



Stop, Read, and Heed!

Nearly every home contains at least a few hazardous household chemicals. Hazardous chemicals have important label warnings that require our attention before we use the chemicals.

Warning Words: What kind of hazard is it?

A hazardous chemical is a chemical that poses some form of danger to humans, domestic animals, or the environment. The product labels on hazardous chemicals usually list the hazard or hazards.



Flammable: A flammable material ignites easily and burns rapidly.



Explosive: An explosive material produces a sudden, almost instantaneous release of pressure, gas, and heat when subjected to abrupt shock, high temperature, or an ignition source.

Sensitizer: On first exposure a sensitizer causes little or no reaction, but upon repeated exposure it causes a significant response. Skin sensitization is the most common. Respiratory sensitization is more rare.



Corrosive: A corrosive chemical causes visible destruction of or irreversible alterations in living tissue by chemical action at the site of contact.

Irritant: An irritant is a noncorrosive material that causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.



Carcinogen: A carcinogen either causes cancer in humans or, because it causes cancer in laboratory animals, is considered capable of causing cancer in humans.



Toxic: A toxic material is poisonous to living organisms when consumed, inhaled, or absorbed through the skin. Some chemicals are acutely (immediately) toxic and others are chronically (long-term) toxic.

Signal Words: How great is the hazard?

Signal words, indicating levels of hazard, are required by law to appear on labels of hazardous products. Approved signal words include **POISON**, **DANGER**, **WARNING**, and **CAUTION**.

No signal word: relatively nonhazardous

Caution or Warning: generally mildly to moderately hazardous or toxic; can cause temporary adverse health effects, such as skin irritation or vomiting

Danger: more severely hazardous or toxic; can cause permanent serious health effects, such as skin burns or stomach ulcers

Poison: contains hazardous substances defined as highly toxic; used in addition to the signal word **DANGER** and the skull-and-crossbones symbol

The Dose Makes the Poison

In sufficient quantity, any chemical—including common ones like water and table salt—can be toxic. However, the factor that determines whether a product is considered acutely toxic is the dose (the amount ingested, inhaled, or absorbed) that is required to cause harm. For chemicals not considered toxic, the dose required to produce toxic effects is so high that it is unlikely to be met except under extraordinary circumstances. Substances that are considered acutely toxic can produce harmful effects (such as burns or poisoning) after a single small dose. The smaller the dose required to produce a harmful effect, the more toxic a chemical is considered to be. Thus, “the dose makes the poison.”

The following table contains a list of various household products, signal words, and the doses required to produce toxic effects on an average-sized adult. The lethal dose may be quite different for younger, smaller, or sick people.

Common Household Products	Warning Level	Toxicity	Lethal Dose for 150-Pound Human
foods, candies, graphite pencils, eye makeup	no warning	practically nontoxic	more than 1 quart
dry cell batteries, glass cleaner, deodorants and anti-perspirants, hand soap	no warning	slightly toxic	1 pint to 1 quart
antifreeze, automotive cleaners, many detergents, dry cleaners, most fuels, lubricating oils, most stain and spot removers, many disinfectants, floor polish, shoe polish, most paints, most oven cleaners, many general cleaners	CAUTION	moderately toxic	1 tablespoon to 1 pint
toilet bowl cleaners, some deodorizers, engine motor cleaners, some fertilizers, some paint brush cleaners, some paint and varnish removers, fireworks, some mildew proofing, air sanitizers, some paints, lacquer thinners, many pesticides such as chlordane, heptachlor, lindane, mirex, and diazinon	WARNING	very toxic	1 teaspoon to 1 tablespoon
some insecticides, fungicides, rodenticides, and herbicides	DANGER	extremely toxic	1 drop to 1 teaspoon
a few pesticides such as paraoxon and phosdrin	DANGER	super toxic	1 drop or less

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Question to Consider

Why is it important that household products are always stored in their original containers?