisms
	Endosulfan	Acute toxicity to humans, aquatic organisms, and avian species
	Esfenvalerate	Toxicity to fish and aquatic organisms
	Ethoprop	Acute dermal, primary dermal, and primary eye toxicity

Pesticide type	Active ingredient	Reason(s) for restriction
Insecticides/miticides/nematicides (continued)	Fenbutatin-oxide	Acute human toxicity and very high toxicity to aquatic organisms
	Fenpropathrin	Toxicity to fish and aquatic organisms
	Fipronil	Toxicity to aquatic invertebrates
	Gamma-cyhalothrin	Toxicity to fish and aquatic organisms
	Lambda-cyhalothrin	Toxicity to fish and aquatic organisms
	Methamidophos	Acute dermal toxicity and residue effects on avian species
	Methiocarb	Toxicity to fish, birds, and aquatic organisms
	Methomyl	High acute toxicity to humans
	Naled	Eye and skin corrosivity hazard
	Oxamyl	Acute toxicity and toxicity to birds and mammals
	Permethrin	Toxicity to fish and aquatic organisms
	Phorate	Acute oral, dermal, and inhalation toxicity and avian hazards
	Resmethrin	Acute fish toxicity
	Tefluthrin	Toxicity to fish and aquatic organisms
	Terbufos	Acute oral, dermal, and inhalation toxicity and risks to aquatic organisms and wildlife
Rodenticides	Chlorophacinone	High acute toxicity
	Diphacinone	Dermal toxicity
	Zinc phosphide	Acute oral, acute dermal, and primary dermal irritation toxicity
Wood preservative	Arsenic acid anhydride	Acute toxicity and because this product contains arsenic and chromium compounds, which may be associated with tumor development in humans and are considered to have an acute toxicity level
Piscicide	Rotenone	Acute inhalation, acute oral and aquatic toxicity
Molluscicide	Niclosamide	Aquatic organism toxicity, need for specialized equipment and highly specialized applicator training
¹ Applicator must complete dicamba- or auxin-specific training.		