

# PESTICIDES: What's my Risk?

## TOPIC FACT SHEET

NPIC fact sheets are designed to answer questions that are commonly asked by the general public about pesticides that are regulated by the U.S. Environmental Protection Agency (US EPA). This document is intended to be educational in nature and helpful to consumers for making decisions about pesticide use.

### Introduction

Many times, non-chemical controls can be used to deal with pests. If you decide to use a pesticide, it is important to understand the risks associated with a specific product or treatment. No matter the treatment method, there is always some degree of risk associated with using a pesticide. Understanding the risk from specific pesticides can help you decide whether or not you want to use them, or help you choose between two different products.

### Understanding pesticide risks

Many people believe that some pesticides are "safe," while others are "dangerous." Actually, all chemicals, including all pesticides, have the potential to be hazardous. Even products that are considered low in toxicity, natural, or organic can be hazardous if someone or something comes in contact with enough of the substance.

The toxicity of a pesticide, its **formulation**, and how much you touch, eat, or breathe in, are all important considerations. The likelihood of experiencing some health effect as a result of using a product is referred to as the **pesticide risk**. The risk of any pesticide use depends on which pesticide is used, how much pesticide is applied, how often the pesticide is applied, and who or what has contact with the pesticide.

#### Pesticide Risk:

Your risk from the use of pesticides depends on two things: the toxicity of the pesticide, and the amount of exposure. In other words,

$$\text{Risk} = \text{Toxicity} \times \text{Exposure}$$

Toxicity can range from low to high, and can vary depending on the route of exposure. The pesticide Signal Word is a way to determine a pesticide's general level of toxicity.

Exposure takes place when a pesticide is breathed in, touches the skin, or gets eaten.

#### Pesticide exposure

The chance of developing a health problem from a pesticide depends on two things: the toxicity of the pesticide and the amount of **exposure**. In order for a pesticide to affect you, you must be exposed to the pesticide by some route such as eating it (ingestion), breathing it (inhalation), or getting it on your skin or in your eyes (dermal exposure).

Even if a very toxic pesticide is used near your home, the risk may still be low. If you are not exposed to the pesticide, it can't harm you. In some cases, a pesticide can be used without people coming into contact with it at all.

### Pesticide toxicity

To help people understand the toxicity of products, pesticides are classified in groups from low to high toxicity. Because the risk or chance of a problem depends on both the toxicity **and** the amount of exposure, even pesticides that are low in toxicity can be hazardous if the exposure is high. The **signal word** describes the toxicity of the pesticide.

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### How toxic is the pesticide I am using?

Pesticides may contain more than one ingredient, and each may have a different toxicity level. There are several ways to estimate the toxicity of a pesticide. One easy way is to look at the [signal word](#), which is an indicator of the toxicity of the product. Every registered pesticide will have the words CAUTION, WARNING, or DANGER on the label, and that word reflects the level of toxicity of the product. Products that say CAUTION are the lowest in toxicity, WARNING indicates medium-toxicity products, and DANGER is found on the most toxic products. If you want to know the toxicity of a specific pesticide, call NPIC. We can help.

Some groups of people, such as the elderly, people with health conditions, those who are pregnant, and infants and children, could be more sensitive to a pesticide than other people. Sensitive populations can minimize their risks by reducing their exposure to pesticides, and by selecting less toxic pesticides or pest control measures that do not involve pesticides.



### Putting it together: What's my risk?

Toxicity and exposure are the basis for the statement, "the dose makes the poison." Just as one aspirin is beneficial for occasional pain or to manage certain medical conditions, too much aspirin (taking a whole bottle in one sitting) would be very hazardous. As the amount of exposure or the toxicity of pesticide increases, so does the risk of a problem. The higher the toxicity of the pesticide and the more exposure occurs, the greater the chance that some hazardous effect will result.

If pesticides are being applied near you, try to find out some details about the application, such as where it is happening, how much area is being treated, and what is being applied. This will help you determine your risk. If you smell, taste or feel a pesticide, then you may have been exposed to it. In some cases, exposure can happen even if you do not smell or taste the pesticide. Try to determine the route by which you might be exposed. It is important to consider the route of exposure, or how the pesticide may contact your body. The amount that actually enters the body may vary depending on pesticide and the route of exposure. Some pesticides may move into the body very easily after an exposure, whereas others will not.

If you have been exposed to a pesticide, take note of the situation in which it happened. The length of time the exposure occurred and how much of the substance actually gets on or in the body are important details in understanding the risk. If the pesticide is low in toxicity and you had a very limited exposure, the risk is low. If the pesticide is very toxic and you had a large exposure to it, then the risk is higher.

### Minimizing the chance of a problem

To minimize your chance of having a problem from using a pesticide product, look for [ways to reduce your exposure](#) or choose a product with lower toxicity. Always read the entire [product label](#) and follow any instructions for using personal protective equipment, like gloves or goggles, which help reduce your exposure. Labels may also contain instruction such as how to ventilate or the length of time to avoid a treated area. For more information on how to lower your risk, call and talk to one of our pesticide specialists.

For more information contact: NPIC

Oregon State University, 310 Weniger Hall, Corvallis, OR 97331-6502

Phone: 1-800-858-7378 Fax: 1-541-737-0761

Email: [npic@ace.orst.edu](mailto:npic@ace.orst.edu) Web: [npic.orst.edu](http://npic.orst.edu)