

What is a pesticide?



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What is a pesticide?

A pesticide is any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. Pests can be insects, mice and other animals, unwanted plants (weeds), fungi, or microorganisms like bacteria and viruses. The term “pesticide” refers to any substance used to control pests (weeds, insects, and diseases). This includes all organic pest control methods. Under United States law, a pesticide is also any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

Many household products are pesticides. Did you know that all of these common products are considered pesticides?

- Cockroach sprays and baits
- Insect repellents for personal use
- Rat and other rodent poisons
- Flea and tick sprays, powders, and pet collars
- Kitchen, laundry, and bath disinfectants and sanitizers
- Products that kill mold and mildew
- Some lawn and garden products, such as weed killers
- Some swimming pool chemicals

By their very nature, most pesticides can create some risk of harm to humans, animals, or the environment because they are designed to kill or otherwise adversely affect living organisms. At the same time, pesticides are useful to society because of their abilities to kill potential disease-causing organisms and control insects, weeds, and other pests. In the United States, the Office of Pesticide Programs of the Environmental Protection Agency is chiefly responsible for regulating pesticides.

Biologically based pesticides, such as pheromones and microbial pesticides, are becoming increasingly popular and offer an increased level of safety to humans and the environment.

Here are some common kinds of pesticides and their functions:

Algaecides: control algae in lakes, canals, swimming pools, water tanks, and other sites.

Antifouling agents: kill or repel organisms that attach to underwater surfaces, such as boat bottoms.

Antimicrobials: kill microorganisms such as bacteria and viruses.

Attractants: attract pests by luring an insect or rodent to a trap. (However, food is not considered a pesticide when used as an attractant.)

Biocides: kill microorganisms.

Disinfectants and sanitizers: kill or inactivate disease-producing microorganisms on inanimate objects.



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Fungicides: kill fungi (including blights, mildews, molds, and rusts).

Fumigants: Produce gases or vapors intended to destroy pests in buildings or soil.

Herbicides: kill weeds and other plants that grow where they are not wanted.

Insecticides: kill insects and other arthropods

Miticides (also called acaricides): kill mites that feed on plants and animals.

Microbial pesticides: microorganisms that kill, inhibit, or out compete pests, including insects or other microorganisms.

Molluscicides: kill snails and slugs.

Nematicides: kill nematodes (microscopic, worm-like organisms that feed on plant roots).

Ovicides: kill eggs of insects and mites.

Pheromones: biochemicals used to disrupt the mating behavior of insects.

Repellents: repel pests, including insects such as mosquitoes and birds.

Rodenticides: control mice and other rodents. The term pesticide also includes these substances.

Defoliants: cause leaves or other foliage to drop from a plant, usually to facilitate harvest.

Desiccants: promote drying of living tissues, such as unwanted plant tops.

Insect growth regulators: disrupt the molting, maturity from pupal stage to adult, or other life processes of insects.

Plant growth regulators: substances (excluding fertilizers or other plant nutrients) that alter the expected growth, flowering, or reproduction rate of plants.

What about pest control devices? EPA also has a role in regulating devices used to control pests. More specifically, a device is any instrument or contrivance (other than a firearm) intended for trapping, destroying, repelling, or mitigating any pest. A mousetrap is an example of a device. Unlike pesticides, EPA does not require devices to be registered with the agency. Devices, however, are subject to certain labeling, packaging, recordkeeping, and import/export requirements.

What is not a pesticide?

The U.S. definition of pesticides is quite broad, but it does have some exclusion -- drugs used to control diseases of humans or animals (such as livestock and pets) are not considered pesticides; these drugs are regulated by the Food and Drug Administration.

Fertilizers, nutrients, and other substances used to promote plant survival and health are not considered plant growth regulators and thus are not pesticides.

Biological control agents, except for certain microorganisms, are exempted from regulation by the EPA. (Biological control agents include beneficial predators such as birds or ladybugs that eat insect pests.)

Finally, EPA has also exempted certain other low-risk substances, such as cedar chips, garlic, and mint oil.

The material for this factsheet was obtained from the United States Environmental Protection Agency from the Internet at the following location:

<http://www.epa.gov/pesticides/whatis.htm> Office of Pesticide Programs (7502C)

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